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**The National Skills Qualification  
Framework in India: The Promise  
and the Reality**

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## Abstract

India's TVET system, by international standards, is at a very rudimentary level of development. TVET was a relatively neglected subject in India's educational planning, at least until the beginning of 2007. However, this changed with the 11th Plan (2007-12). One dimension of this change was the government's decision to adopt an Anglo-Saxon model, including a national vocational qualification framework, while ignoring the evidence of success of the alternative global model of TVET, the Germanic one. The paper begins by spelling out what the goals of the National Skills Qualification Framework (NSQF) were meant to be at secondary and tertiary level. This promise or expectation is then matched with the reality of the NSQF as it was implemented. Having found that experience wanting, the paper goes on to examine the international evidence with Vocational Qualification Frameworks, both in advanced as well as emerging market economies, given that over 100 countries are at different stages of implementation of similar frameworks. The experience of other emerging and even developing economies is found to be not different than India's. Finally, the paper reviews briefly efforts of the government to expand TVET at tertiary level, and the role of NSQF in it. More importantly, we present a case study of a new Bachelor in Vocational Education at tertiary level, a case where it is working successfully and has gone to scale. However, the contribution of the NSQF in this case appears limited, if any.

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# The National Skills Qualification Framework in India: The Promise and the Reality

Santosh Mehrotra \*

## 1. Introduction

There are some 100 countries, which are either developing or implementing National Vocational Qualifications Framework (NVQF), for their Technical and Vocational Education and Training (TVET) systems, by providing training based on occupational standards. India is one of those countries, which began its journey to develop the National Vocational Education Qualification Framework in 2011, when the MHRD constituted a task force to draft the framework.<sup>1</sup> However, an NVQF is not essential to a quality education and training system. Some successful systems (e.g. several East and South East Asian countries) do not have an NVQF (Young and Allais, 2011).

NVQFs are an Anglo-Saxon phenomenon, largely focussing on the industrial or employer's need for skilled manpower, rather than preparing people for specific occupations. NVQs were explicitly shunned in the other major global model for TVET systems (Germany). The Germanic model – which is of much older vintage, has also proven to be very successful in transforming Germany into a manufacturing superpower over a 150-year period. The Anglo-Saxon model is of much younger vintage, barely going back around four decades. The other big difference between the two was that while the German model evolved over the period of the first, second and third industrial revolutions quite organically, the Anglo-Saxon one was “constructed” (Hoechel and Schwartz, 2010). We in India decided (in 2011) to adopt the Anglo-Saxon one, following the fashion that was emerging around the developing world. The Anglo-Saxon conception of TVET has also influenced TVET policy of the European Union.

We were aware of the literature around the NVQFs while drafting the Indian one in 2011 (Young and Allais, 2011). We knew that there had been issues around the adoption of the NVQF in the UK, which is, unlike India, a workforce in which most workers are formally employed with social insurance (India, like other developing countries, has 90% of its workforce which is informal, without any social insurance, mostly in informal, unregistered enterprises). Even in the United Kingdom it had taken decades, after much tweaking, to come to a level of maturity and acceptance. We were also very aware that (a) India's GDP growth rate had increased sharply in the new millennium, and employers were facing significant shortages of skills;<sup>2</sup> and (b) India's TVET system was in its infancy, extremely narrowly

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<sup>1</sup> I was asked to chair the task force by the Ministry of Human Resource Development, which resulted in the National Vocational Education Qualification Framework (see Mehrotra et al, 2012). The other members were Dr. Vinay Mehrotra, Professor at the Central Institute of Vocational Education, and Basab Banerjee (National Skills Development Corporation).

<sup>2</sup> For the first time in the history of India's planning, the 11<sup>th</sup> Five Year Plan (2007-2012) included a chapter on Skill Development, as did the 12<sup>th</sup> Plan (2012-2017) (Mehrotra, 2014). I had the privilege of leading the team that wrote the 12<sup>th</sup> Plan chapter.

based, and seriously failing to deliver the vocational skills to meet the requirements of the second fastest rapidly growing economy in the world (Planning Commission, 2012). Implementing a vocational qualification framework was not going to be easy in the circumstances: a highly informalized workforce; a very rapidly growing economy where demand for skills was growing sharply; and a very small TVET system relative to the country's need. In practice, there were only Industrial Training Institutes of the 1950s vintage that were offering any TVET – under 4000 of them (with private and public sector Industrial Training Institutes (ITIs) accounting for equal proportions) in a country with a workforce of 475 mn in 2011-12, 93 per cent of whom were informally employed. Other than ITIs there were plenty of small, unregistered, private and unregulated skill providers spread across the urban landscape, but offering very poor quality training through short duration courses (Mehrotra, 2014). To make matters worse, India had barely managed to achieve 74% literacy by 2011, so a quarter of the workforce was illiterate and another quarter barely had primary education.

