

SKILLS ASSESSMENT IN INDIA

A DISCUSSION PAPER ON POLICY, PRACTICE AND CAPACITY

OCTOBER 2014

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Foreword



Skill development is high on the agenda of the new Government of India. There is renewed impetus for developing a coordinated National Skill Development Policy which places quality and consistency at its heart.

Third party assessment and certification is a key mechanism of quality assurance in skills systems across the world, including the UK, and is likely to be a defining feature of the new skills policy in India. Third party skills assessment is not only important for providing independent evidence of a learner's acquired skills for both potential employers and progression to further learning, it is also an important platform for internationalising India's rapidly growing skills sector.

We are proud to partner with the International Labour Organisation (ILO) on this discussion paper and to The Research Base for conducting the research. The discussion paper provides an overview of the successes and challenges facing the rapidly emerging third party skills assessment sector in India. The discussion paper also outlines key areas for further strengthening this rapidly evolving sector. We hope that it provides a useful platform for moving forward future discussions on how UK-India partnerships can contribute most effectively to improving quality and internationalising India's skills sector, which in turn helps support greater long term cultural and educational understanding between our two countries.

The UK has supported the development of India's National Skill Development Policy from its inception and is well placed to collaborate on the next stage of establishing a system of high quality competence based skills assessments in India.

I hope you find this discussion paper useful.

Rob Lynes
Director
British Council, India

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As the skills system in India evolves it is reasonable to expect that greater attention be paid to assuring the quality of training delivery and assessment. The recognition and certification of skills in India is increasingly relying on 3rd party assessment involving assessment bodies that operate independently from the providers of training. This approach presents a range of unique challenges that need to be addressed if the quality of training outcomes and confidence in the Indian skills system are to be maintained.

Through this discussion paper, the ILO is happy to partner with the British Council as an established provider of assessment and certification services and a key partner in India's main platform for bilateral collaboration on skills, the UK India Education and Research Initiative (UKIERI).

The ILO has a long history of work on skills in India and provided substantial technical assistance during development of the National Skills Development Policy (NSDP) and continues to support implementation of the policy through the Decent Work Program for India. These efforts have resulted in various contributions that highlight the importance of quality assurance in skills systems and the challenges of implemented competency based training.

Consequently, I am happy to endorse this paper as a further contribution to this important debate in India as the country works to meet the skilling challenges of today and the years to come.

I commend the report to you.

Tine Staermose
Director
ILO DWT for South Asia and Country Office for India

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List of Acronyms

AAP	Annual Action Plan
AICTE	All India Council for Technical Education
ASDP	Aajeevika Skill Development Programme
ASSOCHAM	Associated Chambers of Commerce and Industry of India
ATS	Advanced Training Scheme
CBSE	Central Board of Secondary Education
CHSE	Council of Higher Secondary Education
CIDC	Construction Industry Development Council
CII	Confederation of Indian Industries
CTS	Craftsmen Training Scheme
DGET	Directorate General of Employment and Training
FICCI	Federation of Indian Chambers of Commerce and Industry
GDP	Gross Domestic Product
GP	Gram Panchayat
ILO	International Labour Organization
ISTD	Indian Society for Training & Development
ITI	Industrial Training Institute
MES-SDI	Modular Employability Scheme - Skill Development Initiative
MHRD	Ministry of Human Resource Development
MHUPA	Ministry of Housing and Urban Poverty Alleviation
MoLE	Ministry of Labour and Employment
MoRD	Ministry of Rural Development
MSME	Ministry of Micro, Small and Medium Enterprises
NABET	National Accreditation Board for Education and Training
NCVT	National Council of Vocational Training
NIOS	National Institute of Open Schooling
NOS	National Occupational Standards
NPMC	National Project Management Cell
NSDA	National Skill Development Agency
NSDC	National Skill Development Corporation
NSDP	National Skill Development Policy
NSQC	National Skills Qualifications Committee
NSQF	National Skill Qualification Framework
NULM	National Urban Livelihoods Mission
NVEQF	National Vocational Education Qualification Framework
NVQF	National Vocational Qualification Framework
PIA	Project Implementing Agency
QCI	Quality Council of India
QP	Qualification Packs
RDAT	Regional Directorates of Apprenticeship Training
RPL	Recognition of Prior Learning
SCVT	State Council for Vocational Training
SDI	Skills Development Initiative
SDMS	Skill Development Management System
SGSY	Swarnajayanti Gram Swarozgar Yojana
SKP	Skill Knowledge Providers
SRLM	State Rural Livelihood Mission
SSC	Sector Skills Council
STAR	Standard Training Assessment and Rewards

Acknowledgement

This discussion paper is based on interviews with 40 stakeholders who were kind enough to give their time for the research. As such, it highlights potential emerging issues and should not be considered a comprehensive review of assessment in India. We acknowledge that the discussion paper does not fully reflect the views of any of the bodies interviewed and we understand that certain views expressed in the discussion paper may not be shared by all stakeholders.

The ILO and British Council wish to acknowledge the contribution of the researchers from The Research Base, Matilda Gosling, Sara Fakhro and Tara Kennedy, who prepared the paper. More information about the Research Base can be found at <http://www.theresearchbase.com>.

1. Executive Summary

1.1 Overview

Skills assessment in India is a rapidly evolving sector. Assessment can verify that individuals have the skills needed to perform a particular job and that the learning programme undertaken has delivered education at a given standard. It enables individuals to be benchmarked against their peers. It also has more intrinsic value in creating opportunities to motivate students and to give feedback. Assessment is closely linked to certification, as individuals often have the opportunity to gain a recognised certificate if they pass an assessment; certificates can provide a platform from which to progress to other areas of learning, to get a job or to progress within their existing careers.

With the current emphasis on skills development in India, increased focus on methods of assessment is inevitable. The scale and diversity of the Indian education system provides significant challenges in terms of training assessors and ensuring both the quality and the comparability of assessments.

This discussion paper offers a starting point from which to analyse the skills assessment sector, with a particular focus on three states: Haryana, Maharashtra and Odisha. The discussion paper also focuses primarily on aspects of third party assessment, including funding; assessor recruitment and resourcing; skills gaps in the assessor workforce; assessment processes; quality assurance; and certification and placement. Finally, the discussion paper makes recommendations for further development of the Indian skills assessment sector.

The information in this discussion paper is derived from a combination of desk research and stakeholder consultation. Desk research included a review of international engagement with India's skills sector (including by the UK), evaluation of programme and initiative objectives as well as evidence of success and lessons learned and a review of policy and regulation within the Indian skills landscape, with special reference to the three states noted above. Desk research also included a stakeholder mapping exercise, from which interview respondents were identified and contacted.

1.2 Key Findings

Skills Development, Policy and Governance

The **complexity and duplication of the regulatory and governance framework** surrounding vocational and technical education in India means that initiatives and programmes are still occurring in silos, and the development of third party assessment has been no different. There are a number of assessment agencies which sit under the two key schemes; the Modular Employability Scheme - Skill Development Initiative (MES-SDI) and the Standard Training Assessment and Rewards (STAR). Further ministries are also implementing training programmes that are now introducing the requirement for third party assessment requirements, such as the Aajeevika Skill Development Programme (ASDP) and the Employment Skills Training & Placement Program (ESTP) under the National Urban Livelihoods Mission, which draw on certification from either the National Council for Vocational Training (NCVT) or Sector Skills Councils (SSC). Each programme is run differently and has distinct processes, which is **limiting the potential coherence of assessor standards and performance**. For agencies, it is also challenging in terms of reporting and administration.

The creation of the National Skills Qualifications Committee (NSQC) and implementation of the National Skill Qualification Framework (NSQF) is likely to have a significant impact on the role, remit and endorsement of SSCs. Additional pressure is being placed on existing systems of skill assessment and quality assurance by the NSQF, which is also raising issues around the respective roles of and relationships between the National Skill Development Agency (NSDA), National Skill Development Corporation (NSDC) and Sector Skill Councils (SSCs). **The outcome of the recent elections has also seen the creation of the new Ministry of Skill Development and Entrepreneurship, which is likely to result in further changes to institutional arrangements in the sector.**

The shifting targets and policy objectives are also having an impact on the quality of assessments: quality requirements for assessment agencies under the MES-SDI scheme have relaxed over time; this is thought by agencies to be due to the **volume of agencies required and the haste with which policy decisions have been made**.

The **shift in focus from placement to certification and placement** that has occurred in the Aajeevika scheme indicates the emphasis on onward progression of candidates, past the initial employment placement. By providing certification and placement, the scheme can satisfy both employers (who can have the assurances of certification) and candidates (who receive a job). This shift has also occurred in the recent MES-SDI scheme update, which now places financial incentives on training providers achieving placement for trainees.

Supply and Demand for Third Party Assessment

While there is a good supply of potential assessors existing in terms of people with industry experience, **assessing bodies with the capabilities and resources to train individuals appropriately** in assessment are currently in short supply. This gap may be filled by training provided by SSCs, or by the introduction of qualifications for assessors, as is being developed by the International Labour Organization (ILO) and NSDC; it must be recognised, however, that depending on the way that implementation of the qualification requirement occurs, a shortage of assessors may continue (for example, assessors may not be able to pay for the upgrade to their qualifications).

The challenges in estimating the volume of assessors required is complex, however. The figures are complicated by the fact that many assessors work part-time, which makes their availability difficult to predict. **This data needs to be collected nationally** in order to develop an accurate indication of assessment supply and demand.

Further, the need for assessments is unpredictable, with significant variations from month to month between agencies; their solution is primarily to use freelance assessors. While this ensures that a pool of assessors is on tap when required, it also **raises issues of maintaining the quality of assessor skills** (possibly where they are not engaged for a period of time) and also in maintaining their engagement (likely when competing with regular paid employment).

Estimates of the Skills Gap in the Assessor Workforce

The future skills assessment gap has not been forecast, as it depends upon the extent to which action is taken over current skills assessment gaps. Gaps have been estimated for illustrative purposes only. They are based on an estimate of the current gap between enrolments and assessments using the STAR data as a proxy¹ and should not be taken as definitive figures. The calculation is based on the assumption that all learners will require assessment going forward. The assessment gap has been defined as the gap between current capacity and required capacity, i.e. the number of additional individual assessors required to enable all learners to be assessed. On this basis, skills gap across schemes can be estimated as follows:

- The total national skills assessment gap of assessors under the STAR scheme can be estimated at around 3,200.
- The skills assessment gap in Haryana is estimated to be 64 assessors.
- The skills assessment gap in Maharashtra is estimated to be 288 assessors.
- The skills assessment gap in Odisha is estimated to be 96 assessors.

Whilst these figures are illustrative only, they highlight the fact that there is currently a shortage of assessors in India, a situation that is only likely to increase as the demand for third party assessment grows as the level of training activity increases.

Funding

The payment schemes under the MES-SDI and STAR schemes are still felt by assessment agencies to be too low, even though the STAR scheme introduced a significant increase in assessment fees; across all schemes, the need to achieve volume of assessments in order to secure sufficient income is **likely to cause agencies to compromise on the quality of assessments.**

During interviews for this paper, a number of stakeholders referred to the practice of SSCs and agencies negotiating payment splits which creates significant difficulties for smaller agencies, who are likely to have less negotiating power. Some agencies are reporting to be receiving as little as Rs.600 to complete assessments.

Geography is another key funding issue: government funded programmes overwhelmingly operate at national level and require assessors to be deployed to regions as needed; however this often

¹ This is 35.2% on the basis of 1,274,251 candidates enrolled and 448,823 assessments completed (source: <http://nscsindia.org/Index.aspx>, 30 June 2014)

causes delays in assessments as freelance assessors with the required skills are not often available at short notice in rural areas. The travel involved, and the payment for assessors, **makes the funding model for many agencies untenable.**

Assessment Processes

There is little evidence that assessments are reliable, valid and comparable between assessment agencies, both within the same sector and under different schemes. **As assessments across the various schemes are not comparable because of their different guidelines,** it is recommended that common national standards for assessment are adopted by all government funded schemes. As separate guidelines specific to the STAR scheme have been produced, it may be that these could be the basis for further guidance on assessment in the system as a whole. The introduction of the National Skills Qualifications Committee (NSQC) under the NSQF, and their future requirements for certification upon SSCs, may also address this issue. Transparency is further undermined by the lack of system-wide mechanisms for capturing information on assessment outcomes and quality across the different government funded schemes.

NSDC data and training providers involved in the STAR scheme have reported high failure rates in some sectors. Whilst this may in part be due to the rigour of the assessment process, some assessment bodies felt that the high failure rates **were due in part to a lack of consistent guidance for assessors about the level at which candidates must perform and the absence of national standards for assessors.** The fact that under the STAR scheme, candidates can take assessments as many times as needed, is also thought by some training providers to contribute to the high failure rate. However, it should be noted that according to NSDC data, a significant proportion of the failures were through online/IT based assessments.

Emphasis on summative assessment for certification is felt to be incorrect by many agencies, training providers and policy makers; **a combined approach whereby formative coursework is also taken into consideration** is felt to be a more accurate and fair way of demonstrating candidate abilities. However, the inclusion of formative assessments in the overall assessment model would require additional quality assurance measures such as the introduction of standardized assessment tools and assessment guidelines for training providers as part of an enhanced registration/affiliation system. While maintaining the necessary distance between assessment agencies and training providers that is required to ensure quality, more transparent feedback mechanisms should be encouraged between the two groups, so that mutual improvement is enabled.

The use of technology in conducting assessments is a key area of good practice, and is helping to address many issues within the assessment process, including improving the accessibility of assessments for trainees in remote areas, and reducing costs for assessment agencies. **It can be argued that the use of technology for assessments and the best balance between knowledge and performance based assessment, especially in sectors that are not IT based, has not been sufficiently explored** in either the MES-SDI or STAR schemes. Consequently, it is suggested that further work be done to investigate both the benefits and limitations of technology as part of a blended approach to conduct assessments on a large scale in India.

Quality Assurance

The empanelment standards of the MES-SDI programme, with accreditation through the National Accreditation Board for Education and Training (NABET), were reported to have dropped significantly since the scheme began, with agencies not achieving accreditation now being permitted to remain within the scheme; recent changes to the scheme have brought quality control back under Directorate General of Employment and Training (DGET) and the Regional Directorates of Apprenticeship Training (RDATs).

In terms of empanelment requirements under the STAR scheme, all assessing bodies are pre-screened by SSCs, although **the rigour of this process appears to vary between SSCs**. Many SSCs only require the standard education and experience requirement; other SSCs (such as the Telecom Sector Skills Council [TSSC]; details in Appendix 2) have detailed criteria that includes applicants' recent skills training, willingness to travel for assessments, and contribution to the wider sector. **The best assessment bodies have internal quality assurance processes**, such as comparison of outcomes between states or the employment of external verifiers, to ensure that quality standards are met.

There also exists **a potential conflict of interest in terms of quality assurance of assessment agencies by SSCs**. With SSCs receiving funding from assessments completed (sometimes up to 60% of the total fee), there may be limited incentive for them to investigate or 'de-panel' assessment agencies who are found to be operating below the required standard. This issue was raised by a number of the training providers interviewed, who highlighted that they rely upon SSCs to act as conduits for their feedback to assessment agencies on their performance. Despite these concerns being raised, it should be noted that under both the STAR and MES-SDI schemes, a grievance system is in place.

It was also noted that many assessors receive training of only a day from their employing agencies which is highly unlikely to produce assessors who understand the principles of assessment and their application in different sectors, levels of study and national occupational standards.

This would be addressed, however, with the introduction of qualifications in assessor skills and continual professional development requirements.

1.3 Recommendations

Skills Development, Policy and Governance

- All national and state level skills development programmes should cohere to a single set of national occupational or competency standards so that common performance standards are set
- Improved communication tools should be developed so skills bodies can more effectively share information about reforms and initiatives. These should aim to improve communication horizontally at the national level, and vertically to the states.
- A mandatory qualification for assessors should be introduced to improve the skills of assessors and the quality of assessment in India.
- Strengthened quality assurance systems should be established to monitor the processes and outcomes of assessment to ensure that the ambitious policy targets deliver quality outcomes.
- The oversight and/or regulation of SSCs should be enhanced so that assessment practices and systems across sectors are standardised and that fee structures and potential conflicts of interest can be better managed.

Supply and Demand for Third Party Assessment

- The development of systems to improve the collection of data on the supply and demand for third party assessments across government programmes should be accelerated.
- The government should consider providing public subsidies to support the phased introduction of a mandatory qualification for assessors to rapidly improve the skills of assessors.
- A mandatory program of continuous professional development for assessors should be introduced through SSCs and/or assessment bodies.
- The government should consider taking steps to ensure higher wages for assessors holding formal qualifications for assessors.

Funding

- Future funding/incentive regimes should place an equal focus on certification and placement.
- A study on the costs of assessment, separate to the costs of training, should be undertaken to identify the key variants of costs across different sectors for publicly funded provision.
- Conduct research into best practice for funding and delivering quality assessment in hard-to-reach areas.

Assessment Processes

- Clearer assessment standards should be developed to supplement the detail in NOSs and QPs to drive more consistent assessment quality across different sectors and schemes.

- Consider different options for including formative assessments in the overall assessment model for QPs, including the additional quality assurance measures required to ensure effective implementation by training providers.
- Scale up support to assessing bodies, through SSCs or other appropriate organisations, so that higher quality assessment tools can be developed and introduced.
- Ensure the existence of formal, transparent bilateral feedback mechanisms between training providers and assessing bodies.
- Undertake further research on the potential use of technology in skills assessment and how best to encourage technology adoption in the sector.

Quality Assurance

- Adopt a standard empanelment process for assessment bodies and mandate its standard usage across all SSCs and other regulatory bodies with an equivalent role.
- Consider the options to improve the accreditation/affiliation process of assessors and assessing bodies under the various schemes – including by a new or existing national regulatory body – so as to remove potential conflicts of interest and raise standards of assessment nationally.
- Continue efforts to develop national standards, career pathways and qualifications for assessors and trainers and design a national workforce development strategy for these important roles.

2. Key Messages

- Many skill development schemes started with placement as the primary - and, in some cases, only - outcome.
- Third party assessment by skills assessment bodies is becoming increasingly common under multiple publicly-funded schemes and government ministries to improve standards within the respective programmes; each programme, however, operates with different standards and requirements.
- There is a tension across all schemes between the quality and volume of assessments; agencies are often incentivised to meet targets rather than common national standards.
- A dual focus on placement and certification would ensure that both learners and employers receive the outcomes they require.
- Linked to this, the value of certificates under the MES-SDI scheme has been questioned; assessing bodies require greater support to demonstrate value to employers, and to ensure that certificates lead to placements.
- The oversight and regulation of SSCs is still at an early stage and affiliation standards for assessment bodies are not consistently enforced.