Worse still, there was little consensus among policy makers on how the narrowly based TVET provision was to evolve, how it would grow in terms of quantity and how provision of quality was to be ensured simultaneously. An NVQF seemed to be the answer to these questions, at least to the extent that it would focus the attention of all those who were concerned with the above situation. The National Skill Development Policy 2009 (MOLE, 2009) had mentioned the need for creating a qualification framework for India. There was a need for bringing all the key stakeholders on the same platform, so that there would be common understanding among stakeholders about what could be a way forward for expanding the TVET provision with quality. The NVQF could serve as one such platform. This is explicitly stated in the blueprint National Vocational Education Qualification Framework (or NVEQF); however, that blueprint also stated that there were pre-existing problem in TVET in India, that simultaneously needed to be addressed (Mehrotra et al, 2012).

The Ministry of Human Resource Development of the Union government took the lead, and came up with National Vocational Education Qualifications Framework (NVEQF), which was formally launched in a few schools of Haryana in 2012. However, not to be deterred, the Ministry of Labour and Employment (which felt that this was their domain)<sup>3</sup> prepared its own NVQF. After two years of dialogue, mediated by the Planning Commission, the two Ministries came to an agreement that both the NVEQF and NVQF will be subsumed in what would be called the National Skill Qualifications Framework (NSQF), which was notified as an official document by government of India in 2013.<sup>4</sup> It is another matter that, as we argue

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<sup>3</sup> The Ministry of Labour & Employment prepared, and the Cabinet approved on 23 February 2009, a National Skills Development Policy, which included the following: “National Vocational Qualifications Framework which will inter-alia include opportunities for horizontal and vertical mobility between general and technical education, recognition and certification of competencies irrespective of mode of learning.”

<sup>4</sup> This term was adopted as a compromise term, since neither Ministry was likely to find the other Ministry's term acceptable. Since I was leading the team that wrote the 12<sup>th</sup> Plan chapter on skill development, I proposed to the Planning Commission that the term, NSQF, would be neutral, and hence likely to be acceptable to both the Ministries. So the term that we introduced in the 12<sup>th</sup> Plan chapter, NSQF, stuck, and became part of the national policy narrative (Planning Commission, 2013).

in this paper, the manner of its implementation changed its character dramatically, and the sharp divergence between the promise and the reality that emerged between 2013 and 2020 is the subject of this paper.

India's TVET system, by international standards, is at a very rudimentary level of development even at the beginning of the third decade of the new century. TVET was a relatively neglected subject in India's educational planning, at least until the beginning of the 11<sup>th</sup> Five Year Plan (2007-2012).<sup>5</sup>The unorganized sector, employing fewer than 10 workers in informal work, merely offered unpaid and unstructured apprenticeships of poor quality, which were unregulated. Of the private organized sector, which in any case accounts for a miniscule proportion of all non-agricultural enterprises in the economy, only 16 per cent offered in-firm, enterprise based training (according to a World Bank enterprise survey in 2009) (Mehrotra, 2014). There was practically no TVET being offered in schools, and at tertiary level there were a few thousand polytechnics and colleges. Apart from that there were the technical institutes and polytechnics offering courses in pharmacy, hotel management, engineering or management – regulated by the All India Council of Technical Education (AICTE). In addition, there was a multitude of small private skills providers, totally unregulated and offering courses of varying lengths, with no quality control or uniformity in course content or duration.

In other words, TVET provision in the country conformed to no particular model or vision. Only 2.3% of the workforce had formally acquired any TVET, according to National Sample Survey Office (NSSO) in 2004-05, a number which did not change when the NSSO did the same exercise in 2011-12 (Mehrotra, 2014). This was the situation at the beginning of the second decade of the new millennium. Unfortunately, the situation has not changed much in 2017-18, as PLFS reports, with 2.4% of the workforce having achieved formal TVET (National Sample Survey Organization, Periodic Labour Force Survey Report, 2018).

In response to the new and emerging demands of skilled manpower, the Government of India began investing in TVET, and the ecosystem has evolved and grown in terms of number of institutions offering TVET. The most important changes are the following. First, National Skill Development Corporation (NSDC) was set up (in 2010) with two purposes: (a) to incubate private Vocational Training Providers (VTPs) offering short term courses (of no more than 3-4 months duration); and (b) to incubate Sector Skills Councils (SSCs), as industry-employer representatives of the private sector (in much the same way as other Anglo-Saxon countries have SSCs). Second, the number of private ITIs expanded: they grew from under 2000 in 2007 to 11 000 or more by 2017. The expansion of public ITIs was very limited: from 1896 to about 2500 in 2017. Third, other than the Ministry of Labour and

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<sup>5</sup> The neglect was part of the neglect of school education generally. The British had provided for little education, so literacy was barely 32% in 1951. The economy grew slowly over 1950-80 at 3.5% per annum, generating limited tax revenues for anything, so general academic school education remained limited, leaving little policy space for vocational education for under 18 year olds. However, technical and tertiary education did receive policy space, and engineering and management education expanded to meet the needs of the heavy-industry strategy of import-substituting industrialization (see Mehrotra et al, 2005; Mehrotra, 2006).

Employment (which oversaw ITIs) and the Ministry of Human Resource Development (which oversaw vocational education programme in a few thousand senior secondary schools), very few ministries had offered TVET courses until the mid-2000s. There was limited activity by the Ministry of Rural Development and the Ministry of Micro, Small, Medium Enterprises for promoting TVET. What transpired since 2007 is that a total of 20 or more ministries have initiated some small scale training of short-duration. This further fragmented the total TVET provision in the country. Fourth, after the NSQF initiative, the MHRD introduced vocational subjects along with general education subjects in Classes 9 to 12 in government schools.<sup>6</sup> These vocational subjects are aligned to the job roles classified in the NSQF from levels 1 to 4.<sup>7</sup> Fifthly, the in-house enterprise based training expanded somewhat in the organized sector; a World Bank survey of enterprises in 2014 reported that 36% of all registered enterprises were conducting in-house training. However, the majority of these enterprises were large corporates, while the Small and Medium Enterprises (SMEs) tended to ignore such in-house training. So, there are now five pillars of TVET in India: a. the enterprise based training, if one can call it that. b. the growing private and public ITIs, c. NSDC-funded VTPs, d. the slowly growing TVET in schools, and e. new central ministries conducting their own short term courses. This was the ecosystem to which the NSQF was meant to be applied.

This paper has three sections. In the first section, we spell out what the goals of the National Skills Qualification Framework (NSQF) are intended to be, both at secondary, as well as tertiary level. In the second section we examine the reality of what the NSQF has turned out to be as it got implemented, for any level of education or training. Section 3 examines international evidence with Vocational Qualification Frameworks, both in rich as well as emerging market economies, where we discuss the literature to see if they have made any contribution to the evolution of education or skill systems. While the NSQF has had some limited influence on the evolution of the TVET system for pre-18 year olds, it has had little influence on the tertiary level. Hence, we do not discuss it. The final section concludes.

## **2. Challenges that NSQF could have addressed**

Given the level of fragmentation of TVET (even within the public sector), it was not surprising that it was felt that a NSQF might focus the attention of policy-makers on the subject of TVET. It was felt that TVET in India faced many challenges, which could perhaps be addressed within the ambit of NSQF, even though many of these problems were long-standing ones, and could possibly have been addressed even without NSQF. Not surprising,

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<sup>6</sup> The Scheme of Vocationalisation of School Education covers government schools. Government aided schools, in those States where Government schools have already been covered under the Scheme, may also be considered for financial assistance. The schools offer on an average two vocational courses. Till end 2019, 11434 schools have been approved under the scheme including 1811 schools approved in 2019-20. Of the 11434 schools approved, the scheme has been implemented in 9730 schools with enrolment of 1.1 million students (NITI, 2020).

<sup>7</sup> There is now a possibility, according to the National Institution for Transforming India (or NITI, the so called successor to the erstwhile Planning Commission) for providing exposure to vocational education to students of Classes VI to VIII (introduced in 2018) to enable students to orient themselves with skills required for various occupations and to equip them to make informed choices about vocational courses they might take.

that Young and Allais (2011) had noted, when India was thinking about a VQF: "... the starting question for policy makers should not be: How do we implement an NVQF? But rather: What are the key problems that have been identified in Indian TVET provision? What role could an NVQF play in helping to overcome these problems?" As the chair of the Task Force created by the Ministry of Human Resource Development (MHRD), certainly I was in total agreement. Hence, what we started with, as clearly articulated in the base document we submitted to MHRD, was: what problems does the TVET system suffer from? And if there is a role for the VQF, what could it be?

### *Lack of uniformity in qualifications across institutions*

In general academic education, despite the common National Curriculum Framework (NCF), 2005 for schools, designed at the national level by National Council of Educational Research and Training (NCERT), there are reasonable variations in the level and standard of courses and programmes offered by various state examination boards and educational institutions. However, the general academic curriculum at secondary level is not at issue here. There is now some uniformity in place across programmes, at least within the secondary or higher secondary school system, which could possibly be attributed to the introduction of the NSQF since 2013. Vocational subjects aligned to the job roles pegged at NSQF levels 1- 4 are being offered in Classes 9 - 12. However, it is uncertain if the same uniformity could not have been achieved in the absence of the NSQF. As we discuss later, China has uniformity across the nation without any NVQF, even though its TVET system is much bigger than India's.

In the absence of a national level approach to TVET planning, the courses and programmes in TVET a decade ago lacked uniformity in terms of duration, entry requirements for the course/programme and nomenclature of qualification across institutions. For example, in the plumbing sector, the duration for the 'Certificate' course in Plumbing/ Sanitary Hardware Fitter/Plumber through the face-to-face mode in different institutions was two years, one year, six months and four months and the entry requirement also differed and could range from senior secondary certificate fail to Class 10<sup>th</sup> pass (Mehrotra et al, 2012). There is not much difference on the ground even now, although the NSQF came into existence in December 2013.