- The funding allocated for assessment needs to be revisited, as a number of organisations believe it is not sufficient to allow for quality assessments to be performed.
- Introducing qualifications and professional development requirements for assessors would improve the overall quality of the workforce and assessments.
- Encouraging the use of technology in assessments will improve the accessibility and reach of skills development schemes.
- Assessment agencies need to be supported in the development of assessment tools and the interpretation of occupational standards.
- More rigid and standard criteria are required for the selection and recruitment of assessors by agencies.
- The accreditation/affiliation process of assessors and assessing bodies under the various schemes should be improved and options for how this could be done should be explored, including the option of this responsibility being given to an existing - or new - national regulatory body.
- Affiliation standards for SSC and assessing bodies could include be linked to an integrated formative/summative assessment model, incorporating increased guidance on assessment within NOS and Qualification Package (QP) templates.

3. Concepts, Principles and Approach

3.1 Key Concepts

Formative Assessment: this method of assessment tends to be used for internal assessments by teachers and trainers. It involves the monitoring of ongoing student learning in order for students to recognise their strengths, weaknesses and areas which need improvement; and for teachers and trainers to recognise where their students need additional support (Carnegie Mellon, 2014).

Summative Assessment: this method of assessment tends to be the method used by external, or third party, assessment agencies. The purpose is to evaluate student learning (in comparison to a standard or benchmark) at the end of a course or a course module (Carnegie Mellon, 2014).

Competency: competency is a key concept for assessment practice. A competency is *'the ability to undertake responsibilities to a recognised standard on a regular basis'*, combining skills, experience and knowledge (HSE, 2014). Competency-based assessment, which can be formative or summative, is increasingly the preferred method of skills assessment for governments and training providers.

Certification: in the context of skills assessment, certification may occur when an individual is thought to have met a given standard and benchmark. Individuals who have met the criteria are given a certificate, often to demonstrate competency, and usually by a third party assessment agency (internal certification may also occur, but if managed independently by a third party, tends to carry more currency with employers).

Apprenticeship: apprentices are engaged by public and private sector employers in India, often on a compulsory basis. Apprentices train for between six months and four years, using a mixture of

workplace training and offsite training: syllabi are set by Trade Committees for each sector (India, DGET, 2012, p.1).

Recognition of Prior Learning (RPL): RPL is a means of recognising the skills and knowledge that have accrued to individuals who have not previously undertaken formal assessment in the area for which they are seeking recognition. It is of particular use to groups who may have been excluded from mainstream education and, according to one study, *'offers the possibility of capturing the latent skills present in an economy where much of the workforce is informally employed'* (Great Britain, UKIERI, 2012, p.3).

3.2 Principles of Assessment

The development of the skills system in India should be viewed in light of the main principles of assessment, whether the current system meets this principles and the related quality criteria, and if (and where) not, what can be done to ensure that policy and assessment practice meet the requirements of internationally benchmarked assessment systems.

Key principles of assessment include (Rust, 2002, p.2):

- **Reliability:** the assessment outcome given by independent assessors, using the same criteria and marking practices, is the same.
- **Validity:** the assessed task accurately assesses what it is intended to assess.
- **Relevance and transferability:** the assessed tasks are relevant in other contexts than the assessment site, and students who have successfully passed an assessment can transfer those skills to other situations.

According to the ILO (2014, p.5) the development of an effective competency-based assessment system relies on seven elements: validity, reliability, transparency, flexibility, practicality and an evidence base.

3.3 Study Approach

The information in this discussion paper is derived from a combination of desk research and stakeholder consultation. Desk research included a review of UK and international engagement with India's skills sector, evaluating programme and initiative objectives as well as evidence of success and lessons learned and a review of policy and regulation within the Indian skills landscape, with special reference to three states: Haryana, Maharashtra and Odisha. Desk research also included a stakeholder mapping exercise, from which interview respondents were identified and contacted.

A range of policy makers, assessment agencies and other relevant bodies were met by project team members in Haryana, Maharashtra, Odisha and Delhi during April and May 2014. Discussions were semi-structured and sought to fill in any gaps from the desk research stage. Additional telephone interviews were carried out in May and June 2014 and some respondents provided additional information via email. It should be acknowledged that elections in India during April and May 2014 meant that policy makers had limited availability and a smaller number was interviewed than had been anticipated.

Respondents were provided with the option of anonymity where possible and, where information provided is not organisation specific (i.e. when outlining the structure or activities of an organisation, rather than passing comment on policy or other organisations), anonymity was generally required. Where information has been sourced from conversations, the individual and organisation are cited.

4. Current System Overview

4.1 Vocational Education Policy and Reforms

Over the past two decades India has achieved impressive rates of economic growth, despite lower literacy rates than in comparable emerging economies and lower participation in primary education. This has been attributed to the country's focus on tertiary education and reliance on a relatively small number of sectors with a global reach, particularly ICT and engineering; one of the outcomes has been an increase in inequality and a fall in the percentage of the Indian population benefiting from growth in relative terms (Ernsberger, 2012, p.5).

At the same time, India's population is growing rapidly, as is its working-age population as a proportion of the total: in 2013, out of a total population of over 1.2 billion, the working age population reached over 63%, compared to just under 60% in 2001 (Rukmini, 2013). This 'demographic dividend' represents a huge opportunity for India to increase productivity by investing in the skills of the workforce, the vast majority of whom are either inactive or engaged in low-skilled work in the informal economy (Ernsberger, 2012, p.13). However, India's demography is potentially also a huge danger: if the labour market is not made more inclusive through a more balanced approach to human capital development, India risks not only missing out on economic growth but also the possibility of widespread social unrest (Johnson, 2006). Awareness of this challenge was a major factor behind the renewed focus on skills development in India in recent years (India, Planning Commission, 2008a, p.21).

The Directorate General of Employment and Training (DGET) within the Ministry of Labour and Employment (MoLE) has overall responsibility for vocational education and training (VET). There are, according to the NSDA, approximately 21 other ministries who hold some level of responsibility for VET, including the Ministry of Human Resource Development (MHRD) and the Ministry of Rural Development. This fragmentation of the training system and the resulting duplication of efforts has been noted as a major issue for India (MHRD, 2012, p.8). Training offered by the MoLE is largely delivered via a network of around 9,400 Industrial Training Institutes (ITIs), which may be either publicly or privately operated, and which have the capacity to train around 1.3 million students. Courses vary from a few weeks to several years and from basic entry level skills to relatively advanced technical training (Srinivasan, 2013, p.6).

Vocational education and training has generally been an underdeveloped part of the Indian education system for many years. It is underfunded, seen as non-aspirational, and lacking quality and sufficient industry involvement (Mehrotra et al, 2013, p.8). ITIs themselves reportedly offer poor quality training, have serious infrastructure gaps, outdated curricula, high dropout rates and little contact with industry (FICCI, 2006). There is little evidence that ITI training improves employability; studies show little to no difference in wages between ITI graduates and those who have completed only year 10 of schooling (Mehrotra et al, 2013, p.6).

Skills development has been addressed over the past decade with the introduction of the eleventh five year plan (covering the period 2007-12), detailing a road map for skills development in India (NSDA, 2014). The subsequent National Skill Development Policy (NSDP), introduced in 2009, was followed by a number of new initiatives; the most significant of these have been the National Skill Development Corporation (NSDC), established in 2009, and work carried out by MOLE and the MHRD to create a National Qualifications Framework for vocational education and training.

The backbone of the NSDP was an ambitious target of skilling 500 million people by 2022. One of the core principles of the NSDP is effective assessment and credible certification: *'quality assured learning, credible assessment and certification will be developed. This will allow employers to use the certificate as a proxy to fast track job applicants.* Employment outcomes are emphasised: *'skill training must ensure a job for those who seek it'.* It also highlights the importance of competency based training and assessment, and that *'valid and reliable'* assessment methods should be used. Employers, trade unions and civil society organisations are given responsibility under the NSDP for feeding into examinations and certifications (India, MoLE, 2009). It must be noted, however, that while the plan focused on assessment and certification as the primary means of achieving the skills target, it did not recognise the subsequent need also to address the placement of these skilled people in appropriate jobs.

Accreditation of training provision and assessment is addressed under the twelfth five year plan, and calls *'for a mandatory accreditation system, appropriate institutional structure has to be created'*. The plan proposes alignment between skills training and secondary vocational education, and suggests putting into place *'appropriate institutional arrangements with linkage to the National Skills Development Corporation [NSDC] for capacity development for professional certification and accreditation systems for institutions'*. There is recognition within the plan for a need to move, for both academic and vocational learning, from measurement by enrolments to measurement according to outcomes. National and State Boards are expected under the plan to draw up evaluation schemes, in partnership with Sector Skills Councils, to enable competency-based assessments. While the aims of the plan are laudable, the scale of the ambition and scale of the proposed reforms mean that it is, perhaps necessarily, light on details of assessment and certification systems in vocational education and training (Planning Commission, 2008b).

According to the World Bank (2011), the affiliation model used for certification, assessment and training is not without cost: while it allows for rapid scaling up of the system to meet demand, it is often conducted without reference to coherent quality checks and assurance.

National Skills Qualification Framework

Following several years in which the Ministries of Labour and Human Resource Development pursued parallel and, at times, contradictory frameworks (the National Vocational Qualification Framework [NVQF] and the National Vocational Education Qualifications Framework [NVEQF], respectively), the two were unified in 2013. The resulting National Skills Qualification Framework

(NSQF) provides an opportunity for enhanced quality assurance, and the recognition of skills gained through formal, non-formal and informal learning (India, Ministry of Finance, 2013). In principle it covers vocational education and training, as well as general and technical education. Key elements of the NSQF include:

- Recognition of skills and competencies at various levels, which are equivalent to international standards and therefore allow greater international mobility for students and workers.
- Defined pathways for skill progression.
- An opportunity for ongoing skill development and lifelong learning.
- Industry and employer partnerships.
- Transparency.
- Greater recognition of prior learning.

The NSQF is based on outcomes, rather than inputs, which has traditionally been the focus of quality improvement initiatives. This benefits the learners more than any other stakeholder group, as the framework allows them to assess the relative value of their qualifications and to make more informed choices accordingly. Further, it provides for both vertical and horizontal mobility and reduces any negative perceptions of those who have acquired vocational education and training, or skills from the informal sector, as qualifications are recognised when pursuing higher qualifications (India, Ministry of Finance, 2013). It should be noted that a focus on outputs and outcomes also places the emphasis of quality improvement on innovations in teaching, rather than resource provision (Ernsberger, British Council).

State governments work to ensure that regional variations are accounted for without compromising the quality of the NSQF. Regulatory bodies, such as the All India Council for Technical Education (AICTE), regulate courses and programmes, ensuring that they align with and conform to the NSQF. The NSQF is to be implemented through the NSQC, set up under the National Skill Development Agency (NSDA) and each sector has representation on the Committee (India, Ministry of Finance, 2013).

The NSQF consists of 10 levels, with level 1 representing those with the lowest level of complexity and level 10 the highest. Each level contains a set of learning outcomes, referenced to the National Occupational Standards (NOS), which allow broad comparisons; these are not necessarily consistent, as various qualifications have different characteristics. Each level will act as a reference for a competency-based curriculum package, identified by the Sector Skills Councils, government ministries or departments and regulatory bodies. Industry and employers will be also consulted to ensure these packages remain relevant. Level descriptors, which are the learning outcomes for each level, include: process; professional knowledge; professional skills; core skill; and responsibility (India, Ministry of Finance, 2013). It must be noted that little visible activity has occurred in the implementation of the NSQF since its approval, however; further delays due to the 2014 elections are also likely.

The following table shows approximate NSQF levels for illustrative purposes only; it gives an approximation of how different qualifications in India map to the proposed framework. Level descriptors have since been updated; the latest definition of the NSQF levels can be found in Appendix 4.

NSQF Levels (MHRD, 2012, cited in UNESCO, 2013)²

		Case I	Case II	
Level	Certificate	Equivalence	Equivalence	Certifying Body
10	NCC 8	Degree	Doctorate	University & SSC
9	NCC 7	PG Diploma	Masters Degree	University & SSC
8	NCC 6			University & SSC
7	NCC 5	Advanced Diploma	Bachelors Degree	Board of Technical Education/University & SSC
6	NCC 4			
5	NCC 3	Diploma	Grade XII	Board of Technical Education/School Board & SSC
4	NCC 2			
3	NCC 1			
2	NCWP 2	Grade X	Grade X	School Board & SSC
1	NCWP 1	Grade IX	Grade IX	School Board & SSC
RPL	RPL 2	Grade VIII	Grade VIII	NIOS/State Open Schools & SSC
	RPL 1	Grade V	Grade V	NIOS/State Open Schools & SSC

Under the STAR scheme there are 16 Sector Skills Councils and 297 job roles have thus far been developed³. The NSDC has developed guidelines for SSCs to assist with the development of QPs and NOS; this process includes market analysis of sector needs; functional analysis of job roles; mapping to the qualifications framework and level descriptors; and the development of performance criteria (NSDC, 2013a). A Qualifications Registration Committee (QRC) will give final endorsement of the NOS and oversee development of sector specific qualification pathways⁴. Its specific proposed roles include checking the levels of proposed QPs, ensuring that NOS are compliant with protocols and agreed formats, checking the uniqueness of proposed NOS, working with SSCs and approving, registering and promoting NOS, where appropriate, as a national standard (NSDC, 2013c).

4.2 Key Actors

4.2.1 National Skill Development Agency (NSDA)

The NSDA was established out of the Office of Adviser to the Prime Minister. It is responsible for overseeing the NSQF's quality and standards, ensuring they meet sector needs and for setting up additional professional certifying bodies and facilitating capacity building (India, Ministry of Finance, 2013). Following notification from the Ministry of Finance in late 2013, SSCs will now be regulated

² RPL: Recognition of Prior Learning; NCWP: National Certificate for Work Preparation; NCC: National Competency Certificate.

³ <http://nscsindia.org/Index.aspx> as of the 12 August 2014

⁴ <http://www.nsdindia.org/pdf/protocols-nos-development.pdf>

by the National Skill Qualification Committee (NSQC). The NSQC will be part of the NSDA, but does not appear to be operational as yet. At present, the NSDA is working to rationalise the approach and duration across different skills development schemes; part of the methodology is the delivery of independent evaluations of the MES-SDI and STAR schemes. According to

the NSDA, working to rationalise the skills development offer at state level is important; in their experience, states are finding the different training schemes difficult to understand and implement.

4.2.2 National Skills Development Corporation (NSDC)

The NSDC was established in 2009 under a PPP model, with shareholdings of 49% government and 51% for industry. It was suggested in one interview, however, that the majority of funding was actually provided by the Ministry of Finance; other stakeholders confirmed anecdotally that only 10% of funding was received by industry.

The NSDC has a target of skilling 150 million people through its network of training providers; 60 are operational to date. Through these training providers, NSDC has access to curricula and courseware for over 800 programmes which are approved in accordance with quality guidelines (ILO, 2013a). According to the ILO, *'not all curriculum is freely available to all providers as copyright arrangements vary across the different agreements between the NSDC and its training partners'* (ILO, 2013a, p.5).

4.2.3 SSCs

Sector Skills Councils (SSCs) are designed to be led by industry and develop the NOS for the various roles within the sector they represent. SSCs are mandated by the NSDC to oversee assessment and certification of candidates trained by affiliated training providers using the NOS (India, Ministry of Finance, 2013). They have begun to engage private assessment companies from both India and overseas as affiliated providers (see below). All assessment agencies are pre-screened by the SSCs to ensure their ability to assess against occupational standards; however, the rigour of this process of screening and affiliation is unclear and it is understood that different standards are being applied by different SSCs (ILO, 2013a, p.10).

SSCs' role can be divided into three broad areas of responsibility (NSDC, 2013b):

- Research: including the creation and maintenance of a skill data base, development of sector specific competency standards and certifications, provision of careers guidance, benchmarking of international standards and the identification of technology for teaching.
- Delivery: including training of trainers, delivery of training modules, development of training delivery mechanisms, and other activities to improve quality and capacity.

- Quality assurance (including streamlining of the certification framework, accreditation of training providers, and organisation of certification tests).

The SSCs are further responsible for training assessors (the original expectation was that SSCs would themselves be testing and certification bodies: Manipal City & Guilds, 2011), drawn either from the present workforce in their sector or recently retired sector professionals; assessors will be provided with a unique number and be affiliated with

an assessment organisation. The Asian Development Bank (ADB) noted during field research that they are currently working with SSCs to develop continuing professional development plans for assessors.

The ILO points out that while there is increasing coherence in the skills assessment and certification system, there remains a *'lack of market acceptance in some quarters and an absence of coherent regulatory oversight'* (ILO, 2013a). Whilst the NSDA has expressed the view that acceptance of SSCs' work and remit has been limited to date, there are examples of SSC certification being recognised by state governments. Regardless, the nascent stage of their development should be considered during any process to consider the need for increased regulation.

4.2.4 Ministries

At least 21 Government ministries deliver skill development schemes of various scales; this section is concerned with the three directly involved with the training (and placement) schemes under consideration for this project.

Ministry of Labour and Employment

The Ministry of Labour and Employment (MoLE) houses the Directorate General of Employment and Training (DGET); this is responsible for developing policies and standards under the direction of the National Council for Vocational Training (as discussed below). MoLE was responsible for the development of the National Vocational Qualifications Framework (NVQF), which has now been subsumed under the new NSQF. DGET runs three major training schemes: the Craftsmen Training Scheme (CTS), the Advanced Training Scheme (ATS), and the Modular Employability Skills - Skills Development Initiative (MES-SDI; as outlined under section 4.3).

Ministry of Human Resource Development

The Ministry of Human Resource Development includes the Department of School Education and Literacy, which oversees the implementation of national policies related to elementary, secondary, vocational and adult education. Falling under its remit to develop vocational education policies, the Department for Education and Literacy was in the process of designing a National Vocational Education Qualifications Framework (NVEQF), which has now been subsumed under the NSQF as of December 2013 (UNESCO, 2013). The scheme has currently been piloted in two states, namely Haryana and West Bengal.

Ministry of Rural Development

The Ministry of Rural Development (MoRD) runs the Swarnajayanti Gram Swarozgar Yojana (SGSY) programme, launched in 1999 and focusing on providing sustainable income opportunities for the rural poor. As part of the SGSY programme, MoRD is now running a skills placement initiative, Aajeevika Skills (further outlined in section 4.3).

4.2.5 Regulatory Bodies

National Council for Vocational Training

The NCVT was established in 1956 as an advisory body to the Government of India, with a remit to ensure uniformity in the standards of training across the country. It prescribes syllabus standards, the duration of courses and pedagogical methods, arranges trade tests, sets standards of proficiency and establishes and awards National Trade Certificates. At the state level, the NCVT is organised into State Councils for Vocational Training (SCVTs); these come under the jurisdiction of the State Directorates of Technical Training, Employment and Training. The SCVTs conduct their own exams and issue Trade Certificates; their training offer differs from state to state. The NCVT also certifies the MES-SDI scheme operated by MoLE (MoLE, 2014, p.11).

CBSE and State Education Boards

The Central Board of Secondary Education (CBSE) is an autonomous body sitting under MHRD. It oversees secondary examinations in affiliated schools, which include certain vocational courses offered at a secondary level. It grants certificates to successful candidates, prescribes and updates examination criteria and affiliates institutions. Its vocational arm is introducing skill competency based courses; there are 40 currently on offer, some - but not all - of which appear to be NOS compliant. Paul Comyn (ILO) noted that only new NOS-based courses implemented under pilots of the NVEQF will be approved by CBSE.