In addition, the private sector training institutions were offering TVET according to their own curriculum. The main change that has come about is that NSDC, created in 2010, started to incubate private VTPs, which began offering short term courses in accordance with the NSQF. However, the vast majority of private VTPs remain nearly as unregulated as before.<sup>8</sup> As a result, there are wide variations in the quality of training imparted through these institutions. This lack of uniformity is not good for the credibility of the VTPs or for the

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<sup>8</sup> The Expert Group report (MSDE, 2017) had identified large scale instances of fraud and poor quality training. The Comptroller and Auditor General of India (2015), in a report to Parliament, identified the dysfunctionality and misuse of funds through the NSDC and its funded VTPs, including in the behemoth, Infrastructure Leasing and Finance Services (ILFS), which had emerged as a major skill provider across the country. Its corruption then by 2018 led to its collapse as a corporation.



potential employers, since the latter cannot make out what competencies the certificate holder brings to the job.

The contrast with course curriculum design in China across the entire country is worth noting. After completing nine years of compulsory general academic education, nearly half the children enter senior secondary vocational schools in the government system on average in China (of course with variations across provinces). The course curriculum in the latter schools is split as follows: one third consists of general academic subjects common across the country; another third consists of a national common curriculum for the vocational subjects; the remaining third also relates to the vocational subject, but is determined locally in accordance with local needs and demand. Thus, there is need for uniformity across the country, with some space for local variations to suit the local needs of the region (Mehrotra *et al.*, 2015).

#### *Lack of clear recognised pathways of learning*

The National Policy on Education 1986 envisaged vocational courses at the tertiary level for facilitating vertical mobility of students of senior secondary level. However, with the introduction of the centrally sponsored scheme of vocationalisation of secondary education in 1988, the vocational education programme in schools became terminal in nature, as they were designed to impart skills without any provision for vertical mobility and therefore they became dead ends. One factor responsible for the low demand for vocational education in schools was the lack of opportunities for vocational students for professional growth and educational advancement, as those in grades 11-12 studying vocational courses were not studying the general education subjects. Provision for vertical mobility of the students was not available for the majority of vocational courses at senior secondary level, although some States, like Kerala, made provision for general education subjects along with the vocational subjects to provide vertical mobility to vocational students.

We will examine in the next section to what extent vertical mobility has become a reality in India for vocational students, and whether the NSQF has had anything to contribute to it.

#### *Lack of credibility among stakeholders*

TVET, unlike general education, is supposed to lead to a certain level of competence to perform tasks in an occupation. NSQF was supposed to introduce competence-based training; whether that has been achieved we will examine in the next section.

One problem historically was that vocational education system in secondary schools has very little credibility among employers, students and parents because the quality of instruction is poor, there is lack of industry based internship, lack of industry participation in curriculum development and implementation, and in most of the vocational courses, industry is not involved in the process of certification of competencies (Mehrotra, 2014; see references

therein).<sup>9</sup> Low esteem of vocational education is a global phenomenon. However, that does not prevent half of all Chinese youth at age 15 to enter the vocational stream at senior secondary level (Mehrotra et al, 2015). That is primarily because the employability of such vocational education students is high. If vocational education is of good quality and involves the private sector in its design, the prospects of getting a job with decent salary would increase, making vocational education aspirational.

In India, there is little evidence that TVET has resulted in a wage premium (or a wage advantage) as compared to those who did not undergo TVET, although in recent years there has been a substantial increase in the wages of middle level skilled manpower, but only because of shortage of such manpower (Roy, 2008). In any case, the NSQF's potential contribution to this possible development still remains unclear.

#### *Lack of horizontal mobility*

There should also be the possibility of horizontal mobility so that the students from the vocational stream are able to enter the general education stream, if they so desire. The challenge, therefore, is to create a new system of secondary and higher secondary education where all students get an opportunity to develop vocational skills along with the academic skills. Vocational education in schools could, therefore, be offered as a compulsory vocational subject.

Achieving horizontal mobility will require both the general and vocational education systems in secondary schools to shift to a credit-based semester system, as opposed to the current prevailing system of one-year courses, with an end of year examination (a goal expressed in the blueprint for NVEQF, see Mehrotra et al, 2012).

The credit-based system has several unique features: (a) ability to match students' scholastic needs and aspirations; (b) inter-institution transferability of students (following the completion of a semester); (c) part-completion of an academic programme in the institution of enrolment and part-completion in a specialised (and recognised) institution; (d) flexibility for working students to complete the programme over an extended period of time; and (e) standardisation and comparability of educational programmes across the country. Very importantly, the credit-based semester will allow students unable to continue in education system to exit, join the labour market, and later return to resume his/her course if s/he so wishes. This is the meaning of multi-entry and multi-exit that NSQF was supposed to enable.

Unfortunately, no credit based teaching has evolved in schools. So the principle of modularity (and hence the need for a credit based system), and thus the potential for multi-entry and exit has fallen by the way side. The ITIs have succeeded in 2014 to introduce a semester system (Mehrotra and Kumra, 2014), however, without a credit based system of training.