State Education Boards

State level boards are mandated to set up state skills missions, which are intended to absorb all skilling activities at state level under one umbrella. Almost all the states have developed missions, but few are functional; those that are successful, according to the NSDA, include Uttar Pradesh and Gujarat. According to FICCI, the difference between these states and other states where missions have not yet succeeded is political will. It was reported during field research by some assessment agencies that state skills missions are encouraging the development of local assessing bodies, rather than having national agencies dispatch assessors to regional areas.

Quality Council of India

The Quality Council of India (QCI) was established by the Government of India in partnership with the Associated Chambers of Commerce and Industry of India (ASSOCHAM), the Confederation of Indian Industry (CII) and the Federation of Indian Chambers of Commerce and Industry (FICCI). The Council was appointed with the remit of forming and overseeing a national accreditation framework. The Council has established four National Accreditation Boards for training institutions and quality management systems. The National Accreditation Boards are as follows:

- National Accreditation Board for Certification Bodies (NABCB)
- National Accreditation Board for Education and Training (NABET)
- National Accreditation Board for Hospitals and Healthcare Providers
- National Accreditation Board for Testing and Calibration Laboratories

While NABET was responsible for accrediting assessing bodies under the MES-SDI scheme, this has changed with the recently updated policy (MoLE, 2014), which now requires assessing bodies to meet criteria and monitoring requirements operated by DGET. During field research, one assessment agency reported issues with the quality and lack of consistency in NABET

accreditation processes, and noted that many agencies were receiving full accreditation without meeting the required criteria.

NABET now accredits vocational training providers; their accreditation is compulsory for ITIs wishing to be affiliated with NCVT (NABET, 2014).

AICTE

The All-India Council of Technical Education, formed in 1945, has overall responsibility for the coordinated management and development of technical education across India; it sits underneath the MHRD. AICTE's remit covers the planning and formation of technical education standards, quality assurance in technical education and ensuring the uniformity of certification.

AICTE has recently introduced a new Skill Knowledge Providers (SKP) scheme to facilitate better connections between vocational and higher education. Under SKP, training organisations delivering vocational training can be registered with AICTE and affiliated with an AICTE approved institute, allowing the outcomes of their training to be credited in higher level programs. As of December 2013 there were 79 registered SKP providers. AICTE intends to empanel assessors and assessment bodies as part of the SKP scheme (ILO, 2014, p.9).

AICTE is involved in the National Vocational Education Qualification Framework (NVEQF) pilots (as outlined in section 5.4), developing model curriculum frameworks.

National Institute of Open Schooling (NIOS)

The National Institute of Open Schooling, an autonomous institution under the MHRD, has programmes covering secondary and senior secondary education, open basic education, vocational education, life enrichment and life skills. NIOS has the authority to examine and certify learners registered with it up to pre-degree level in academic, technical or vocational subjects; it also provides a framework for the Recognition of Prior Learning (RPL). NIOS has registered assessment centres across the country, but it is not clear to what extent these centres are equipped to carry out both theoretical and practical assessments (ILO, 2014, p.9).

4.3 Publicly Funded Training Schemes

Consideration in this section is given to outlining three of the major training schemes and initiatives that utilise third party assessment: MES-SDI; STAR; and Aajeevika Skills. Details of these schemes relating specifically to the assessment and certification processes can be found in section 5.

4.3.1 Modular Employable Skills - Skills Development Initiative (MES-SDI)

Modular Employable Skills (MES-SDI) aims to be a demand-driven, flexibly delivered framework for delivering short term vocational training courses that can support mobility and lifelong learning (MoLE, 2014, p.11). It is part of the Skills Development Initiative (SDI) that was established in 2007. The Confederation of Indian Industry (CII) asserts that it was responsible for the conceptualisation of the model: *'We went to the government to suggest the third party assessment model and they said, "give us a working model and we'll adopt that". We piloted a model and showed government and then they piloted it nationally.'*

The scheme's objectives are to build India's capacity in the area of development of competency standards, course curricula, learning material and assessment standards as well as to optimally

utilise existing infrastructure. More practically, the scheme aims to drive skills for employment, with MES-SDI being *'the minimum skills set that is sufficient for gainful employment'*. Initially, the target was for one million people to be trained, or their existing skills tested and certified, over a period of five years and one million yearly thereafter (MoLE, 2014). One assessment agency noted that in their experience, *'the MES-SDI model works well, because it can provide young people with existing skills with certification'*, unlike in other schemes.

Courses have been identified and decided in consultation with industry to target various groups and are available at different levels. Target groups include: workers seeking certification of their skills acquired informally; workers and ITI graduates seeking to upgrade their skills; early school drop-outs and the unemployed; and those who previously constituted child workers and their families. The minimum age limit for people to take part in the scheme is 14 years with no upper age limit; courses are available for persons having completed 5th standard and onwards (MoLE, 2014, p.29). While the recognition of prior learning (RPL) is still noted as a feature of the SDI scheme, there is little detail in the new policy (MoLE, 2014). According to the NSDA, RPL pilots are being developed and will feature collaboration from each of the SSCs.

To date, 27.3 lakh young people have been trained and assessed under the scheme; there are currently 9,807 training providers and 104 assessing bodies working with the scheme. Approval has been given for the continuation of the scheme through the 12th Five Year Plan, with Rs.2000 crore budgeted and a target for skilling a further 25 lakh people (MoLE, 2014, p.12). According to MoLE, they are in the process of revising the targets for the MES-SDI scheme: the target of trainees per year has been reduced from 800,000 to 400,000 as the duration of training may be doubled from 150-200 hours to a minimum of 300-500 hours; in the most recent policy document, however, the target remains at one million people per year (MoLE, 2014, p.40).

The scheme is coordinated by an Apex Committee at national level, with stakeholders including representatives of the Ministry of Defense, NSDA, Employers, Employees, and state secretariats. Implementation is managed by the National Project Management Cell (NPMC) and at regional level through six Regional Directorates of Apprenticeship Training (RDAT). The NPMC is responsible for the allocation of funding at state levels, and periodic inspections of the training providers and assessors; the RDATs are responsible for maintaining a pool of assessing bodies. RDATs are also responsible for allocating work to assessing bodies and monitoring their quality: 3% of assessments per month are inspected and the results shared with DGET. At state level, SDI cells have been established to coordinate assessment bodies and training providers; they are also responsible for the reimbursement of assessment fees to the agencies and providing support to agencies where required (MoLE, 2014, pp.16-18).

Placement is also a key responsibility for training providers under the recent scheme revisions; while it was included as an action for training providers in the 2010 specifications, targets have now been added. Training providers are now required to ensure waged employment for at least 50% of passed trainees within three months of training and for at least six months. Incentives are also being provided for placements: Rs.3000 per placed trainee will be provided to training providers if a minimum of 70% of trainees are placed in a job with a salary of Rs.6000 or more in the required timeframes. In addition, training providers who are able to assure placements for at least 70% of candidates are entitled to apply for advances of up to 40% of their eventual reimbursement for training (MoLE, 2014, pp.35-38).

Quality assurance for the MES-SDI scheme is delivered through independent assessing bodies and through separate certification by the NCVT. The emphasis on independent assessment bodies is a key differentiator between MES-SDI and other DGET schemes, such as the Craftsmen Training Scheme (CTS), in which assessment and certification are conducted by the DGET and the NCVT. Instructional media packages (IMPs), including textbooks, instructor manuals and question banks are produced by the National Instructional Media Institute (MoLE, 2014, p.47).

In a report for MoLE that presented views of MES-SDI stakeholders, the ILO reports that respondents to their research indicated that *'the scheme had helped facilitate improved access to training and promoted equitable access, increased earnings of participants, and achieved the desired scale of participants. It was also considered to have improved industry participation through the assessing bodies which are empanelled throughout the country and involve employers at the grass roots level'* (ILO, 2013b, p.5). Assessment agencies interviewed for this research felt that rural people benefited more from the scheme than those in urban centres, as those in rural areas could obtain entry-level skills and pursue entrepreneurship opportunities which would otherwise be closed to them; urban groups, by contrast, tend to be less marginalised and therefore tend to have benefited more from basic educational opportunities. A negative aspect of the programme, according to some assessment agencies, is that the private sector, in their experience, has limited interest in the programme or its graduates, raising a potential issue for the value and sustainability of the scheme in terms of employability.

The NSDA noted that it is commissioning an evaluation of the scheme at present; in their opinion, MES-SDI is a good scheme: *'where people set out to use the scheme with the right intentions and work, it has done tremendously well'*. It was noted, however, that the scheme design has allowed people to *'pilfer'* from the system. According to the NSDA, the lessons learned with assessors in the MES-SDI scheme should be used in STAR scheme: *'they'll admit in the MES-SDI scheme that the weak point is having assessors of the right quality'*.

4.3.2 National Skill Certification and Monetary Reward Scheme (STAR)

The National Skill Certification and Monetary Reward (STAR) scheme was announced in 2013 as an initiative to encourage young people to undertake skill development by offering financial incentives for the successful completion of market-driven skills training programmes. STAR is wholly government-funded, but administered by the NSDC; candidates undergoing skill training by authorised institutions receive an average award of Rs.10,000. The scheme aims to benefit 10 lakh youth at an approximate total cost of Rs. 1,000 crore in the period of one year from the date of its implementation (NSDC, 2013).

Under the scheme, candidates can enrol in courses that are approved for inclusion by the NSDC; they will receive monetary awards upon achieving certification, on the proviso that it is within 12 months of the scheme's commencement. The monetary award for certification is as follows:

Sectors	NSQF Levels 1 & 2	NSQF Levels 3 & 4
Manufacturing Courses	Rs. 10,000	Rs. 15,000
Service & Other Sectors	Rs. 7,500	Rs. 10,000

While the scheme is focused initially on job roles in 'high demand' markets (as determined by the NSDC) at levels 1-4 on the NSQF, there are plans in 2014 to expand the scheme to include job roles and qualifications at levels 5-10. Each category (sector and level) has a pre-defined number of awards and once the number for a particular category is exhausted, only proposals for the remaining categories are considered. The numbers for each category are subject to a periodic review and are available on the NSDA and NSDC website.

Institutions that have been approved for delivery of government-funded training in the past two years, or who are affiliated with NSDC, are automatically eligible to operate under the scheme. Those training providers with no prior affiliation are required to obtain approval from the relevant SSC. Training providers under the scheme are required to align their courses with the relevant qualification package (QP) and National Occupational Standards (NOS) developed by the SSC. Assessment agencies and training bodies for all purposes of the STAR scheme are required to be separate with no overlap of roles permitted, so as to maintain transparency and objectivity (NSDC, 2013d, p.3).

For an assessment agency to be formally approved, a service level agreement has to be signed with SSCs (with input from NSDC), after which details of the assessment agency is uploaded on the STAR scheme website. Assessment and certification fees are charged to candidates, and are capped at Rs.1,500 for manufacturing roles and Rs.1,000 for all other roles. Candidates may choose to be assessed by any agency listed as being approved; the results of the assessment are listed on the Skill Development Management System (SDMS). Certificates are issued by the relevant SSC; where courses are being completed that are part of other training schemes (e.g. MES-SDI), the SSC will work with the relevant certifying body (NCVT, SCVT or international awarding bodies) to produce dual certification (NSDC, 2013d, p.6).

It is noted that there are no current arrangements to ensure quality of assessments or assessment bodies across the different national and state level schemes. The STAR scheme overall is monitored through a central repository of data held by the SDMS which can be utilised by various

stake holders, including training institutions and assessment agencies. NSDA is also responsible for independently evaluating the scheme based on agreed criteria with NSDC.

As at early May 2014, the scheme had listed the following results on the NSDC website: 736,526 candidates enrolled (491,548 completed training); 258,368 assessments completed (189,160 of those assessments passed); funding worth Rs.20.5 crore transferred; and 278 job roles finalised. The STAR scheme is also reported to have generated a considerable amount of new activity by SSC-affiliated assessment companies since its inception. Anecdotal evidence indicates that assessments under the STAR scheme show failure rates of up to 70% in some occupational areas.

Some assessment agencies contacted for this research felt that the scheme was too young for them to assess its effectiveness, as the first batches of learners are only now entering industry; one criticism of the scheme was a lack of publicity. According to the Capital Goods Skill Council, the STAR scheme has had mixed success: *'in some sectors (particularly the service sectors) where capital investment is limited and more training providers are available, success has been easier than in the more investment-heavy sectors like manufacturing.'* The focus on placements may also hamper quality assurance, as a focus on jobs removes the immediate incentive to ensure that assessments are of sufficient quality (Ernsberger, British Council). The NSDA reports that it is in the process of evaluating the STAR scheme independently, in conjunction with the World Bank; it notes that *'significant distortions'* have been found and plans to report to government when the findings are complete.

4.3.3 Aajeevika Skill Development Programme (ASDP)

The Aajeevika Skill Development Programme (ASDP) is a scheme established by the Ministry of Rural Development (MoRD) under the Aajeevika-National Rural Livelihood Mission (NRLM), focusing on skills training and placement. The three sub-schemes operating under the ASDP programme are Roshini, a scheme for tribal areas and left-wing extremist affected districts; Parvaz, for Madrasa drop outs; and Himayat, for the state of Jammu and Kashmir.

The ASDP programme has targeted over one million young people for skills training. The scheme offers training to young people aged 18-35 in rural areas in partnership with public and private organisations. The programme's age limit is relaxed for those with disabilities and those belonging to Particularly Vulnerable Tribal Groups (PTGs), who are eligible to participate in training up to the age of 45. Funding streams for the ASDP are currently set at the national level, with requirements that certain percentages of funding are targeted at minority groups and women. The MoRD allocates half of funding to Scheduled Castes (SCs) and Scheduled Tribes (STs), approximately a third to women, 15% to minority groups and 3% to young people with disabilities (MoRD, 2013a).

The MoRD is currently attempting to ensure state-level buy-in to and ownership of the programme by requesting states to submit Annual Action Plans (AAPs) for skills development. Following approval of the AAP by the MoRD, monitoring will take place at the state level and programmes will be established through Project Implementing Agencies (PIAs). Gram Panchayats (GPs), the rural governments, support PIAs to ensure the effective implementation of programmes at the local level. GP activities include awareness-raising on programme objectives, forming skill demand databases and generally supporting all activities of the PIA. Monitoring of ASDP programmes is carried out by PIAs, State Rural Livelihood Missions (SRLMs) and the MoRD and covers both monitoring of programmes and processes (MoRD, 2013a).

The scheme divides skills training into vocational skills, IT and soft skills. Soft skills are taken to include English, communication, team work and interpersonal skills building. All courses undertaken as part of the scheme must be certified by the National Council for Vocational Training or a Sector Skills Council. Continuous internal assessment is a key part of the curriculum, taking the form of assignments, classroom tests and quizzes. The tests and results are held securely and are used to evaluate the quality of the programme (MoRD, 2013a).

Placement is central to the programme, with a non-negotiable placement target of 75% of trainees; placement is defined as being continuous employment for three months. Third party assessment has also become a central part of the scheme, as *'the skill, knowledge and attitude level of each trainee [must be] acceptable to the industry or employer'*. Third party assessment is considered vital in order to ensure the quality of trainees and increase their appeal to potential employer (MoRD, 2013b). Part of the shift towards third party assessment is also to ensure the transferability of skills beyond an initial employer, which certification will provide; giving trainees the opportunity to work internationally is also important, with ASDP expressing interest in exploring dual certification with awarding bodies such as City & Guilds and Pearson. Under the scheme, certification can be provided by 'established brands' upon approval from MoRD, although processes have yet to be established (ILO, 2013a).

It is worth noting that the scheme is still developing and refining its processes: according to the ILO *'whilst most aspects of implementation have been thought through and documented, further clarity has been sought on the curricula proposed for the various training programs as well as the assessment, certification and placement processes to be followed'* (ILO, 2013a, p.2). State projects are required to provide the details of proposed assessment and certification arrangements in their proposal to Aajeevika; agencies are required to have been empanelled by NCVT, an SSC or to have been notified by MoRD in skills-related programmes/NIOS in school bridging courses (MoRD, 2013b).

In its review of evidence for ASDP, the ILO notes some particular challenges concerning assessment and certification; in particular, the high likelihood that candidates trained under the scheme would not meet the assessment standards at formal NOS-aligned levels. The possible solution, proposed by ILO, would be to introduce dual certification schemes: one produced by ASDP and the PIA to confirm completion of the programme, and a second certificate issued where candidates perform to the standards of the external assessment agency appointed by the SSCs or NCVT (ILO, 2013a).

In terms of using assessment agencies, the ILO recommends that ASDP 'spread the risk' by utilising agencies empanelled under a number of schemes: the *'inclusion of different assessment bodies empanelled under different schemes will provide the best coverage and be supplemented by a mechanism through which additional assessment providers can be empanelled by ASDP for those sectors, job roles and geographic regions where assessment services are not available'* (ILO, 2013a, p.12).

4.3.4 Other Schemes

National Urban Livelihoods Mission (NULM) - Ministry of Housing and Urban Poverty Alleviation

An initiative of the Ministry of Housing and Urban Poverty Alleviation (MHUPA), the National Urban Livelihoods Mission (NULM), seeks to *'reduce poverty and vulnerability of the urban poor households by enabling them to access gainful self employment and skilled wage employment opportunities'*. This includes providing beneficiaries with training, assessment and certification, and is now operational in approximately 200 cities (MHUPA, 2013).

As with other schemes, NULM training is certified by a third party agency, which is independent of the training provider. Once training has been completed, the relevant assessment agency is informed and the candidates are sent to an assessment centre. Assessment takes place over a period of eight to 15 days, depending on assessor availability, and in most cases the majority of the time is spent on practical assessment. Assessors are hired and trained by the assessment agencies, with no provision for assessor training from the training providers or NULM (MHUPA, 2013). New assessment guidelines are now in place for the NULM programme, but have not, as yet, been implemented; all certificates issued are *'industry approved'* (Kuriakose, NULM).

As NULM skill assessment has only been carried out for the last *'couple of months'*, the impact of training and skills assessment is as yet unquantified. It has been mandated, however, that a minimum of 50% of those trained are placed in *'remunerative jobs'*, with some states increasing this to 70%, as decided by the NSDA. Although certification is unlikely to make *'much difference'* to those working in the informal sector, it is believed to ease access into the formal sector. No studies, however, have yet been carried out to quantify this (Kuriakose, NULM).

NULM works closely with NSDA, who are mandated to work with the ministries, and the SSCs. There are currently no certified agencies for some sectors in a number of states, but NULM is *'starting to engage'*. Further, NULM is concerned by a *'dearth of competent and accredited skill assessment agencies in India'* (Kuriakose, NULM).

4.4 State Level Priorities

In order to understand any differences in third party assessment at state level, three states were included as part of this research, with assessment agencies and policy makers contacted in each. The three states were chosen as examples of different levels of policy engagement with skills development, and different levels of involvement with the training and assessment schemes under consideration.

4.4.1 Haryana

The NSDC's recent skills gap study of Haryana found that between 2012 and 2017, an additional 1.27 million people will enter the state's labour market between 2012 and 2017, with a further 1.17 million between 2017 and 2022. The net addition to the labour market for the two periods is expected to be 727,000 and 496,000 respectively. Growth is anticipated to be strongly skewed towards the more developed districts in the east of the state, close to Delhi; special attention is required for less developed parts of the state which experience high levels of seasonal work-related migration owing to a lack of local employment opportunities. Less developed districts like Panipat, Faridabad, Mewat and Palwal also have lower capacity in vocational institutes; strategies in Haryana need to take into account significant local differences. The study also highlights gender equality as a particularly urgent aspect of the skills development agenda in Haryana (NSDC, 2013e).

Haryana has had a high level of engagement with current skill development initiatives and was the location for the pilot of the Ministry of Human Resource Development's National Vocational Education Qualifications Framework (NVEQF). Launched in September 2012, the NVEQF, now known as the National Skills Qualification Framework (NSQF) pilot, offers vocational training to young people in Haryana. In the 2012-13 academic year, there were 4,500 programme beneficiaries; in early 2014, the figure was reported as being 13,681 beneficiaries across 140 secondary schools. Under the scheme, young people undertake vocational skills training to improve employability, as well as receiving job readiness training through guest lectures, work experience and field visits. Skills training is delivered for a number of different industries, including IT, the retail industry, the automobile industry and beauty (Wadhvani Foundation, 2014).

There are 131 government ITIs and 94 private ITIs in Haryana, with an intake of 51,944 between them. Haryana includes training capacity over the 2012-2017 period of 230,000 in agriculture, 188,000 in information technology, 152,000 in labour and employment, 79,000 in rural development and 61,000 in human resource development (NSDC, 2013e). The NSDC report includes no details on MES-SDI capacity or delivery.

The Haryana School Board was responsible for assessment in the pilot, with the support of sector skills councils (SSCs). No formal evaluation of the pilot project was conducted; however, implementation of a competency-based framework should, in principle, have made officials and practitioners in Haryana familiar with the demands of high-quality assessment.

There were three components to assessment under the pilot: internal evaluation and assessment that was class-based and delivered by teachers; a theoretical examination set by the State Education Board (in vocational education courses, this was worth 30%); and a practical component, which was worth 50% for vocational courses. The practical component for vocational courses was delivered by assessment agencies contracted by SSCs. In this pilot, assessment funding was channelled from the Haryana state government (rather than the NSDC) to the SSCs, and then onto the agencies. According to the Wadhvani Foundation, the assessment agencies delivered to their expectations; it was felt that any difficulties they had experienced was due to the nascent nature of the scheme, and would be resolved over time.

A State Skill Development Mission has been set up in Haryana, although information as to its remit and planned activities is not available.

4.4.2 Maharashtra

Maharashtra is a relatively developed and wealthy state, with an economy in which agriculture forms a relatively small part at 13%; however, agriculture accounts for 64% of total employment (NSDC, 2013f). As elsewhere in India, Maharashtra has a large proportion of people working in the informal sector, mainly in the agricultural sector but also in small shops, the domestic sector, construction sites, loading and unloading, and as security guards (Deloitte, 2013).

Maharashtra has a relatively well developed education and training infrastructure, with a total of 796 Industrial Training Institutes (ITIs). Capacity is around 154,700; in 2010-11 the system was over-enrolled with 157,523 students. Training under the following government schemes is available (Deloitte, 2013):

- The MES-SDI scheme: 340 courses available covering 31 sectors.
- Craftsmen Training Scheme: available in 89 trades through government ITIs; 81 of these come under the NCVT and eight under the State Councils for Vocational Training (SCVTs).
- Apprenticeship training scheme: as of March 2011, 5,270 establishments in Maharashtra provided apprenticeship training; they had a combined capacity of 73,707, of which 45,291 had been utilised.
- Advanced Vocational Training Scheme (AVTS): eight institutes offer AVTS with an intake capacity of 4,885.
- Vocational training in schools: 1,444 senior schools in Maharashtra offer HSC (Vocational) courses in 150 vocational areas. In 2011, 59,854 students sat these examinations, well under the total seating capacity of 88,000. Lack of vertical mobility from these courses has been identified as a major reason for the low uptake by students.

The Maharashtra Government has been more actively engaged with the skills development agenda than many other states. It has developed an institutional structure for skill development, consisting of 'Sectoral Skill Development Committees', sitting under the Maharashtra State Skill Development Society. These committees exist for 11 sectors at present: construction; production and manufacturing; textiles; automobile; hospitality; healthcare; banking, finance and insurance; retail; pharmaceuticals and chemicals; IT & IT enabled services; and agro-processing. The NSDC recommends that these Sectoral Skill Development Committees are aligned with those SSCs at national level, suggesting that to date, the sectoral bodies have been set up in isolation. A key recommendation from the NSDC in their skills assessment of Maharashtra is the introduction of recognition of on-the-job or informal training; it notes that the DVET could '*introduce certification examinations, wherein such workers can sit for examinations (with greater focus on practicals) and get certified for their skills, if they pass the exam*' (NSDC, 2013f). It would be likely that such examinations would, similarly to the MES-SDI scheme, be assessed by industry or by third party assessment agencies.

Maharashtra is strongly involved in MES-SDI. The state government's responsibility, along with industry, is to train individuals. The state government reports working alongside the assessing bodies of Maharashtra, which include CII, FICCI, CIDC and ISTD.

4.4.3 Odisha

Odisha is a comparatively underdeveloped state, but its human development indicators⁵ have been improving rapidly since 2000, with an overall increase from 0.404 in 2001 to 0.537 in 2006. This is slightly lower than the national average of 0.554. It has particularly large Scheduled Tribes and Scheduled Castes population, at 39% of the total; this group has been and continues to be comparatively disadvantaged. The state has urbanised rapidly in recent decades and the poverty gap between rural and urban areas is larger than the Indian average. Economic growth in recent years has been among the most rapid in India, the average annual state GDP growth rate averaging at 9.4% from 2006 to 2011; the services sector represents 54% of GDP (with trade, hotels and restaurants as the biggest contributors), followed by manufacturing with 28% and agriculture with 18%. Agriculture accounts for 65% of employment in the state (Ernst & Young, undated).

In 2001, the Government of Odisha announced a policy resolution aiming to transform Odisha from an agrarian to an industrial state, with a focus on several key sectors: electronics, telecommunications, IT-enabled services, agro- and marine-based industries, craft, tourism, mineral based industries (including gem cutting and polishing) and fly ash based industries. The policy emphasised the need for human resource development, particularly through incentivising private sector providers to set up specialised training institutes. Incentives were also given to set up industrial units in less developed parts of the state. In 2005 this was followed by the State Employment Policy, which aimed to promote self-employment opportunities in agriculture, cottage industries, handicrafts and IT and included launching training programmes aimed at those with the lowest level of education (Ernst & Young, undated).

There are around 140,000 places in technical institutions in Odisha. The biggest capacity is in ITIs (60,849), followed by private engineering colleges (35,700) and private engineering schools/polytechnics (23,895). A recent analysis suggests that there is insufficient capacity in the state to meet projected demand, and that learners who have dropped out of mainstream education, in particular, will find it difficult to access training opportunities (Ernst & Young, undated, p.33).

In 2007 Odisha adopted a Public Private Partnership policy to promote co-operation between Government and the private sector; the following year, it adopted its Micro Small and Medium Enterprise (MSME) development policy, emphasising skill development and improved linkages between small industries and training institutes as key ways to maximise the growth potential of struggling MSMEs.

According to the NSDC, skill development needs in Odisha include the primary, secondary and tertiary sectors. In agriculture, the need is for diversification of skill sets and supporting entrepreneurship skills, in order to enable people in the sector to raise their productivity. In the secondary and tertiary sector, the sectoral focus remains that outlined in the 2001 industrial policy, along with the traditional sectors of Odisha: handicrafts, handlooms, salt and coir. In services, the leading sectors are trade, hotels and restaurants; construction; and banking, with IT and telecoms a rapidly growing contributor to GDP (Ernst & Young, undated).

⁵ The Human Development Index measures indicators of life expectancy, educational attainment and income. Countries are graded between the value of 0 and 1. <http://hdr.undp.org/en/countries/profiles/IND>

A key challenge for skills development in Odisha concerns linkages with employers and perception of vocational education and training. Lack of employability skills is a key issue, and the lack of quality skills taught by many training institutions (a large number of which are “unregistered”). The ability of training institutions (and by inference, training assessors) to produce skills which meet economic demand are also questionable, with training in the agricultural sector reportedly “not working well” for a number of reasons, which are unspecified.

The study conducted by Ernst and Young for the NSDC concluded that *‘although there is a Directorate of Vocational Training, over the years vocational education appears to have got diluted’*; a conclusion supported by field research in Odisha, although with indications that the situation may be changing. The Odishan Government notes that a primary objective is to *‘enhance the employability of youth through competency-based modular vocational courses’* to be introduced in four trades: Automobile, Retail, Security and Information Technology. The curriculum for these modular courses is to be aligned with those prepared by the Council of Higher Secondary Education (CHSE) in Odisha; on the job training and internships are considered to be vital parts of the training. Assessment and Certification are noted as being conducted by CHSE and the relevant Sector Skills Council. While the course evaluation appears to be formative in nature (“continuous and comprehensive evaluation”), the presence of the SSC in terms of assessment would indicate that a degree of summative assessment, through a third party agency, may also be included (Odisha DVE, 2014).

In March 2014, the State Government announced its intention to implement the new NSQF, in line with its earlier resolution to create an ‘enabling framework’ providing linkages between general and vocational education. The Department of State Employment Mission will work with the NSDA to hold stakeholder collaboration workshops; the Department of Employment, Training and Technical Education will work with the NSDA on specific sectors such as health care, pharmaceuticals, construction and mining (New Indian Express, 2014).

5. Third Party Assessment

In this section, the details of third party assessment, as conducted in the schemes under consideration, are presented; evidence has been drawn from publicly available material and information gathered in the course of field research with policy makers, training providers and assessment agencies themselves.

Some of the more problematic issues in the area of assessment and certification in India at present include the multitude of assessment systems and processes currently in place (for example, assessment agencies are working under the STAR and MES-SDI schemes, through the NCVT and central government ministries), and the challenges of ensuring consistent

quality and coherence. A further challenge in terms of building capacity is addressing the need for high quality assessors, whilst also respecting the urgent need for a skilled assessment workforce (ILO, 2014, p.16); should the standards be set at a level that is unrealistically high, many existing assessors may not be eligible, which would further increase the gap between supply and demand of assessors.

Good assessors, in our opinion, possess up-to-date industry knowledge, combined with an understanding of the principles of assessment - reliability, validity, relevance and transferability - and an ability to apply those principles to the assessment process. The necessary prerequisites to perform high quality assessments are therefore (a) a recent or current background in industry and (b) effective training in assessment principles and practice. Assessors in India also require, if working in regional areas, a knowledge of both the local language and English. Ongoing professional development is also a requirement in order to ensure that industry knowledge remains up-to-date.

5.1 Emergence of Assessment Agencies

Start-ups specialising in skills assessment have begun to emerge in response to the increased public and private investment in skills development in recent years, and several have already begun working with Sector Skills Councils (Pande, 2014). According to the NSDC, the drive for assessment agencies has been driven by increased demand for trainers and the emergence of training schemes like MES-SDI, which focus on certification rather than placement. Many agencies interviewed for this project started their assessment work around the time of the MES-SDI scheme: IndiaSkills was formed in 2009; Aspiring Minds was founded in 2008. Other agencies existed in different forms, like Technomed, who produced medical equipment but saw the opportunity to enter the assessment business; and Manipal City & Guilds, which existed as separate entities in the skills sector prior to 2009. The growth of assessment agencies, according to one training provider, may be attributed to the fact that assessors under are paid on assessments completed, rather than any quality measures; for them, this means that there is little incentive for assessments to be done well, and that they are perceived as easy income.

According to one agency operating under the STAR scheme, SSCs are their primary customers; they estimate that SSCs will form 70-80% of their market over the next few years. Other agencies believed that their stakeholder base was wider than just SSCs, and reflected relationships with corporates (private sector businesses), governing boards of associations, training providers, the NSDC, and industry more generally.

Assessment agencies also offer services beyond assessments in publicly funded schemes: the Automotive Skills Development Council, for instance, began working since 2013 with Mettl, a company that provides an online skill assessment platform for companies, on the creation of a new online platform for their assessments. Mettl is also working with the IT sector organisation, Nasscom, and are entering the telecoms and retail industries. Another startup, Wheebox, works with 2,200 colleges in association with the Confederation of Indian Industry (CII), conducting employability skill tests in colleges. Startups in the assessment space can also provide a link between colleges and companies: Aspiring Minds, for instance, conducts skill assessments in colleges as well as helping companies to hire employable talent. Many assessment agencies indicated that their client base also included private sector companies wishing to assess their employees. One agency noted that the reason that many companies chose this method of

assessment was to avoid the bureaucracy involved in undertaking recognised training and certification.

5.2 Funding

Agencies reported receiving their funding from a range of sources, not limited to performing assessments for government training schemes. Some agencies, as mentioned previously, conducted assessments for private sector companies; others, like CII, had funding sources through memberships; others held conferences or delivered projects. Almost all agencies interviewed were extremely reluctant to discuss funding arrangements, at agency level or for their assessors.

STAR Scheme/SSC-Affiliated agencies

Under the STAR scheme, candidates are charged Rs.1500 for manufacturing, engineering or other technical assessments, and Rs.1000 for other, 'non-technical' assessments. Significantly, there is no specified division of the fees, and assessment agencies reported that the percentage of the fee split was agreed between individual agencies and SSCs; some agencies reported receiving only 40% of the assessment fee. The majority of assessment agencies interviewed were unwilling to criticise the arrangements openly; anonymously, however, they indicated that the fee division was decided on the basis of the strength of negotiating position of the assessment agency, with larger and more established agencies being able to secure larger percentages for themselves. The NSDA also noted that the issue around negotiable funding splits was a critical issue, as reduced funding for agencies would certainly result in reduced quality of assessments.

When asked about this arrangement and the impact of agencies needing to conduct assessments on the basis of Rs.600 per person, the NSDC responded that with average assessment group sizes of 25-30 students, agencies would be well remunerated to conduct assessments. One agency noted, however, that even with the maximum payment that they could receive (approximately Rs.18,000), they would still struggle to conduct assessments to the appropriate quality standard - the amount would not only be needed to pay assessors for their time, but also for travel and onsite costs; any remaining funds would be needed to ensure that the business could sustain itself.

MES-SDI

Under the MES-SDI scheme, candidates are charged assessment fees which are set by DGET: Rs.800 for technical subjects and Rs.500 for non-technical. This amount is then reimbursed to successful candidates from the Regional Directorate of Apprenticeship Training (RDAT), via the assessment agency. Payment to agencies assessments vary based on the location of the assessing body and the training provider and range from Rs800 per candidate to Rs2000 per candidate; the latter is paid in circumstances where the assessor and training providers are in different states, and either the assessor or training body are from the special areas (MoLE, 2014, p.54).

One agency operating under the MES-SDI scheme noted that of the Rs.800 that is paid for the majority of their assessments, 8% is given to the training provider; this means that only Rs.720 is available to the agency. Even though the class numbers can be up to 20 students, the maximum fee payable of approximately Rs.14,000 is still not sufficient - they survive because they have very low overheads at present, and because only 10 of their assessors are permanent; the remainder are freelance and are brought in as required.

CII noted that under this scheme, the candidate must pay Rs.1,300 to be involved; this amount could pose barriers to training for people in rural areas. The ILO, in its review of the MES-SDI scheme, felt that the amounts set for assessments could be too low, recommending that *assessment fees could be increased, as assessment bodies find it difficult to break even at Rs. 800. This would enable assessments to be more effectively implemented* (ILO, 2013b, p.11).

Assessor Remuneration

Few assessment agencies were willing to discuss remuneration for assessors, although RAI noted that their assessors are paid equally and regularly (every 15 days); Planet EDU also confirmed that they provided uniform remuneration for their assessors. CII noted that under the STAR scheme, they employ junior and senior assessors, according to experience, who are paid different rates.

5.3 Assessment Processes

NOS and Assessment Guidelines

The NOS developed by SSC provide the benchmarks for assessment under the STAR scheme and whilst MES-SDI does not refer to NOS, they provide their own assessment criteria to guide assessment practice. Whilst the NSDC is thus not directly responsible for setting assessment standards in the STAR scheme, the interviews found that some implementing partners raised concerns about some processes in the scheme guidelines: one respondent reported that some agencies *'disagree with their [NSDC] guidelines and come up with their own'*. Whilst the details were not provided, an assessment agency also suggested that although a SSCs' stated remit was to set standards and design assessment approaches, some SSCs lack the capacity to do so. Whilst this is not an issue in itself, it highlights the potential for variation in the practices and management of assessment which have the potential to influence the validity and rigour of assessments across the board.

One assessing body noted that the interpretation of some assessment guidelines can be challenging because some qualifications are more practical than others, and require different assessment considerations. A training provider respondent reported that the assessment standards published for some NOS and QP are not always appropriate or specific enough; reporting that many of their students, who have been working successfully in their sector for some time, fail due to the fact that *'not all assessors are responsive to the fact that people are there to be trained to work, not for a PhD'*. The Capital Goods Skill Sector noted that there are also concerns about the capacity of assessment bodies to understand and interpret the competencies included in the NOS and QPs, and to define the correct question banks; support from SSC may be needed.

Very few agencies were found to operate at state-level beyond delivering the actual assessments; almost all were coordinated at national level. CII delivers its curriculum and monitoring of assessment at a central point, but cascades the implementation to regional offices. Approvals under the MES-SDI scheme are given in subject and state level; in this way agencies like Technomed are able to grow incrementally according to their capacity. Agencies like IndiaSkills, which operate in all states, reported no contact at all with state-level governments or agencies, noting that they are only required to take their lead from national guidelines and policy.

The CII felt that there was a danger of assessments being cost-driven, rather than quality-driven: *'across India we don't understand the whole procedure of assessment - how it should be done and the meticulous planning [involved in] an assessment. It's about the candidate's future, not just another job for us to do'*. In their assessment of the MES-SDI scheme, the ILO highlighted

challenges within assessment procedures and administration, particularly the manual nature of allocating assessments and reporting arrangements (ILO, 2013b). Another significant issue, echoed by IL&FS and Aajeevika Skills, is the delay between training and assessment; some candidates are being forced to wait up to three months for their assessment and certification, during which time they are unable to work. The ILO has suggested that it may be necessary for DGET to empanel more assessors, and to improve the administrative processes concerned with managing assessment bodies (Ibid).

Assessment Methods

In its assessment of the MES-SDI scheme, the ILO noted that *‘there exists a need for standardization of the assessment procedure. Currently, different assessing bodies have different formats for data collection, assessment and assessment processes’* (ILO, 2013b, p.11). This assessment was borne out by our field research responses, which reflected an array of different methods and different approaches.