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<sup>9</sup> MSDE has been requested by MHRD to arrange for apprenticeship of students passing out with vocational subjects in 2020 (NITI, 2020).

### *No formal recognition of informal (prior) learning*

India has had a long history of informal apprenticeship in the presence of a craftsman or a senior technician. However, the problem has been that there is no certification (recognition) for such learning, which disadvantages the worker in the labour market, and constrains labour mobility between jobs. The Indian education system so far has been planned and organised primarily to cater to the needs of the organised sector, which employs only 22 per cent of the workforce (Mehrotra et al., 2014). A majority of workers in the unorganised sector have low levels of literacy, as they have left school at early stages of education. They face difficulty in returning to schools or training institutions to improve their skills, as the education or TVET system does not facilitate them to do so. Being adults, such skilled but older youth may feel stigmatised if they return to a regular school. That is why in China's TVET system, there are Adult Schools, which accommodate them. India may well consider using the infrastructure of existing secondary schools for adults, after normal school hours in a second shift, so that such adults have access to Recognition of Prior Learning (RPL) through such courses.

In 2011, Mehrotra et al (2012) had written: "The NSQF can facilitate the recognition of informal learning. For example, skills acquired at the workplace could be formally certified through an awarding body. The NSQF can provide opportunities to the people working in the unorganised sector to gain recognition of their competencies for national and international mobility or join the formal education and training system. This will be one of the most important contributions to inclusiveness in Indian society that the NSQF can make." We examine in the next section what in fact passes for RPL in India.

### *Input-based traditional education system that promotes rote learning*

Input based or traditional education is all about what resources have been placed at the disposal of the students. Classes in schools and colleges have grown, but the educational materials and delivery systems have changed only slightly. The major learning modes in schools and universities are lectures and textbooks; as a result, there is lot of emphasis on rote learning rather than experiential learning. The explicit assumption (see NSQF Notification of December 2014) was that such input-based learning, at least in TVET, would be replaced by a Competency Based Curriculum (CBC).

Vocational curriculums developed by the Pandit Sundarlal Sharma Central Institute of Vocational Education (PSSCIVE), Bhopal, National Institutes of Technical Teacher Training and Research (NITTTR), CBSE and State Boards should devolved towards competency based curriculum and assessment. Similarly, Central Staff Training and Research Institute (CSTARI), Kolkata and National Instructional Media Institute (NIMI) (the curriculum development institutions for ITIs) were expected to create CBCs for the ITIs (MSDE, 2017). Similarly, University Grants Commission (UGC) and universities would have to redesign their curriculum to develop CBCs. The Expert Group (MSDE, 2017) had rightly argued that this requires serious, institutionalised coordination and collaboration between the PSSCIVE, NITTTR, CSTARI and NIMI, charged with the task of curriculum development in TVET, which has not materialized. Equally importantly, this collaboration will only be effective if it

seriously engages industry experts in curriculum development (and not the national occupational standards, which has turned out to be a perfunctory process).

A critical prerequisite for the success of NSQF would be participation of industry representatives in the design and development of the curricula. Without this element, students graduating from vocational courses in schools will find no employment, which is TVET's current problem. The NSDC funded and incubated Sector Skill Councils (this was one of NSDC's functions, the other being to incubate and fund private VTPs) were supposed to provide this industry engagement, including participation in the curriculum development and implementation.

Unfortunately, instead of the focus being on developing CBCs associated with industry-required competencies being developed, what we got was the evolution of so-called National Occupation Standards (NOSs), clubbed together into Qualification Packs (QPs) corresponding to job roles. The preparation of these documents was supported by the newly created Ministry of Skill Development and Entrepreneurship (MSDE). Funds were transferred to NSDC, which in turn were meant to transfer them to NSDC-funded SSCs.

As Mehrotra et al (2012) had noted: "The NOSs would assist in achieving the following: emphasis on learning outcomes. Every NOS will, therefore, be accompanied by a set of performance criteria which define the outcomes of that NOS. This performance criteria would help define the curriculum, pedagogy, assessment and certification norms for achieving a particular NOS. NOS will be reviewed and updated in a 2-3 year cycle, so it can assist in improving the quality of education and training programmes" (p. 29-30). Notice we do not even mention QPs (in the original blueprint for NSQF). Notice also we specifically noted the need to define 'out comes' by 'defining the curriculum, pedagogy, assessment and certification norms'. We even go so far as to specify the need to review and update NOSs. However, unfortunately none of what we had specified actually happened in reality over 2012 to 2019.

Young and Allais (2011) had warned before the NVEQF was formulated: "This report recommends that stakeholders and representatives of the Government of India begin by examining the misleading perceptions about NVQFs/NQFs that have caused problems in every other country. We recommend strongly that this takes place prior to the more specific steps involved in the design and implementation of a NVQF and even prior to further discussions about the specific purpose of an NVQF for India" (p. 6). None of what the very experienced Young (a Professor at the Institute of Education, London) and Allais (who had studied the South African NVQ and that of many other countries) had warned were heeded.