CII conducts assessments at the training provider’s premises; part of CII’s role (informally) is to assess the availability and suitability of infrastructure. MCG also conducts assessments at the training centres, where labs are set up for the practical elements. CII reported delivering two parts to their assessments; the theory component is worth only 20%, with the practical element (outcomes-based assessment) being the most important. ITES deliver theoretical assessments worth 50 marks, and practical assessments worth 150 marks, with the entire assessment normally lasting three hours. C&K and RAI both reported that their assessments tend to take two hours, although it does depend on the number of standards requiring assessment; of this time, about an hour is set aside for the theoretical test, with 15-20 minutes for a face to face interview (or “viva”). According to MCG, a viva is most important for front-end jobs, because of the customer focus required.

All certification under the MES-SDI, STAR and Aajeevika schemes is reliant upon the agency assessment result, which is summative in nature. The majority of agencies, however, felt that it would be more appropriate for the final mark and certification to take into consideration the formative assessments conducted by training providers throughout the courses. IL&FS, a training provider that used to conduct its own assessments, believes that the trend for relying on external agencies can create an unfair environment for candidates, who may have performed well during the course, but respond badly to assessment situations. FICCI agreed that a combination approach would be preferable, but noted that *‘for this to happen, however, there needs to be trust built between the training providers, agencies and the SSCs’*.

A number of agencies noted that they were developing processes to ensure that candidates have a comfortable assessment environment, including having access to assessment materials in their local language. Technomed are training their assessors in soft skills, including communication skills, as they have found that many of the candidates are unused to educational settings and become nervous in examination settings. Technomed also provides the training provider with sample examination papers (for theory assessments) so that candidates can have the opportunity to practice beforehand.

Use of Technology

According to Wheebox, only 11% of assessment takes place online, which means there is significant room for growth. Online assessment can be a cost-effective way of conducting

assessments, particularly as many organisations do not have the infrastructure needed to assess skills in different parts of the country, especially in remote areas. Companies like Mettl and Wheelbox have devised technology that allows them to verify candidates and ensure that no proxies are used, and even to assess individuals who do not understand English or have basic computing skills; however, poor network connections and infrastructure issues continue to cause challenges.

To reduce the need for assessors to assess small numbers of people across the country at any given time, C&K is using video as a platform for assessment; the recording can then be viewed by the assessor at a time convenient to them, and can overcome the issue of the lack of bandwidth, which can make online assessments challenging in some areas. In this way, they can assess up to 80 people per day, rather than 30, as it would only take around 10 minutes to review a pre-recorded video. From a training provider's perspective, online assessment is also useful for formative assessment: IL&FS have reached an arrangement with the service provider BNSL, whereby a dedicated bandwidth is provided for them to deliver individual coaching sessions with candidates remotely.

The use of mobile phone technology is also being investigated by a number of agencies, given the omnipresence of mobiles in India - bandwidth again is a significant barrier. CII felt that the use of technology was not a viable solution at present: *'smaller remote places have no power or infrastructure. Some assessors are using tablets (like iPads), but that's really expensive and not practical, as not all students are able to use them. We need a sustainable system.'*

For some agencies, like RAI, technology is currently only used as required to upload assessment results; it is worth noting, however, that this agency is also planning to roll out the use of tablets for assessment later this year. In some areas, C&K still uses handwritten assessments (pen and paper), which are then photographed and sent to the company headquarters in Hyderabad for evaluation; this process is, as would be expected, extremely time consuming, as all examination papers are different. In other areas, however, C&K are able to use iPads for assessment, illustrating the fact that due to regional differences in infrastructure, assessment agencies need to tailor their approaches to the market; this is likely to increase operating and assessment costs, and impact quality, with a variety of different methods utilised within the same company.

Assessment results under the STAR scheme are loaded directly onto the national skills database, facilitated by a software system known as SDMS. This system includes candidate data, as well as question and answer banks, all linked to the NOS. The SSC uses this data to prepare and release certificates. C&K noted that at first, the software was limited in its functionality, due to the fact that the sheer bulk of assessment data was not anticipated by NSDC and the software providers, however, this issue has

since been resolved. Similar data management issues arose under the MES-SDI scheme, where CII, as one of the major assessment agencies under that scheme, engaged software experts to improve a parallel CII platform used for MES-SDI administration and to advise DGET on similar improvements to their information system.

5.4 Quality Assurance

5.4.1 Assessor Recruitment, Training and Registration

Agency Recruitment

Under the STAR scheme (and, by proxy, the ASDP scheme, which also uses SSC-approved agencies), agencies are invited to tender by SSCs, which, according to one agency *'is not an easy process'*. Successful agencies have the ability to achieve high assessment volumes, as well as being *'above board, deploying technology to ensure quick results and the ability to develop content [in terms of assessments]'*.

The criteria for an assessing body to be empanelled provisionally under the MES-SDI scheme include the requirement for agencies to have a minimum of two years' experience in training or assessment, and that they should have trained or assessed a minimum of 500 people. Assessing bodies are not required to have previous experience in competency-based assessment, although it is preferred. Training providers under the MES-SDI scheme are not permitted to conduct assessments under the same scheme. Final empanelment is granted to assessing bodies who are able to identify competencies for assessment in the relevant modules, and ways to measure competency, and the design of appropriate assessment tools (MoLE, 2014). Technomed reported applying for the MES-SDI scheme in 2010 through a national newspaper advertisement and felt that there was urgency behind the recruitment: *'at the time, MoLE only had about 13 agencies and a very large remit, so they needed to recruit additional assessment agencies very quickly'*.

Assessors employed by assessing bodies under the SDI-MES-SDI scheme should have either a diploma or a degree that is relevant to the module to be assessed, and more than two years' relevant work experience. Assessors are required to undergo competency evaluation in institutions appointed by DGET; they must show vocational competence at the level of the module to be assessed, and possess knowledge about assessment processes and tools. Assessment bodies are also required to work with DGET to develop qualifications and standards for assessment (MoLE, 2014, p.39). NABCB has recently launched an accreditation scheme for assessing bodies using ISO 17024 (NABCB, 2014).

Assessor Recruitment

Recruiting assessors was considered by agencies, almost unanimously, to be challenging. For MCG, recruitment is difficult because their preferred assessors are all working professionals, likely with existing jobs. RAI also found recruitment challenging for the same reason, noting that the assessors they prefer already have employment in the retail sector, and will often cancel at the last minute because of prior work commitments. Some agencies, such as C&K, also use retired people with industry experience as assessors; this approach has the added advantage of lower overheads, as these assessors are able to work from home. CII also noted that they approach recruitment by providing briefing sessions to their existing industry members, to inform them of assessment processes and how it differs from their existing work. Assessment agencies reported recruiting assessors through various methods, including referrals, job advertisements, industry associations and chambers of commerce. IndiaSkills interview assessors by phone after their initial

details are verified; face to face interviews are held in the local region by one of their permanent staff members.

Assessors are generally recruited from the relevant industry sector. While recruitment of assessors, according to C&K, is *'not easy'*, ITES finds it relatively easy as it sources assessors from its membership base. C&K noted that there is an increasing number of individuals who are 'pure assessors', i.e. it is their sole profession.

In order to be empanelled, assessors require a recognised, relevant qualification and a specific number of years' experience in the relevant industry; there was broad consistency amongst the SSCs interviewed for this research. Beyond this, there are no defined criteria for assessors, although other sources suggest that SSCs' pre-screening of assessors prioritises integrity, technical skills (based on qualification packages of the job roles to be assessed) and assessment skills. IndiaSkills commented that in their experience, however, assessors were not required to have any experience in delivering assessments; these skills could be provided by agency training. The skills set required of assessors is believed by some not to differ from general training skills and experience: *'they are all trained as trainers beforehand, and the skill set required of assessors is no different, making additional training unnecessary'*.

The importance of local recruitment was recognised by a number of agencies: IndiaSkills prefer to hire local assessors, and give preference to those with local language skills (after the technical expertise and qualification requirements are fulfilled).

Training and Registration

The NSDA reflected at a consultative workshop on the topic that at present, accreditation processes and standards vary between a number of ministries at central government level, and that the creation of a single standard for trainers and assessors may help to create coherence. The NSDC also pointed out the lack of trainers at present, noting that of the 121 approved training providers under their purview, not one delivers courses that train trainers or assessors.

In terms of certification and accreditation, assessors must first be empanelled by SSCs. The assessing bodies pay for individuals' tests, while the SSC certifies them (in the STAR scheme, SSCs also provide training to assessors). Of the assessors put forward for certification by assessing bodies, only 60% to 80% get certified, according to Manipal City & Guilds. Once assessors are certified and affiliated with an assessment agency, they are given an identification number by the relevant SSC (ILO, 2014). Training is usually provided by the assessing body but appears to be minimal: according to Manipal City & Guilds, for example, training only takes place on assessors' first day.

Future Developments

Work is currently underway, led by the ILO, to develop NOS for Technical and Vocational Education Teachers/Trainers and Assessors; the process for delivering this work will be agreed with the NSDA and the NSDC (ILO, 2014). There was support amongst assessment agencies, including CII and IndiaSkills, for a qualification requirement to be placed on assessors, in line with the current work ILO and NSDC are conducting in developing relevant NOS. FICCI also noted that the development of such a qualification would be a good step: *'without this standard, there is a serious difference in quality from sector to sector'*. The ILO has also called for assessors to be full-

time, and for clear benchmarks to be developed covering knowledge, skills and behaviour in assessment (ILO, 2013b).

The proposed qualifications pack for assessors could include the following units, each provisionally at NSQF Level 5 (ILO 2014, p.5):

- Work effectively within the Indian TVET sector
- Design, plan and organise competency-based assessment
- Conduct competency based assessment

Further competencies that could be applied at higher levels could include the design of assessment tools, or the moderation or validation of assessment. In terms of qualification levels, it is also felt that progression is important; as such, a Master Assessor qualification would be worthwhile. The 'ownership' of such qualifications is also yet to be determined, but there was support from participants for a Sector Skills Council (perhaps the recently constituted SSC for education and skills) to have control (ILO, 2014, p.7).

5.4.2 Performance Monitoring and Audits

There are two main kinds of quality checks for assessment bodies: physical audits, at which assessments are inspected first hand, and a review of assessor reports. In certain cases, an external auditor may pay unexpected visits; these 'surprise' audits are designed to ensure that there is no collusion. Due to the size of the MES-SDI scheme, MoLE is not able to check the quality of individual assessors as much as perhaps necessary - there are over one million assessments carried out per year. The Apex Committee has recently approved the engagement of meta-agencies, whose purpose is to perform quality checks on agencies performing assessments. At present there are more than 100 assessment bodies.

Internal audits are also common. Planet EDU, for example, gets senior staff to monitor 20% of assessors' work. Those not meeting standards are removed or retrained. C&K collects data for audit in order to check if scores are '*unnaturally high*' in any region: '*where irregularities exist, a 'fix' is likely to have occurred and can be addressed*'. Patterns in assessment scores can be used to check quality. CII employs external verifiers to support its quality assurance processes. The ILO suggests, regarding the MES-SDI scheme, that quality of assessments could be monitored by video during theory and practical assessments (ILO, 2013b, p.11).

5.4.3 Feedback Mechanisms

The lack of collaboration between the various actors in assessment was criticised by one agency, who noted that SSCs set the benchmark and assessment agencies assess without seeing what the training partner has done. The Capital Good Skill Council, however, is trying to improve trust between the training providers and assessors, deliberately including a clause in the assessment protocol of agencies where there is a responsibility to build the capacity and quality of the training provider: '*ideally, we want a 'glass wall' between the training provider and the assessors*'.

Concerns were also raised by some respondents about the limited scope of industry input and feedback during the development and validation of NOS and QP by SSCs. Whilst the current process encompasses different mechanisms to obtain input from major employers and encourages feedback through the NSDC website, it could be argued that the extent of state based consultation and formal endorsement by key industry stakeholders, including trade unions, could be improved.

Whilst trade unions in India are considered by many to be primarily political bodies, their potential to provide valid technical inputs to the description of competent workplace performance in NOS should be reconsidered. Furthermore, given the nascent stage of competency based training in India, it could be argued that additional measures could be included in the consultation and validation process for NOS and QP to build greater national awareness about the new national system amongst employers and other major stakeholders in the skills system.

Feedback to and from training providers varies by assessment body. RAI's training partners provide feedback on its assessors, and its assessors provide feedback on the training centres through an audit of the facility. C&K provides feedback to its assessors, particularly when the people being assessed are not passing, *'as it demonstrates that something is wrong with the content or design'*, while CII feeds back to training providers *'because assessors spent a lot of time and waste their time if training's not been good'*. IndiaSkills, in contrast, noted that in their experience, there is no contact allowed between the agency and the training provider; the only contact will occur between the individual assessor and any staff at the training venue during the assessment.

Some assessment bodies offer feedback more widely within the sector. CII, for example, is given documented feedback for every assessor under the STAR scheme: *'we're improving the system through this and give feedback to NSDC, SSCs, the VTPs and training centres, including what went right and what went wrong'*. Others invite feedback from learners in order to improve the delivery of assessment.

5.5 Certification and Placement

There is no mandate for placement in the STAR scheme, although there are targets for the Aajeevika Skills scheme. The Aajeevika Skills scheme is important in understanding the value placed on certification and placement, as it has moved from a scheme originally focused on placement to now included third party assessment and certification in its core design. In conversation with the ASDP, it was indicated that the change was due to a desire to enable candidates to progress beyond initial employment, and to validate the skills obtained through the courses in an objective way. Enabling ambitions for international employment or migration was also an important factor, with discussions taking place with awarding bodies like City & Guilds and Pearson. It is likely, according to ASDP, the MoRD will pay for the additional certification requirements.

Providing certification alone is not an automatic guarantee of employment, however - it is critical to ensure employer buy-in and recognition of quality standards. According to C&K, employers fear that by certifying their employees, they are increasing their value, which is a risk for their retention rates. Some companies get round this by retaining employees' certificates or offering a bonus. MCG noted that, in their experience, *'industry as a*

whole is not ready to 'value' certification, but some do offer certified workers a better salary'. FICCI agreed, commenting that while employers may not care about certification now, 'it is likely that in the future people who have certificates/qualifications will be paid more than those who do not'. CII felt that a key issue was the fact that industry perceives the quality of training as being so low, that they need to re-do the training themselves; therefore, the certificates issued through training are not valued.

IL&FS noted that as a training provider, they can see a significant challenge in terms of employers valuing certificates. Industry needs to come forward, in their opinion, and refuse to hire people without certificates: *'As training providers we have done their job by adhering to the industry standards, but it is useless if the industry is not prepared to hire them.'* The ILO notes in its recommendations for the ASDP that *'in the current scenario, none of the certifying bodies (including NCVT, SSCs etc.) are willing to guarantee placements against the certificates they issue. So the intrinsic value of the certificate becomes "questionable" in the mind of the candidate and the expectation that increased training duration will lead to increased starting salaries is also unfounded.'* It recommends that ASDP may need to provide support to assessing bodies to ensure that the quality of certificates is recognised by employers; a further step may be for the ASDP to work actively with existing interventions (ILO, ADB) to build capacity and quality of assessing bodies.

Technomed, an assessment agency, also noted the need for candidates to value training courses, and their experience that schemes in which candidates do not have to pay for the course are those in which the least effort is made; additionally, in schemes where certification based on attendance is the only outcome, candidates make less effort than in placement-based courses, where there is an outcome that will be of immediate use to them.

6. Analysis of the Assessor Workforce

6.1 Skills Supply

According to the Capital Goods Skill Council, the quantity of assessors is not the issue: *'What is of concern to the SSCs is not the overall number of assessors they need to have, but the number of **good** assessors that they need to have.'* While the SSCs are developing assessment protocols to ensure that the quality of assessors meets demand, a further issue is the lack of capacity for such activities in many SSCs at present. According to the Capital Goods Skill Council, the quantity of assessors is likely to be increased naturally as the SSCs develop and the system of third party assessment becomes more popular. The NSDA also believes that the quantity of assessors is less important than quality, and that capacity building activities may be superfluous: *'it is not a question of acting to increase the number of assessment agencies, but of making the market appealing to them. If it is a viable economic activity, people will naturally do it.'*

C&K, an agency operating in Maharashtra, felt that there was an insufficient number of assessors available at present in India; ITES, operating under the MES-SDI scheme, agreed. Other agencies, including RAI and Manipal City & Guilds (MCG) felt, however, that there was a sufficient pool of assessors available, but that recruitment is constant due to the ever-increasing need. A number of assessment agencies were unwilling to give precise figures about the numbers of assessors on their books; C&K reported, however, that they have approximately has about 100 assessors pan India; MCG noted that they also have around 100 assessors, and that they *'recruit every day'*. RAI reported having approximately 450 assessors. Under the MES-SDI scheme, ITES has only

freelance assessors, which consist of their society's members; they also employ an additional staff of eight, including administrators. CII report that at present, their assessor pool numbers 'a couple of thousand nationally - all on a part time basis'. CII use a part-time staffing model because their assessment needs are ad-hoc: 'there are months when a chunk [of work] comes in and we can't have someone on the [pay]roll all the time'.

Few assessment agencies were willing to share the numbers of assessments they conduct, although in the STAR scheme, MCG confirmed that in the health sector, they assessed 1,500 candidates across India; in Maharashtra, however, only two to three batches of 20-25 students were assessed out of the total. RAI reported conducting 220,000 STAR assessments in three or four months. Planet EDU noted extreme variances in their assessment numbers, with 2500 assessments conducted in some months, and only 400 in others. ITES conduct around 250-300 MES-SDI assessments per month in Maharashtra, in batches of 20 trainees.

6.2 Skills Demand

6.2.1 Enrolment Levels

We have looked at enrolment levels below in order to give the information needed to ascertain skills assessment needs (see following section).

Overall Enrolment: India

30 to 35 million people are likely to require assessment over the next three years. This is based upon estimates from the NSDA which state that 12 million of the 50 million to be trained under the 12th Plan were trained over the last two years, leaving 38 million to be trained in the final three years of the Plan. On the basis that independent third party assessment will be integral to skill development programmes under the rationalisation of Government of India schemes, the NSDA estimates that 30 to 35 million of these 38 million enrolments will require assessment.

In calculating the following figures, we assume that enrolment from the current 12 million trained over two years will increase proportionately in order to allow for the total number of people to be trained over the five year period in the following increments:

- Year 1 (already completed): 5 million
- Year 2 (already completed): 7 million
- Year 3 (already completed): 10 million
- Year 4: 13 million
- Year 5: 15 million

Obviously the data assumes that the Government will achieve these targets, which are increasingly ambitious moving towards the end of the five year plan.

We also assume that the three to eight million gap between assessment requirements and enrolments will happen this year (year 3 in the bulleted list above), as the requirement will move towards all training programmes requiring third party assessment. We have averaged the NSDC's gap at 5.5 million. In this case, third party assessment requirements across India over the next three years, or to the end of the current Five Year Plan, will be:

- 2014: 4.5 million
- 2015: 13 million
- 2016: 15 million

If enrolment increases at the same annual rate to 2019 as between 2015 and 2016, we estimate that it will be 17.3 million in 2017, 20 million in 2018 and 23 million in 2019.