Young and Allais had cautioned (in 2011): "Most other countries introducing an NQF or NVQF did not address these considerations prior to design and implementation. They assumed that a NVQF is unambiguously a 'good thing' and frequently confused their hopes for a NVQF with the reality of what a NVQF can achieve, with invariably negative results. These negative results are then masked by the absence of any rigorous evaluation." With the benefit of hindsight in 2020, one can say that the NSQF in India has, at best, been a

distraction for the already limited professional competence in the administrative hierarchy in respect of TVET.

How the NSQF actually got operationalised is discussed in section 2 below.

### **3. Operationalisation of NSQF**

The way the NSQF got operationalized was as follows. There was an attempt to make levels in the TVET system comparable to the grades (classes) to the general education system. There were to be 10 levels in the TVET system, starting with NVEQF level 1 at class 9 in school. The 8-level qualifications framework was to be implemented in the following manner:

*Stage One:* NVEQ levels 1–4 will be implemented in schools/ITIs/Vocational Training Institutes (VTIs).

*Stage Two:* NVEQ levels 5–7 were to be implemented in Polytechnics, Community Colleges, Colleges and Universities.

The implementation of levels 5-7 has not received much attention in the implementation of the NSQF in India (hence it is not much discussed in this paper).

However, for levels 1-4, the guidelines, in our original blueprint document (cited earlier as Mehrotra et al, 2012, which was written in May 2011 for the Ministry of Human Resource Development as the National Vocational Educational Qualification Framework), did not even mention bunching 4-5 NOSs into Qualification Packs. What we had proposed was development of competency based curriculum (CBC) and training packages to be prepared accordingly.

Subsequently, the NSQF was launched in December 2013, subsuming the NVEQF. The implementation schedule of the NSQF, as mentioned in the government notification was as follows:

- i)* Immediately on notification of NSQF, all other Frameworks (NVEQF by MHRD in 2012 and NVQF by MoL&E in 2013) would be superseded by NSQF. NSQF compliant courses will receive government funding on preferential basis.
- ii)* After the 3<sup>rd</sup> anniversary date of NSQF notification: 27<sup>th</sup> Dec2016, government funding will be only for NSQF compliant courses. Recruitment rules of the Central and State governments shall define eligibility criteria for positions in terms of NSQF levels.
- iii)* After the 5<sup>th</sup> anniversary date of the notification of the NSQF (27<sup>th</sup> Dec2018), all training/educational programmes/courses were to be NSQF-compliant.

The reality is that after three years (i.e. December 2016), most government funded training institutions, which were to define eligibility criteria for admission in accordance with NSQF levels, did not manage to do so. Even the recruitment rules of most government or public

undertakings were not modified to suit the eligibility for various positions in accordance with NSQF levels. Not surprisingly, the December 2018 dead line for all training/education programmes being NSQF-compliant was not met. The date was extended (with an indefinite terminal date).

We have noted elsewhere that the process of preparing the NOS/QP is seriously problematic. The Expert Group report to MSDE, 2017<sup>10</sup> noted the following process is undertaken in preparing QP/NOS:

**“Stage 1:** The SSC [or Sector Skill Council] Governing Council appoints NOS Sub-Committee and issues request for proposal for contractors/consultants and by technical and financial bids appoints the contractor [usually an international consultancy like Price Waterhouse Coopers, McKinsey, Deloitte, Ernst & Young].

**Stage 2:** The contractor prepares industry occupational map. The NOS sub-committee agrees on priority areas. The contractor then undertakes functional analysis.

**Stage 3:** The contractor then prepares first draft along with sector expert group. The contractor and the SSC get industry validation through industry networks.

**Stage 4:** The NOS Sub-committee prepares case for approval and submits to NSDC. The QPs and NOSs are thereafter entered in the National Qualification Register.”

It should be obvious (from the above) that the development of standards is not underpinned by any in-depth research and adequate consultation; this is also evident from the rather limited use of these standards by industry. Nor are they seen as being very useful by tertiary level institutions; our Expert Group was often told by industry representatives accordingly. The present pattern of consultation with industry, which basically involves seeking their inputs or reactions to a document presented to them, does not make for an intensive involvement. There is no real substitute for industry being directly involved in framing standards, where industry experts, along with domain experts in training and education, sit together and develop standards; this is by definition a time consuming process. It is this time-consuming process that is being followed, for instance, in Bangladesh, where, not surprisingly, the process is long, and the country has managed to produce a very small number of NOSs (Mehrotra, 2019). The standards so developed are likely to have greater acceptance and buy-in by the industry, and will also be pedagogically on a sound basis.

By contrast, in India, between 2014 and late 2016, nearly 10 000 NOS were prepared, which were clubbed about 1900 QPs. Given the process of NOS-QP preparation it is not surprising that such a large number were prepared at break-neck speed. There seems little evidence that actually followed was what should have followed: a lengthy, arduous process of curriculum development by relevant stakeholders.

### *Teachers and Trainers*

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<sup>10</sup> The author was a member of the Expert Group that prepared the report for MSDE in late 2016.