Overall Enrolment: Haryana, Maharashtra and Odisha

Due to the differing quality of data available in individual states, we have come to the view that applying overall population figures per state to the federal data is more likely to offer an accurate assessment of enrolment (and therefore skills assessment requirements) per state than building up the data from state level⁶. On this basis:

- Haryana has 94,273 enrolments currently, projected to increase to 481,841 in 2019.
- Maharashtra has 417,849 enrolments currently, projected to increase to 2,135,674 in 2019.
- Odisha has 155,978 enrolments currently, projected to increase to 797,219 in 2019.

Enrolment by Sector

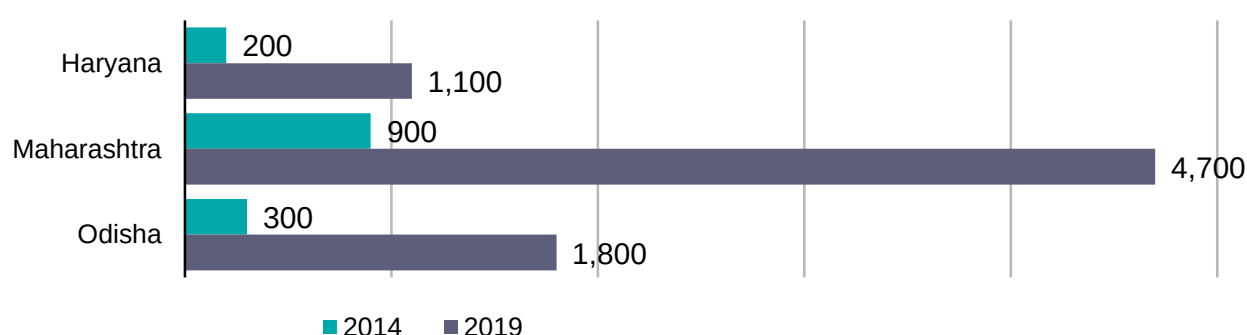
At a federal level, sectors were selected as per a six sector study completed by NSDC (NSDC, 2013f) as the analysis had projected requirements forward to 2022.

The sector graph outlines enrolments at a sector level, based on the proportions included in training capacity estimates for government schemes in Haryana (NSDC, 2013e) and applying these to the numbers estimated above.

Number of Assessors Needed Nationally

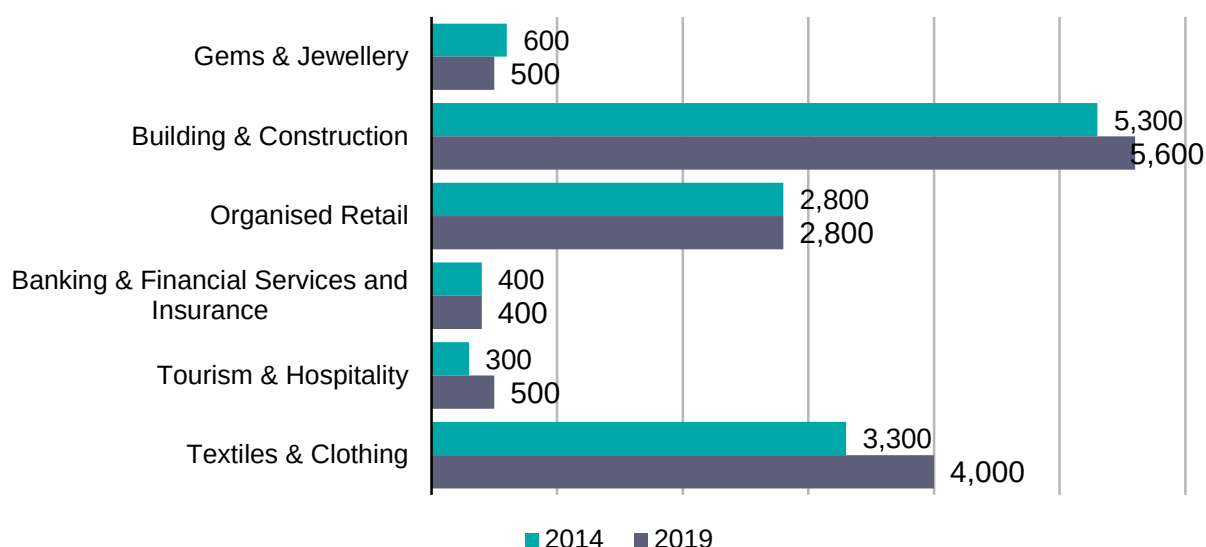


Number of Assessors Needed by State



⁶ India's population based on its most recent census: 1,210,193,422; Haryana: 25,353,081; Maharashtra: 112,372,972; Odisha: 41,947,358 (source: http://censusindia.gov.in/2011-prov-results/data_files/india/Final_PPT_2011_chapter3.pdf)

Number of Assessors Needed by Sector



6.2.2 Skills Assessment Needs and Forecasts

The STAR scheme has so far seen 448,823 assessments completed, according to the NSDC. There are 24 STAR assessment agencies, with a capacity of (over) 1,200 individual assessors, and the scheme was launched in August 2013. On this basis, each individual has assessed, on average, 374 individuals in the 10 months that the scheme has been running. This equates to 449 assessments per assessor per year, which we have rounded to 450 for ease of analysis.

Data in the following sub-sections estimates that one assessor will be required per 450 students enrolled, and is based on the enrolment figures outlined above. Skills assessment requirements have been rounded to the nearest 100 in order not to give a false impression of precision.

6.3 Skills Gap

The future skills assessment gap has not been forecast, as it depends upon the extent to which action is taken over current skills assessment gaps. Gaps have been estimated for the purposes of the study on the current gap between enrolments and assessments using the STAR data as a proxy⁷, on the assumption that all learners will require assessment going forward. The assessment gap has been defined as the gap between current capacity and required capacity, i.e. the number of additional individual assessors required to enable all learners to be assessed. On this basis, skills gap across schemes can be estimated as follows:

- The total national skills assessment gap of assessors under the STAR scheme can be estimated at around 3,200.
- The skills assessment gap in Haryana is estimated to be 64 assessors.
- The skills assessment gap in Maharashtra is estimated to be 288 assessors.
- The skills assessment gap in Odisha is estimated to be 96 assessors.

⁷ This is 35.2% on the basis of 1,274,251 candidates enrolled and 448,823 assessments completed (source: <http://nscsindia.org/Index.aspx>, 30 June 2014)

Whilst these figures are illustrative only, they highlight the fact that there is currently a shortage of assessors in India, a situation that is only likely to increase as the demand for 3rd party assessment grows as the level of training activity increases.

7. Analysis and Recommendations

7.1 Skills Development, Policy and Governance

The complexity and duplication of the regulatory and governance framework surrounding vocational and technical education in India means that initiatives and programmes are still occurring in silos and creating confusion which leads to inefficient and incoherent outcomes in implementation; the development of third party assessment has been no different. The rapid emergence of assessing bodies has been driven by need, rather than design; the recent changes to the MES-SDI scheme illustrate the importance placed on quality assurance and the role that assessing bodies play in the process. The new MES-SDI policy also reflects the growing need for clarity of objectives and processes for all actors involved.

There are a number of assessment agencies which sit under the two key schemes; the Modular Employability Scheme - Skill Development Initiative (MES-SDI) and the Standard Training Assessment and Rewards (STAR). Further ministries are also implementing training programmes that are now introducing the requirement for third party assessment requirements, such as the Aajeevika Skill Development Programme (ASDP) and the Employment Skills Training & Placement Program (ESTP) under the National Urban Livelihoods Mission, which draw on certification from either the National Council for Vocational Training (NCVT) or Sector Skills Councils (SSC). Each programme is run differently and has distinct processes, which is limiting the potential coherence of assessor standards and performance. For agencies, it is also challenging in terms of reporting and administration.

is likely to have a significant impact on the role, remit and endorsement of SSCs. Additional pressure is being placed on existing systems of skill assessment and quality assurance by the NSQF, which is also raising issues around the respective roles of and relationships between the National Skill Development Agency (NSDA), National Skill Development Corporation (NSDC) and Sector Skill Councils (SSCs). The outcome of the recent elections has also seen the creation of the new Ministry of Skill Development and Entrepreneurship, which is likely to result in further changes to institutional arrangements in the sector. While the majority of states have not yet established State Training Missions, others are actively establishing assessment agency pools. Aajeevika Skills, on the other hand, is encouraging state governments to take responsibility for the initiative, and is progressing well.

The shifting targets and policy objectives are also impacting on the quality of assessments: quality requirements for agencies under the MES-SDI scheme have relaxed over time; this is thought by agencies to be due to the volume of agencies required and the haste with which policy decisions have been made. Similarly, some SSCs are more focused on quality than others under the STAR scheme, likely due to the pressures of the targets for assessments that have been set.

Whilst the level of Indian private sector engagement in skills development has significantly increased since adoption of the National Skills Development Policy (2009) and establishment of the NSDC, challenges remain. Some respondents suggested the private sector had little interest in

the MES-SDI programme or its graduates which has created challenges for placements into employment. Further concerns have also been raised regarding the level of industry engagement with SSCs. Whilst industry engagement with SSCs during this nascent stage of SSC development in India is to be expected, some respondents observed that the level of engagement within some sectors was narrow and not fully representative of the sector. This concern is reflected in the fact that the CII National Committee on Skills Development sub-committee on SSC in 2013 initiated a review of industry representation on the governing councils of SSC.

Whilst the NSS data on levels of workplace training in India suggests that employers do not give sufficient value skills training in India, in part due to the poorly perceived quality; certification from international providers, however, is valued more positively. As is the case in other countries with sector based approaches to skills, the reputation of SSCs is mixed, as is their reported impact.

The shift in focus from placement to certificate and placement that has occurred in the Aajeevika scheme indicates the emphasis on onward progression of candidates, past the initial employment placement. By providing certification and placement, the scheme can satisfy both employers (who can have the assurances of certification) and candidates (who receive a job). This shift has also occurred in the recent MES-SDI scheme update, which now places financial incentives on training providers achieving placement for trainees. The prospect of dual certification with international awarding bodies also demonstrates that Aajeevika Skills is focusing on enabling candidates to work internationally.

Recommendations

All national and state level skills development programmes should cohere to a single set of national occupational or competency standards so that common performance standards are set

it is recommended that common national standards for assessment are adopted by all government funded schemes. As separate guidelines specific to the STAR scheme have been produced, it may be that these could be the basis for further guidance on assessment in the system as a whole.

Improved communication tools should be developed so skills bodies can more effectively share information about reforms and initiatives. These should aim to improve communication horizontally at the national level, and vertically to the states.

The need for clear communication on skills reforms and initiatives is paramount, particularly with upcoming potential changes in government and policy. The need for improved communication pathways between skills bodies horizontally at national level, and vertically to state level, is also vital. The further strengthening of the NSDA is likely to facilitate these improvements as it has the potential to broker standardised and complementary approaches.

A mandatory qualification for assessors should be introduced to improve the skills of assessors and the quality of assessment in India.

The introduction of a mandatory qualification for assessors will provide an important tool for harmonizing and improving the quality of assessments in the system and also for improved monitoring of the continuing professional development of the assessment workforce.

Strengthened quality assurance systems should be established to monitor the processes and outcomes of assessment to ensure that the ambitious policy targets deliver quality outcomes.

While establishing ambitious targets is good practice for achieving success, it presents a serious risk when the targets relate to activities which are poorly monitored and where quality standards are not rigorously enforced. The incentives offered to assessing agencies also need to be checked

by the quality processes in place, to ensure that agencies perform the assessments to the volume and standards required; indicators and targets should, in addition to the focus on volume and standards, be linked to the priorities and performance of the system as a whole.

The oversight and/or regulation of SSCs should be enhanced so that assessment practices and systems across sectors are standardised and that fee structures and potential conflicts of interest can be better managed.

The upcoming NSQC is likely to address some of the key issues around SSCs and assessment agencies, including the production of assessment standards. The issue of funding, and the standardisation of assessment fee divisions between SSCs and agencies, need to be addressed as a matter of urgency. The conflict of interest in terms of SSCs receiving funding from assessing body fees, whilst being responsible for approving their registration, also needs to be addressed.

7.2 Supply and Demand for Third Party Assessment

If skills assessment in India continues to grow as suggested by current policy attention, it is unlikely that India currently has the required pipeline of assessors to meet demand. While there is a good supply of potential assessors existing in terms of people with appropriate training and industry experience, assessing bodies with the capabilities and resources to train individuals appropriately in assessment are currently in short supply. This gap may be filled by training provided by SSCs, or by the introduction of qualifications for assessors, as is being developed by the ILO and NSDC; it must be recognised, however, that depending on the way that implementation of the qualification requirement occurs, a shortage of assessors may occur (for example, assessors may not be able to pay for the upgrade to their qualifications).

The challenges in estimating the future number of assessors required in India is, however, complex. Length of assessments vary hugely by sector and central figures are not held on the number of assessors available for different sectors, compared to the length of time needed to assess in different subject areas (this is likely to vary within sector too). The figures are further complicated by the fact that many assessors work part-time, which makes their availability difficult to predict; and also the uncertainty around demand for recognition of prior learning. Data on assessment and assessors needs to be collected nationally in order to develop an accurate indication of assessment supply and demand; assessor data could be managed in the form of a national register of assessors.

Further, the need for assessments is unpredictable, with significant variations from month to month between agencies; their solution is primarily to use freelance assessors. While this ensures that a pool of assessors is on tap when required, it also raises issues of maintaining the quality of assessor skills (possibly where they are not engaged for a period of time) and also in maintaining their engagement (likely when competing with regular paid employment). This issue could be addressed by the current work of the ADB in encouraging SSCs to deliver professional development training to assessors.

Recommendations

The development of systems to improve the collection of data on the supply and demand for third party assessments across government programmes should be accelerated.

In order to manage the skills gap in assessment, the number of assessors and assessments must be collected; it is also imperative that this is done by an impartial body and in a secure manner, as

the vast majority of assessment agencies interviewed were unwilling to share data on their assessments or staffing structures.

The government should consider providing public subsidies to support the phased introduction of a mandatory qualification for assessors to rapidly improve the skills of assessors.

The introduction of qualifications for assessors will raise the quality standards of assessments overall; the implementation of the requirement, however, must recognise that not all assessors will be able to afford to undergo additional training. Another alternative may be for public subsidies to be made available on a needs-basis from the scheme funds, in recognition of the fact that improved assessor quality will lead to meeting scheme objectives of quality assurance.

A mandatory program of continuous professional development for assessors should be introduced through SSCs and/or assessment bodies.

Ongoing training through continuous professional development (CPD) courses is also necessary to ensure that the standards remain high. In line with the ongoing work of the ADB, it is likely that SSCs have the most to gain (and contribute) in this area - it is recommended that SSCs are required to provide development training for assessors in technical areas and assessment skills. The provision of professional development training will also better enable assessors to obtain work when they are not employed by assessment agencies.

The government should consider taking steps to ensure higher wages for assessors holding formal qualifications for assessors.

To facilitate the take up and ensure the added value of the certificate is recognised, the government should consider taking steps to ensure higher wages for assessors holding formal qualifications for assessors.

7.3 Funding

The payment schemes under the MES-SDI and STAR schemes are still felt by assessment agencies to be too low, even though the STAR scheme introduced a significant increase in assessment fees; across all schemes, the need to achieve volume of assessments in order to secure sufficient income is likely to cause agencies to compromise on the quality of assessments.

During interviews for this paper, a number of stakeholders referred to the practice of SSCs and agencies negotiating payment splits which creates significant difficulties for smaller agencies, who are likely to have less negotiating power. Some agencies are reporting to be receiving as little as Rs.600 to complete assessments.

Geography is another key funding issue: government funded programmes overwhelmingly operate at national level and require assessors to be deployed to regions as needed; however this often causes delays in assessments as freelance assessors with the required skills are not often available at short notice in rural areas. The travel involved, and the payment for assessors, makes the funding model for many agencies untenable.

The MES-SDI scheme update includes increased payments for assessing bodies, but has also included a quality assurance requirement: more money is provided in cases where assessing bodies and training providers are from different states (and presumably, have no prior relationship).

Recommendations

Future funding/incentive regimes should place an equal focus on certification and placement.

The recent changes to the MES-SDI scheme demonstrate the growing trend for placement, in addition to certification. Achieving a complementary balance between the two outcomes is crucial. Certification alone does not assure employment for trainees and, without the necessary support and respect of industry, has little value. Over-emphasis on placement as an outcome, however, can shift the necessary focus from the quality of skills and knowledge obtained, to the negotiating skills of training providers with employers. Additionally, the best outcomes for trainees come from receiving certification (allowing onward progression and benchmarking of skills) and placement (employment and livelihood improvement opportunities).

A study on the costs of assessment, separate to the costs of training, should be undertaken to identify the key variants of costs across different sectors for publicly funded provision.

While a number of different factors impact quality, an issue consistently raised is the amount allocated for assessment under existing schemes is insufficient. In order to better understand the key drivers of cost for assessment, separate to the delivery of training, it is recommended that a dedicated study focusing on costs be conducted for publicly funded provision.

Conduct research into best practice for funding and delivering quality assessment in hard-to-reach areas.

Costs can also be an inhibitor to assessment agencies operating in hard to reach areas. It is recommended that a complimentary study on good practice from assessment agencies currently operating in hard to reach areas be conducted to identify and share evolving solutions.

7.4 Assessment Processes

There is little evidence that assessments are reliable, valid and comparable between assessment agencies, both within the same sector and under different schemes. As assessments across the various schemes are not comparable because of their different guidelines, it is recommended that common national standards for assessment are adopted by all government funded schemes. As separate guidelines specific to the STAR scheme have been produced, it may be that these could be the basis for further guidance on assessment in the system as a whole. The introduction of the NSQC under the NSQF, and their future requirements for certification upon SSCs, may also address this issue. Transparency is further undermined by the lack of system-wide mechanisms for capturing information on assessment outcomes and quality across the different government funded schemes.

NSDC data and training providers involved in the STAR scheme have reported high failure rates in some sectors. Whilst this may in part be due to the rigour of the assessment process, some assessment bodies felt that the high failure rates were due in part to a lack of consistent guidance for assessors about the level at which candidates must perform and the absence of national standards for assessors. The fact that under the STAR scheme, candidates can take assessments as many times as needed, is also thought by some training providers to contribute to the high failure rate. However, it should be noted that according to NSDC data, a significant proportion of the failures were through online/IT based assessments.

There is a tension when commissioning assessment bodies between ensuring sufficiently high quality to meet international benchmarks, and keeping the price down within the current funding structure. It is very likely that international quality benchmarks cannot be achieved without changes to the funding regime. The affiliation model of assessing bodies is also thought to be at the expense of quality in some cases.

The literature on competency based training and assessment (CBT&A) argues that emphasising summative assessment only for the purposes of certification is poor practice (see, for example, Harlen and Deakin Crick, 2002). This view is supported by many of the agencies, training providers and policy makers consulted during this research; a combined approach whereby formative coursework is also taken into consideration is felt to be a more accurate and fair way of demonstrating candidate abilities. However, the inclusion of formative assessments in the overall assessment model would require additional quality assurance measures such as the introduction of standardized assessment tools and assessment guidelines for training providers as part of an enhanced registration/affiliation system. While maintaining the necessary distance between assessment agencies and training providers that is required to ensure quality, more transparent feedback mechanisms should be encouraged between the two groups, so that mutual improvement is enabled.