Mehrotra *et al.* (2012) discussed the nature of radical reform needed in TVET in order to revive the sector. We noted then, “Currently there is a severe shortage of teachers and trainers in TVET. There are several colleges and universities, which conduct teacher education programmes, both in the government and private sector, but very few of them have included vocational education as one component of the in-service syllabus. However, there are no competency standards for training teachers, trainers and instructors. A completely new approach is needed for pre-service and in-service vocational education or teacher development, linked to the concept of recognition of competencies rather than just the qualifications. Teacher education curriculums will have to be redesigned... to make the teaching-learning process more student-centric through participatory workshop experiences, project work and assignments.” Mehrotra et al (2012) had also noted: “Three different types of teachers and trainers would be needed for effective transaction of competency units: (a) teachers and trainers for general, cultural or scientific subjects (for example, language, environmental education, information and communication technology, etc.); (b) teachers and trainers for specialised theory (for explaining scientific principles etc.); and (c) instructors for vocational practice (for example, operation of tools, equipment, machines, safety aspects, etc.)” We have no evidence to suggest that such requirements were met.

We have to repeat that TVET teachers must be required to spend time in industry, doing practical training, on a regular basis as in China (Mehrotra, Kamladevi and Gandhi, 2015). In senior secondary vocational schools (as also at tertiary levels of vocational education) teachers in China require at least two months every two years in practical training in an industry. This in-service regular training is in addition to teacher in senior secondary vocational schools required to be a graduate in a discipline she teaches apart from having a pedagogic qualification. In India, where senior vocational secondary school teachers often lack basic qualifications, are not in regular positions (but in ad hoc or contractual posts) and in ITIs have often received their training in ITIs themselves (see Mehrotra, 2014 for details). In other words, an essential prerequisite of TVET reform was never really met in six years since NSQF was implemented.

#### *Vertical mobility and progression for vocational students within the education system*

There seemed to be a belief that NSQF in India will enable vertical mobility of vocational students who earlier did not have access to higher education, merely because the NSQF will specify levels for courses for 15-18 year olds, and hence vocational graduates of age 18 will be able to enter tertiary programmes. But Young and Allais (2011) had already cautioned, vertical progression has rather little to do with the absence of NVQF.

Thus by 2020, some vertical mobility has been made possible since the implementation of vocational education programme in schools under *Samagra Shiksha* (a government of India programme for school education). By and large, there is still no vertical mobility for the vocational students of ITIs, even though some provision has been made for clearing general education subjects through open and distance learning system. Few states have taken initiatives in this regard like Haryana where vocational students are given direct admission to

2nd year of the diploma courses. <sup>11</sup> However, notice that we have said nothing about the utility or otherwise of the NSQF in these decisions to enable vertical progression to take place. These decisions could have been taken regardless of whether a NSQF was in place or not.

Second, from the short term courses (of 3-4 months) offered by institutions under various Ministries or NSDC-funded private VTPs, there is no scope for vertical mobility. In sum, there has been precious little advance in vertical mobility on a generalised basis, despite a NSQF.

### *Competence based outcomes*

One objective of the NSQF was that India's TVET would move towards a competence-based curriculum and policy makers will define and competence based outcomes among trainees. Towards this goal National Occupation Standards (NOS) were defined clubbed together into about 2000 Qualification Packs (QPs), the latter corresponding to job roles. Like competency based training (CBT) approaches, outcomes-based NVQFs rely on the similar principle of specifying learning objectives in advance. The former are widely supported internationally, especially for the delivery of TVET. However, Young and Allais (2011) had already cautioned that there is limited specific empirical evidence supporting some of the claims made for CBTs. They noted: "They rely on two major assumptions:

- i) that it is possible to make reliable judgments about a person's capabilities by observing their performance and that it is possible to infer from that performance that the person has relevant knowledge; and
- ii) that workplace performance can be used as the key criterion for developing a curriculum for off-site learning in an institution."

Both assumptions have been seriously questioned 'in practice', as is the case of the UK's NVQ system (see the ILO case study)". In contrast, the most successful TVET systems, including the Germanic system, adopt a more holistic 'occupational' approach to competence rather than an atomistic 'task' approach which has occurred in some countries. The German TVET systems recognizes that quality outcomes only depend in part on assessment of performance and that more significantly, they rely on the quality of provision and the partnerships between employers, the state, trade unions and TVET providers. For example, in the German dual system of TVET, it is the employers (represented by the Chambers of Commerce and Industry) who set the examinations at the end of apprenticeships. No such thing happens in India still, in 2020.

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<sup>11</sup> Maharastra has reservation for Class 10 vocational pass outs in ITIs and Polytechnics. Himachal Pradesh gives extra weightage to Class 12 vocational education pass outs for admission in the B.Voc courses. Gujarat has declared 12th equivalence for students who are 10th passd and have undergone two years of ITI training, 10th equivalence for 8th passed with two years of ITI pass and 12th equivalence for three years Diploma after 10th passed. These students are required to have passed the examination of the Gujarat Secondary Education Board for English and Gujarati prescribed for Standard 10<sup>th</sup>.