The use of technology in conducting assessments is a key area of good practice, and is helping to address many issues within the assessment process, including improving the accessibility of assessments for trainees in remote areas, and reducing costs for assessment agencies. It can be argued that the use of technology for assessments and the best balance between knowledge and performance based assessment, especially in sectors that are not IT based, has not been sufficiently explored in either the MES-SDI or STAR schemes. Consequently, it is suggested that further work be done to investigate both the benefits and limitations of technology as part of a blended approach to conduct assessments on a large scale in India.

Recommendations

Clearer assessment standards should be developed to supplement the detail in NOSs and QPs to drive more consistent assessment quality across different sectors and schemes.

Improved monitoring of SSCs, and possible support in terms of capacity from NSDC, may enable the creation of coherent assessment standards in each sector. This would not only ensure a consistent level of quality across all assessments, but ensure that assessors are aware of the levels to which they are assessing. The standards need to be clear and specific, and utilising assessors to give feedback on draft standards would ensure that they are fit for purpose.

Consider different options for including formative assessments in the overall assessment model for QPs, including the additional quality assurance measures required to ensure effective implementation by training providers.

Ensuring that final marking schemes have the facility to take into consideration the formative assessments conducted throughout the training process would be welcomed by many stakeholders in the training community. It would also ensure that students are being assessed for their overall performance, and reduce the risks inherent in summative assessments (for example, assessor bias or quality issues).

Scale up support to assessing bodies, through SSCs or other appropriate organisations, so that higher quality assessment tools can be developed and introduced.

There are concerns about the capacity of assessing bodies to understand the NOS competencies sufficiently and to be able to define question banks correctly. Under the MES-SDI scheme, support is provided by the National Instructional Media Institute; a similar arrangement could be developed for agencies working with SSCs, or support could be provided by SSCs themselves. This could also be integrated into the development of new assessor standards.

Ensure the existence of formal, transparent bilateral feedback mechanisms between training providers and assessing bodies.

Whilst respecting the boundaries that need to exist between assessing bodies and training providers, developing clear channels of feedback is a key way of ensuring continuous improvement for both parties. Both assessing bodies and training providers consulted for this research would welcome a more transparent, formalised process that enables improved feedback; regulation of such feedback channels may need to occur at SSC level, or at RDAT level for the MES-SDI scheme.

Undertake further research on the potential use of technology in skills assessment and how best to encourage technology adoption in the sector.

The use of technology in assessments is a way in which greater numbers of people, in a wider range of regions, can be assessed and certificated. Although many assessing bodies are using innovative practices (such as video assessments), there is no formal standards for the use of technology in assessment and little formal recognition of their use from the perspective of the parent scheme. Creating such standards is important as getting the design of technology based assessment right is as important as the training of assessors. It is recommended that DGET and the NSDC provide support for the use of technology, whether through research into good practice and benefits, or the provision of funding for assessing bodies to reach regional areas.

7.5 Quality Assurance

The empanelment standards of the MES-SDI process, with accreditation through NABET, were reported to have dropped significantly since the scheme began, with agencies not achieving accreditation now being permitted to remain within the scheme; recent changes to the scheme have brought quality control back under DGET and the RDATs.

In terms of empanelment requirements under the STAR scheme, whilst all assessing bodies are pre-screened by SSCs, the rigour of this process is understood to vary between SSCs. Many SSCs only require the standard education and experience requirement; other SSCs (such as the Telecom Sector Skills Council [TSSC]; details in Appendix 2) have detailed criteria that includes the applicant's recent skills training, willingness to travel for assessments, and contribution to the

wider sector. The best assessment bodies have internal quality assurance processes, such as comparison of outcomes between states or the employment of external verifiers, to ensure that quality standards are met.

There also exists a potential conflict of interest in terms of quality assurance of assessment agencies by SSCs. With SSCs receiving funding from assessments completed (sometimes up to 60% of the total fee), there may be limited incentive for them to investigate or 'de-panel' assessment agencies who are found to be operating below the required standard. This issue was raised by a number of the training providers interviewed, who highlighted that they rely upon SSCs to act as conduits for their feedback to assessment agencies on their performance. Despite these concerns being raised, it should be noted that under both the STAR and MES-SDI schemes, a grievance system is in place.

Many assessors receive training of only a day from their employing agencies; this is highly unlikely to produce assessors who understand principles of assessment and how they apply to industry sectors, level of study and national occupational standards. This would be addressed, however, with the introduction of qualifications in assessor skills and continual professional development requirements.

Recommendations

Adopt a standard empanelment process for assessment bodies and mandate its standard usage across all SSCs and other regulatory bodies with an equivalent role.

Adopting empanelment criteria like those used by the TSSC and encouraging their standard usage across all SSCs will significantly raise the quality level of assessors; it will also encourage agencies to improve their recruitment processes to obtain assessors meeting these standards. It should be noted, however, that there may need to be support from the SSCs or NSDC in terms of providing or contributing funding towards skill training where there are shortages of appropriately trained assessors.

Consider the options to improve the accreditation/affiliation process of assessors and assessing bodies under the various schemes – including by a new or existing national regulatory body – so as to remove potential conflicts of interest and raise standards of assessment nationally.

The accreditation/affiliation process of assessors and assessing bodies under the various schemes should be improved and options should be explored, including responsibility being given to an existing - or new - national regulatory body.

Continue efforts to develop national standards, career pathways and qualifications for assessors and trainers and design a national workforce development strategy for these important roles.

The introduction of NOS for assessors, with progression pathways (to Master Assessor level) will make a significant difference on the quality of assessments conducted. The additional work being completed by the ADB on professional development for assessors is also likely to address issues around a part-time, occasionally disengaged workforce.

Bibliography

- CARNEGIE MELLON (2014) *Assess Teaching and Learning*. [Online] Available from <https://www.cmu.edu/teaching/assessment/index.html> [Accessed 23 April 2014]
- DELOITTE (2013) *Perspectives on Skill Development in Maharashtra: Matching Aspirations to Opportunities*. New Delhi: Deloitte India
- DIRECTORATE GENERAL OF EMPLOYMENT & TRAINING (DGET) [2012] *Trade Apprenticeship Training in India* [Online] Available from <http://dget.nic.in/publications/appren/ATS2011.pdf> [Accessed 30 June 2014]
- ERNSBERGER, L. (2012) *Implementing National Qualification Framework(s) in India: Challenges of policy planning in context of human development, the demographic dividend and the informal sector*. London: Institute of Education.
- ERNST & YOUNG (undated) *Skills Gap Assessment for the State of Odisha: A district wise analysis*. [Online] Available from <http://nsdcindia.org/pdf/odisha-skill-gap-report.pdf> [Accessed 28 April 2014]
- FICCI (2006) *The State of Industrial Training Institutes in India* [Online] Available from http://www.b-able.in/Knowledge%20Bank/FICCI_The%20State%20of%20Industrial%20Training%20Institutes.pdf [Accessed 28 June 2014]
- GREAT BRITAIN, UKIERI (2012) *Credit Where Credit's Due: Experiences with the Recognition of Prior Learning and Insights for India* [Online] Available from http://www.ukieri.org/images/pdf/RPL_Report.pdf [Accessed 06 May 2014]
- HARLEN, W. & R. DEAKIN CRICK (2002). *A Systematic Review of the Impact of Summative Assessment and Tests on Students' Motivation for Learning*. London: EPPI-Centre, Institute of Education.
- HEALTH AND SAFETY EXECUTIVE (HSE) [unknown] *Human factors: Training & Competence* [Online] Available from <http://www.hse.gov.uk/humanfactors/topics/competence.htm> [Accessed 12 May 2014]
- ILO (2013a) *Curriculum, Assessment & Certification under the Aajeevika Skills Development Programme (ASDP)*. New Delhi: ILO
- ILO (2013b) *Skills Development Initiative: Modular Employable Skills Scheme. Feedback from the Field*. New Delhi: ILO
- ILO (2014) *National Consultative Forum in India on a Proposal for National Occupational Standards for Technical and Vocational Teachers/Trainers and Assessors*. New Delhi: ILO
- JOHNSON, J. (2006) Engaging India: Demographic dividend or disaster? [Online] *The Financial Times* Available from <http://www.ft.com/cms/s/0/cd516aa8-749a-11db-bc76-0000779e2340.html#axzz368JD5yCR> [Accessed 12 May 2014]
- MINISTRY OF FINANCE (2013) *NSQF Notification* [Online] Available from http://www.skilldevelopment.gov.in/sites/default/files/resources/NQSF_Notification_English.pdf [Accessed 06 May 2014]

- MINISTRY OF HOUSING & URBAN POVERTY ALLEVIATION (MHUPA) [2013] *National Urban Livelihoods Mission* [Online] Available from http://mhupa.gov.in/NULM_Mission/docs/NULM_mission_document.pdf [Accessed 30 June 2014]
- MINISTRY OF HUMAN RESOURCE DEVELOPMENT (MHRD) [2012] *National Vocational Education Qualifications Framework (NVEQF): An Indian Perspective* [Online] Available from http://www.asem-education-secretariat.org/imperia/md/content/asem2/events/2012_tveter_berlin/ws1_chauhan.pdf [Accessed 12 May 2014]
- MINISTRY OF HUMAN RESOURCE DEVELOPMENT (MHRD) [2013a] *Aajeevika Skill Development Programme Guidelines - 2013* [Online] Available from <http://www.nrlmskills.in/NewsEvents/Draft%20ASDP%20Guidelines2013-07-15/asdp%20guidelines%20as%20on%20110713.pdf> [Accessed 23 April 2014]
- MINISTRY OF HUMAN RESOURCE DEVELOPMENT (MHRD) [2013b] *Aajeevika Skill Development Programme Guidelines (Revised)*. New Delhi: Government of India
- MINISTRY OF LABOUR AND EMPLOYMENT (MoLE) [2009] *National Skill Development Policy* [Online] Available from <http://labour.nic.in/upload/uploadfiles/files/Policies/NationalSkillDevelopmentPolicyMar09.pdf> [Accessed 24 March 2014]
- MINISTRY OF LABOUR AND EMPLOYMENT (MoLE) [2014] *Skill Development Initiative Scheme (SDIS): Based on Modular Employable Skills* New Delhi: Government of India
- MANIPAL CITY & GUILDS (2011) *A Global Study to get India World-Ready*. New Delhi: Manipal City & Guilds
- MEHROTRA, S. et al (2013) *Vocational Education and Training Reform in India: Business Needs and Lessons to be learned from Germany* [Online] Available from http://www.bertelsmann-stiftung.de/bst/de/media/xcms_bst_dms_39337_39338_2.pdf [Accessed 12 May 2014]
- Ministry of Finance (2013). *Extraordinary Notification, Part 1, Section 2: National Skill Qualification Framework*. New Delhi: Government of India
- National Accreditation Board for Certification Bodies (NABCB) [2014]. *Accreditation Schemes*. Available from: <http://www.qcin.org/nabcb/index.php> [Accessed 7 August 2014]
- National Accreditation Board for Education and Training (NABET) [2014] *NABET: Introduction* [Online] Available from http://nabet.qci.org.in/introduction_NABET.asp [Accessed 28 June 2014]
- National Skill Development Corporation (NSDC) [2013a] *National Occupational Standards (NOS) for SSCs* [Online] Available from <http://www.nsdcindia.org/pdf/nos-process-development.pdf> [Accessed 28 June 2014]
- National Skill Development Corporation (NSDC) [2013b] *An Approach Paper for Setting up a Sector Skill Council* [Online] Available from <http://nsdcindia.org/pdf/approach-paper-ssc.pdf> [Accessed 12 May 2014]
- National Skill Development Corporation (NSDC) [2013c] *FAQ QRC* [Online] Available from <http://nsdcindia.org/pdf/qrc-faq-nos-nos.pdf> [Accessed 30 June 2014]
- National Skill Development Corporation (NSDC) [2013d] *Scheme Document of National Skill Certification and Monetary Award*. New Delhi: NSDC

National Skill Development Corporation (NSDC) [2013e] *District wise skills gap study for the State of Haryana*. [Online] Available from <http://www.nsdcindia.org/pdf/haryana-sg-report.pdf> [Accessed 10 May 2014]

National Skill Development Corporation (NSDC) [2013f] *Executive Summary for the State of Maharashtra*. [Online] Available from <http://nsdcindia.org/pdf/maha-executive-summary.pdf> [Accessed 10 May 2014]

National Skill Development Corporation (NSDC) [2013g] *Need Assessment Report on Building Trainers Skills in Vocational Employability*. [Online] Available from <http://nsdcindia.org/pdf/building-trainers-skills.pdf> [Accessed 02 July 2014]

National Skill Development Corporation (NSDC) [2014] *Process Manual: National Skill Certification and Monetary Reward Scheme v1.2*. New Delhi: National Skill Development Corporation

NATIONAL SKILL DEVELOPMENT AGENCY (NSDA) [2014] *Skill Development Landscape in India* [Online] Available from <http://www.skilldevelopment.gov.in/skill-landscape-in-india> [Accessed 30 June 2014]

NEW INDIAN EXPRESS (2014) State Govt to Implement NSQF *The New Indian Express* [Online] Available from <http://www.newindianexpress.com/states/odisha/State-Govt-to-Implement-NSQF/2014/03/07/article2095387.ece> [Accessed 30 June 2014]

ODISHA DIRECTORATE OF VOCATIONAL TRAINING (Odisha DVE) [2014] *Action Plan on Vocational Education*. Bhubaneswar: Government of Odisha

PANDE, S. (2014) Skill assessment agencies flourish, online tests preferred *Business Today* [Online] Available from <http://businesstoday.intoday.in/story/skill-assessment-agencies-growth-in-india/1/202519.html> [Accessed 28 June 2014]

PLANNING COMMISSION (2008a) *Eleventh Five Year Plan (2007-2012): Social Sector, Vol. II* [Online] Available from http://planningcommission.nic.in/plans/planrel/fiveyr/11th/11_v2/11th_vol2.pdf [Accessed 28 June 2014]

PLANNING COMMISSION (2008b) *Eleventh Five Year Plan (2007-2012): Social Sector, Vol. III* [Online] Available from http://planningcommission.nic.in/plans/planrel/fiveyr/11th/11_v2/11th_vol2.pdf [Accessed 28 June 2014]

RUKMINI, S. (2013) Demographic dividend at its peak. *The Hindu* [Online] Available from <http://www.thehindu.com/news/national/demographic-dividend-at-its-peak/article5102093.ece> [Accessed 30 June 2014]

RUST, C. (2002) *Purposes and Principles of Assessment* [Online] Available from http://www.brookes.ac.uk/services/ocslid/resources/briefing_papers/p_p_assessment.pdf [Accessed 30 June 2014]

SRINIVASAN, S. (2013) *Skill Development Initiatives in India*. Singapore: Institute of South Asian Studies

UNESCO (2013) *Global Inventory of NQFs: India* [Online] Available from http://uil.unesco.org/fileadmin/keydocuments/LifelongLearning/en/UII_Global_Inventory_of_NQFs_India.pdf [Accessed 30 June 2014]

WADHWANI FOUNDATION (2014) *Hon'ble Chief Minister of Haryana, Shri Bhupinder Singh Hooda felicitates Wadhwani Foundation for successful implementation of Nation's first pilot project*

under NVEQF. [Online] Available from <http://wadhvani-foundation.org/wp-content/uploads/2014/02/Wadhvani-Foundation-felicitated-by-Honorable-Chief-Minister-of-Haryana-for-contribution-towards-quality-education-NVEQF.pdf> [Accessed 10 May 2014]

WORLD BANK, (2011), '*Report No. 47 South Asia Human Development Sector – Affiliated Colleges in South Asia: Is Quality Expansion Possible?*'. [Online] Available from http://www-wds.worldbank.org/external/default/WDSPContentServer/WDSP/IB/2011/12/14/000333037_20111214235531/Rendered/PDF/660240WP00PUBL0iated0Colleges0Study.pdf [Accessed 30 June 2014]

Appendix 1: Research Participants

41 organisations were consulted for this discussion paper through interviews, emails and phone contacts:

Assessing Bodies

Achievement Labs Management System Institute
 Anant Learning and Development
 APITCO
 ASSOCHAM
 C&K
 CII
 FICCI
 India Skills
 Indian Technical Society (ITES)
 Manipal City & Guilds
 Planet EDU
 Retailers' Association India (RAI)
 Shiksha Bharti
 Tanstia-Fnf Service Centre (TFSC)
 Technomed

Policy and International Organisations

AICTE
 Asian Development Bank (ADB)
 British Council
 Directorate General of Education and Training (DGET)
 European Commission
 International Labour Organization (ILO)
 Ministry of Labour and Employment
 Ministry of Rural Development (MoRD)
 National Accreditation Board for Certification (NABCB)
 National Accreditation Board for Education & Training (NABET)
 National Skill Development Agency (NSDA)
 National Urban Livelihoods Mission (NULM)
 Odisha Directorate General of Education and Training (DGET)
 Quality Council of India (QCI)

Industry, Training and Sector Bodies

Agriculture Skill Council of India
 Automotive Skills Development Council (ASDC)
 Capital Goods Skill Council

City & Guilds
 Healthcare Sector Skill Council
 IL&SF
 Indian Plumbing Skills Council
 National Association of Software and Services Companies (NASSCOM)
 National Skill Development Corporation (NSDC)
 Pearson
 Telecom Sector Skills Council
 Wadhvani Foundation

Appendix 2: Sample Assessor Criteria

For the majority of Sector Skills Councils interviewed and researched for this project, there was little evidence of assessor criteria beyond two key requirements:

- A diploma or degree in the subject to be assessed.
- Relevant industry experience.

The exception was the Telecom Sector Skills Council (TSSC), which evaluates assessors on a range of areas and awards marks. The following diagram is reproduced with the permission of TSSC.

Empanelling Assessors with TSSC

Maximum marks: 100; Qualifying marks: 50

No.	Key Aspects	Max. Pts	Evaluation Guidelines	Remarks
1	Empanelled with QCI/DGET/Govt affiliated AB, Trade Associations, TSSC-approved AB.	15	Affiliation Certificate to be verified: 15 pts	• Gives a fair sense of confidence that the assessor has been associated with AB and is aware of general process/procedures • Familiar with assessment methodology, tools & techniques
2	Role Expertise • Sales • Customer Service • Tech	15	Telecom Sales/Customer Service/Tech: 15 points Related Sector: 8 points	If in a related sector, training and certification is a must.
3	Assessments conducted during last 2 years	15	Telecom roles: • <10: 12 points • >10: 15 points Related roles: • <10: 10 points • >10: 12 points	Currentness with assessments can be ascertained.

No.	Key Aspects	Max. Pts	Evaluation Guidelines	Remarks
4	Vernacular expertise	5	Yes: 5 points	Required for regional assessments
5	Conversant with ISO:17024 standards for assessments	5	Formal training: 5 points General knowledge: 3 points	Standards compliance
6	Initiatives/steps taken to update role/sector knowledge during last 2 years	5	Full time training/course attended: 5 points Correspondence: 3 points Organisational facilitated training: 5 points	Self-learning/knowledge upgrade
7	Affiliation with Professional bodies/societies	5	Telecom related: 5 points Others: 3 points	
8	Any industry appreciations/commendations	5	Yes: 5 points	
9	Availability for assessments days per month	5	> 5 days: 5 points < 5 days: 3 points	
10	Willingness to travel overnight destinations	5	Yes: 5 points	
11	Education Qualification	15	In line with QP (for opted roles): 15 points	
12	Number of years as an assessor	5	> 2 years: 3 points < 2 years: 5 points	Record of first assessment to be verified

Appendix 3: Assessment Guidelines

The relevant sections of the key MES-SDI and STAR policy documents referring to assessment guidelines are reproduced here.

MES-SDI Scheme (MoLE, 2014)

Assessment and Certification

The assessment process under SDI Scheme aims to test and certify the competency of the persons through Assessing Bodies who seek certification of their skills acquired informally or the persons who have been trained at the registered VTPs. The Assessing Bodies are empanelled by DGE&T.

The main objective of assessment and certification is to measure the competency of the trained youth to perform the tasks required in the work environment by gathering evidence of performance and evaluate against agreed criteria. The process for assessing the skills should be valid, authentic, current, and reliable with proper documentation to remove any subjectivity or ambiguity in the assessment.

Assessing Bodies

DGE&T appoints Assessing Bodies to assess the competencies of the trained persons. The Assessing Body is an independent agency, which will not be involved in conducting the training programs

Keeping in view the target of providing training/testing of one million persons throughout the country and to avoid monopoly, more than one assessing bodies are appointed for a sector or an area. The assessing bodies also assist DGE&T to develop qualifications and standards for assessment through research and interaction with industry, trainers and academia.

In the assessment process of SDIS, identification of competency, ways to measure the competency and deciding on the type of evidence that has to be collected are the responsibility of the Assessing bodies whereas administering the assessment and collecting the evidence and reporting the results are the responsibility of the assessors.

The competency assessment of the candidate is being done by independent Assessing Bodies (AB) which are not involved in training delivery, to ensure an impartial assessment.

Objectives and Main Features of Assessment & Certification under the SDI Scheme

The main objectives of testing and certification under the SDI Scheme are:

- Testing & Certification of formally / informally acquired skills of one million persons every year.
- Testing & Certification by independent Assessing Bodies who are not involved in training delivery in order to ensure neutrality.
- Certification being recognised by national and international governments, private, industries and trade organisations.

Overview of Assessments

Questioning Techniques

- Questions must be clear and have only one interpretation.
- Questions must be easy to use and require minimum time to answer.
- As far as possible equal time should be given to all questions having same score.
- Question having same time and same score should have same degree of difficulty.
- Assessment should spread over the entire syllabus.

Theory Test

- It must assess the knowledge which is essential for a person to do the job . Without this knowledge, the person cannot be able to do the job.
- The questions shall be normally of objective type involving selection of correct response rather than writing sentences.
- The question paper should contain sketches/ diagrams/ photographs/ drawing to overcome the problems of reading comprehension.
- The test shall be of short duration.

Practical Test

To test:

- Manipulative skills to handle tools and equipment.

- Speed in doing work.
- Accuracy maintained
- Quality in workmanship.
- Sequence of performance.
- Economical use of material.
- Neatness & housekeeping.
- All the competencies prescribed in the course curriculum.

Assessment Parameters

(i) Knowledge

- Of equipment.
- Of limitation of use of tools and equipment.
- Of methods & procedure.

(ii) Understanding.

- Of functioning of equipment & tool.
- Criteria to be used in selecting tools for given job. The process of measurement.

(iii) Skill

- Precision - Finishing to required measurement.
- Computing - Handling measurement & calculations.
- Manual - Handling tools and equipment with ease.
- Finishing - Neat finishing.

(iv) Abilities

- To take corrective steps.
- To use correct work habits.
- To take measurements
- To complete the job within stipulated time.
- To adopt safe practices.

(v) Attitude.

- Towards the work
- Regarding appreciation for accurate & precise work.
- Towards co-workers and supervisor.

Duration of Test:

The duration of test will vary according to the task. Theory test shall of 1 hour duration and practical test for engineering trade shall be 6 to 8 hours minimum and non-engineering it shall be of 4 hours minimum. Assessing Bodies while preparing practical test shall ensure that candidate shall be tested on all the competencies prescribed in the course module.

Quality Systems and Process requirements:

- Should establish internal processes/methods to monitor, measure and improve the performance of its internal staff and assessors during planning, execution and reporting the assessment through.**
- Should develop “question banks” for random selection of questions along with the questions from NIMI ‘question bank’ wherever they are available. Process for regular maintenance and update the question bank should be defined.**

- iii. **Should develop well-defined process for selection, empanelling and capacity building of assessors**
- iv. **Should develop detailed internal assessment guidelines for evidence collection, recording, marking and reporting of the assessment results in line with the guidelines issued by DGE&T.**

Pre- Assessment

- i. DGE&T will develop systems and processes to allot batches for assessment to assessor from a particular assessing body based on roster and the proximity to the training center. Until then, RDAT will allot batches to the Assessing Bodies on rotational basis depending on the presence of assessing body in that region sector wise and the assessing body in coordination with VTP and assessor should confirm and schedule the assessment. In this regard, RDAT will prepare a register listing the names of Assessing Bodies and the names of Assessing Bodies shall be serialised on the basis of date of order issued by DGE&T relating to empanelment. In case the date of empanelment is same, then the Assessing Bodies shall be serialised alphabetically. RDAT will communicate Assessment Batch Number on first come first basis to Assessing Bodies on receipt of information of issuing of Training Batch Number.
- ii. The Assessing Body shall confirm the date of assessment in consultation with Vocational Training Provider (VTP) and communicate to the RDAT/State. If for an unforeseen reason, the date of the assessment is changed, the Assessing Body should inform the RDAT, VTP, State Director/UT & candidates of the same & also about the rescheduled assessment date & time.
- iii. The Assessing Body shall form a panel of assessors of high repute and integrity SDIS sector wise and location wise. The assessors should have (i) relevant academic, occupation qualification, (ii) understanding of factors to be considered for assessment of competencies at various levels, (iii) have considerable hands on experience and occupational expertise, (iv) possess keen observation skills, (v) be able to communicate in local language, (vi) knowledge of standards and forms of assessment to be used, (vii) be humane, kind and sympathetic.
- iv. The assessment of the candidates shall be done by the Assessing Bodies in designated Testing Centre (TC). The Testing Centre where the assessment is carried out and Testing Centre may also be VTP. The Assessing Body would select the TC based on the location, accessibility and the infrastructure facilities available for conducting the test.
- v. The Assessing Body would provide details of selected TC along with skill areas in which assessment can be done at the TC, to the RDAT and respective States/UTs.
- vi. The Assessing Bodies will depute those assessors for assessments whose details are furnished by Assessing Bodies to DGE&T in advance. Assessment done by assessors whose details are not furnished by Assessing Bodies in advance will be declared void and reassessment of such batch will be done by the Assessing Bodies on their own cost.
- vii. Assessing Body will communicate to the Testing Centre following:
 - a. Details of the candidates to appear for assessment in various MES-SDI courses.
 - b. Details of Assessors selected with their contact details.
 - c. Requirement of infrastructure, raw material etc.
 - d. Testing charges to be reimbursed to Testing Centre.

In case of Direct Assessment:

Testing centres will be registered by States on the same line as for VTPs. Candidates desire to get the skills certified have to apply on line or through Testing Centres. Assessing Bodies /assessors will be allotted automatically by the IT application. This facility is being provided on the web-portal of SDI scheme. Until then following procedure will be adopted for direct assessment:

- Assessing Bodies shall be responsible for registration of candidates for testing. It may do so directly or through its designated centres or VTPs.
- Candidates would also be allowed to get registered themselves either directly on the portal or through Testing Centre concerned.
- Assessing Bodies shall apply online list of candidates to be assessed to respective RDAT who, in turn, shall acknowledge the same by allotting ABN. RDAT shall make schedule of trade test, including date, time, list of candidates and location of designated Testing Centre under intimation to AB.
- AB shall inform in advance about the courses, candidates list, and requirement of raw material to Testing Centre in advance.
- ABs shall be responsible for preparation of question papers both for theory and practical test based on the approved criteria etc.

Preparation of Assessment Tools and Prerequisites

- The assessment tools shall contain components for testing the knowledge, application of knowledge and demonstration of skill. The knowledge test can be objective paper based test or short structured questions based. The application of knowledge can be verified based on questioning or seeking response for a case. Demonstration of skill shall be verified based on practical demonstration by the candidate by using competency checklist.
- Assessing body should ensure that 80% of the questions in both theory and practical assessment shall be used from question banks prepared by NIMI wherever they are available.
- The assessing body shall ensure that all the assessors are provided with the MES-SDI module course curriculum for which they are eligible to carry out assessment. The module's curriculums are available on DGE&T website.
- The type of assessment tools to be used for assessment should be prepared in advance by the assessing body in accordance to the guidelines as prescribed below:
 1. Define the performance objective – This should be based on the course objectives and competency in workplace as prescribed by MES-SDI curriculum. The written tests and practical tests should assess all the competencies mentioned in course curriculum.
 2. In case of practical test, clearly mention the operations which are to be observed in case of process test (how a particular task is being carried out) and the specifications of the final product in case of product test (the task in itself).
 3. List of tools, infrastructure, and equipments to carry out the assessment should be prepared based on the test instruments that are planned to be used.
 4. Prepare written directions to be given to the candidates before the task is attempted.
 5. Scoring system, observational checklist and rating scale should be prepared for each competency which is going to be assessed.
 6. The checklist and rating scale should have sufficient space to record observations.

Pre-Assessment Activities for Assessor at the Testing Centre

- i. The assessor should carry a copy of the MES-SDI module course curriculum to the assessment.
- ii. Assessor should carry the attendance sheet, question papers and answer sheets as applicable, competency result sheet,
- iii. Verification of student credentials: The assessor should check the application form submitted by the candidates and verify the photo pasted on the forms with candidates who are taking assessment. The checklist shall be utilised for the same.
- iv. Verification of testing centre for adequate infrastructure, tools and equipments: The assessor should verify the availability of infrastructure, tools and equipments for carrying out both theory and practical assessments. The minimum requirements prescribed under the MES-SDI modules shall be used as benchmark.
- v. Verification of qualification of instructor: The assessor should verify the qualification and experience of the instructors in the training centre.
- vi. Attendance verification: The assessor should check the attendance register of candidates and instructors until the time biometric attendance system is put in place. Once the biometric attendance system is in place, the biometric attendance of assessors along with that of trainees/candidates should be captured during the assessment at the start as well as end of theory and practical test.
- vii. Attendance during assessment: The assessor should take the attendance of all the students who appear for assessment after the successful verification of the student credentials and before the start of the assessment. The assessor should also provide his/her attendance during start and end of the practical and theory test.
- viii. Pre-Assessment checklist: The assessor should fill the pre-assessment checklist along with the start time and end time of assessment after verifying all the above tasks.
- ix. Verification of the documents related test carried out by VTP/ Testing Centre for candidates who were not able to produce document in support of having passed the qualification.

Assessment activities

- i. Before the start of assessment, read out the instructions to the students.
- ii. The written test shall be for fixed duration as prescribed.
- iii. The practical test shall be for fixed duration as prescribed. Assessor shall observe that all candidates are performing the practical test.
- iv. Ensure that individual attention is given to all the candidates during the practical test.
- v. Photographs: The assessor should take photographs during the assessment process. The following photos should be taken by the assessor
 - a. One group photo of all the students in the testing center
 - b. 2 photos each of the students during theory and practical tests
 - c. 1 photo of practical lab/workshop showing the equipments to be used for assessment
 - d. 1 photo of the assessor along with the students appearing for the assessment.

Post-assessment activities**Consolidation and reporting of results by assessor**

- i. The assessor should consolidate all the theory and practical test papers and ensure that all the mandatory information is filled. The total score for each student should be calculated and recorded in Result sheet.

- ii. The assessor should send the attendance sheet, Result sheet, answer papers by courier/post to the assessing body immediately after the completion of assessment

Uploading outcome of the assessment and photos in portal by assessing body

- i. Assessing body should upload the results within one week of the assessment date.
- ii. Photos taken by the assessors during assessment should be sent to respective RDATs through e-mail only. Non dispatch of photos of assessment to RDAT will make assessment void. Re-assessment of such batch will be done by the Assessing Bodies on their own expenses.
- iii. Details of assessors should be emailed to RDAT at the time of uploading the outcome of the assessment. Outcome of the assessment will not be accepted in case details of assessors are not emailed to respective RDAT. This procedure will be applicable till automatic selection of assessors is provided on the web-portal of SDIS.

Maintaining assessment records

- i. Assessing Body shall maintain full and complete record pertaining to attendance sheets, result sheet, answer papers, etc. and shall preserve all the records in the form of soft copy (CD/ DVD) for at least 2 years to make it available to the authorised representatives of DGE&T/ RDAT at any time.

STAR Scheme (NSDC, 2014)

Assessment Process

Step Number	Activity Brief	Responsibility	Timeline (Optional)	Remarks (if any)
1	Inform the relevant assessment agency on receipt of the information of trainees who have completed their enrolment at the Training Partner.	SSC	2 working days	
2	Inform the relevant assessment agency on receipt of the information of trainees who have completed their enrolment at the Training Partner .	Assessment Agency	2 working days	
3	If the assessment agency does not accept, identify another assessment agency to conduct the assessment.	SSC		

Step Number	Activity Brief	Responsibility	Timeline (Optional)	Remarks (if any)
4	On acceptance for conducting the assessments, the assessment agency will requisition an Assessor from its contracted pool.	Assessment Agency	2 working days	
5	Assessment Agency will share the contact details of the training partner where the assessments need to be carried out.	Assessment Agency	Specified date and time	
6	The Assessor will report at the training partner location at the designated date and time, conduct assessment as per the guidelines, and complete the assessment sheet.	Assessor	Specified date and time	- The expendables associated for the assessment will be borne by the training provider. - All other costs of assessments like boarding lodging, travel, etc. will be borne by the assessment agency.
7	Post conduct of the assessment, the assessor will provide the result along with the original assessment sheet physically or electronically to the Assessment Agency.	Assessor	2 working days	- In case the documents are sent electronically, it will be the responsibility of the assessor that the original documents reach the assessment agency within 5 days of the assessment. - In the event of failure on account of assessor not providing the original documents, the payment due to the assessor will not be processed by the assessment agency.
8	Assessor will also input the assessment results on SDMS.	Assessor		
9	Assessment agency will store the original physical assessment records of the trainee assessed for a minimum of 10 years from the date of the assessment.	Assessment Agency		In the event of failure to produce the original documents by Assessment agency, whenever required, the agency will be liable legally or otherwise

Step Number	Activity Brief	Responsibility	Timeline (Optional)	Remarks (if any)
10	Assessment agency will review and validate the assessment results on SDMS.	Assessment Agency		
11	The SSC will validate the data received from the assessment agency.	SSC		
12	Fees due to the Assessment agency will be paid after validation of the assessment results received.	SSC	14 days	
13	Fees due to the Assessor will be paid on receipt on hard copies of the assessment papers.	Assessment Agency	14 days	

Appendix 4: NSQF Level Descriptors

Source: Ministry of Finance, 2013

Level	Process Required	Professional Knowledge	Professional Skill	Core Skill	Responsibility
1	Prepares person to carry out processes that are repetitive on regular basis, requiring no previous practice.	Familiar with common trade terminology, instructional words, meaning and understanding.	Routine and repetitive, takes safety and security measures.	Reading and writing, addition, subtraction, personal financing, familiarity with social and religious diversity, hygiene and environment.	No responsibility; always works under continuous instruction and close supervision.
2	Prepares person to carry out processes that are repetitive on regular basis with little application of understanding - more of practice.	Material tools and application in a limited context, understands context of work and quality.	Limited service skill used in limited context, select and apply tools, assist in professional works with no variables, differentiates good and bad quality.	Receive and transmit written and oral messages, basic arithmetic, personal financing, understanding of social, political and religious diversity, hygiene and environment.	No responsibility; works under instruction and close supervision.

Level	Process Required	Professional Knowledge	Professional Skill	Core Skill	Responsibility
3	Person may carry out a job which may require limited range of activities, routine and predictable.	Basic facts, processes and principles applied in trade of employment.	Recall and demonstrate practical skill, routine and repetitive in narrow range of application.	Communication, written and oral, with minimum required clarity, skill of basic arithmetic and algebraic principles, personal banking, basic understanding of social and natural environment.	Under close supervision; some responsibility for own work within defined limit.
4	Work in familiar, predictable, routine situations of clear choice.	Factual knowledge of field of knowledge or study.	Recall and demonstrate practical skill, routine and repetitive in narrow range of application, using appropriate rules and tools, using quality concepts.	Language to communicate, written or oral, with required clarity, skill of basic arithmetic and algebraic principles, basic understanding of social, political and natural environment.	Responsibility for own work and learning.
5	Job that requires well developed skill, with clear choice of procedures in familiar context.	Knowledge of facts, principles, processes and general concepts, in a field of work or study.	A range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information.	Desired mathematical skill, understanding of social and political environments, and some skill of collecting and organising information, communication.	Responsibility for own work and learning, and some responsibility for others' work and learning.
6	Demands wide range of specialised, technical skill, clarity of knowledge and practice in broad range of activity, involving standard and non-standard practices.	Factual and theoretical knowledge in broad contexts within a field of work or study.	A range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study.	Reasonably good in mathematical calculation, understanding of social and political environments, and reasonably good in data collecting, organising information and local communication.	Responsibility for own work and learning, and full responsibility for others' work and learning.
7	Requires a command of wide-ranging specialised, theoretical and practical skills, involving variable routine and non-routine context.	Wide ranging, factual and theoretical knowledge in broad contexts within a field of work or study.	Wide range of cognitive and practical skills required to generate solutions to specific problems in a field of work or study.	Good logical and mathematical skill, understand of social, political and natural environments, good in collecting and organising information, communication and presentation skills.	Full responsibility for output of group and development.

Level	Process Required	Professional Knowledge	Professional Skill	Core Skill	Responsibility
8	Comprehensive, cognitive, theoretical knowledge and practical skills to develop creative solutions to abstract problems. Undertakes self-study; demonstrates intellectual independence, analytical rigour and good communication.			Exercise management and supervision in the context of work/study, having unpredictable changes; responsible for development of self and others.	
9	Advanced knowledge and skill. Critical understanding of the subject, demonstrating mastery and innovation, completion of substantial research and dissertation.			Responsible for decision-making in complex technical activities, involving unpredictable work/study situations.	
10	Highly specialised knowledge and problem-solving skill to provide original contribution to knowledge through research and scholarship.			Responsible for strategic decisions in unpredictable, complex situations of work/study.	

The background of the entire page is a bokeh effect consisting of numerous overlapping circles in various shades of blue and teal, with some brighter white and light blue circles scattered throughout. The circles vary in size and opacity, creating a soft, out-of-focus aesthetic.

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