Moreover, the more serious problem is that, quite apart from the second assumption above, competency-based curriculum (CBC) themselves have not become standard. CBCs require their preparation by a team of pedagogues, industry subject experts, and trainers. CBC preparation requires a kind of collaboration that we had recommended between curriculum prepared bodies like PSSCIVE (Bhopal) for vocational courses for schools; the CSTARI and NIMI for the ITI; plus industry experts. No such coordination has been established. Not surprisingly, CBC is not the TVET standard in any part of India's TVET ecosystem, regardless of the rhetoric.

Thus we have the great anomaly that CBCs or even the NSQF have not been recognized or accepted till 2020 in ITIs or the central line ministry training institutions or industry in-house training programmes. Thus India's TVET suffers from two debilitating weaknesses in this regard. The notion of CBC itself has not been recognized ecosystem wide: three of the five pillars hardly recognize the NSQF. In addition, CBC itself has been narrowly understood even in the two remaining pillars (vocational courses for schools and NSDC –funded VTPs offering short term courses) as simply specifying NOSs and QPs (in other words, stating the outcome to be achieved), without completely rewriting the curriculum that serve as inputs to the achievement of those trainee-level outcomes at the end of training.

### *Monitoring and Evaluation*

Finally, there has been no attempt, since the introduction of the NSQF, to actually monitor or evaluate its performance in achieving its goals. This is not too surprising, given that we knew (as ILO research had found a decade earlier, see Allais (2010) summary of 16 country studies) that most countries did not have well designed, or even purpose-designed, monitoring and evaluation systems for their qualifications frameworks. This is one of the factors that has made impact of qualifications frameworks very difficult to monitor. In India, in the National Skills Development Agency a Research Division was attempted to be created, starting in 2016. There does not seem to be any research or rigorous evaluation conducted by this Division in the public domain (and nothing on its website).

### *What happened with Recognition of Prior Learning in the NSQF?*

The importance of RPL was recognized for the first time in National Skills Policy 2015 (MSDE, 2015). It set out the goal for India to train a total of 400 million workers between 2015 and 2022, of which three fourths (300 mn) were to be provided RPL (see Appendix 4 of MSDE, 2015). There was no particular strategy laid out to extend RPL to these 300 mn who were already in the workforce. The result has been that RPL has been provided as part of *Pradhan Mantri Kaushal Vikas Yojana* (PMKVY), the scheme implemented by NSDC on behalf of the government of India, but all that is done is to certify the informal worker in a matter of a day in most cases. In some cases, RPL takes a little longer. But there is no clear thinking with regard to how RPL should be imparted.<sup>12</sup>

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<sup>12</sup> Instead of RPL, what we have had is the current program on adult education via NGOs and Jan Shikshan Sansthan, which has not done well. To promote Adult Education, particularly in 15-35 age group, through

Given the very poor level of general education that school leavers graduate with, even though over 80 per cent gross enrolment ratio has been achieved at secondary level (class 10) by 2016, their learning levels are low (as various Annual Surveys of Education by PRATHAM have demonstrated). The ideal features of RPL would consist of the following. First, a bridge course to bring students' level of literacy and numeracy up to at least 8<sup>th</sup> grade level (the level of compulsory schooling in the Indian school system, in accordance with the Right to Education Act, 2009). This may not be possible for those above the age of 30 who dropped out from school early and have been in the workforce for well over a decade. For the latter the objective should be to ensure functional literacy and numeracy, especially if they entered the workforce without finishing elementary schools (i.e. class 8). The second type of training that RPL should entail for trainees is some transferable or transversal skills (also called soft skills), which are common across trades, and regardless of age of trainee/informal sector worker. The third type of training that RPL should entail is upgrading the vocational or technical skills of the worker, and its certification.

The combination of skills required – of three types (foundational, transversal and vocational) – as part of a serious RPL programme entails that it cannot be merely perceived as a means of certifying those who come to RPL. What has been happening in NSDC-funded training centres is a one-day event in the name of RPL, which leads to certification of such workers. We are not aware of any evaluation conducted of the value of such RPL certification, and its usefulness for workers in terms of a wage premium or worker mobility, which were the original intent of providing RPL to informal workers.

#### **4. Implementation of Vocational Qualification Frameworks internationally: what does the evidence reveal?**

Policy makers and donors continue to support national qualifications frameworks and competence-based training systems, with the hope that they will improve the ways in which education and training programmes prepare people for work, help them to obtain jobs, and enable them to perform well at work. At least 142 countries are developing a framework and six major world regions are developing regional qualifications frameworks, with a view to supporting labour market mobility (ETF, Cedefop, and Unesco Institute for Lifelong Learning 2013). UNESCO (Keevy and Chakroun 2015) proposes the development of world reference levels for qualifications, with similar aims.

In reality, however, there is no evidence from international experience to suggest that NVQF can be formulated quickly, let alone rolled out across the whole TVET system speedily. It is also not evident that the NVQF in any country has proven to be a means for creating what is

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voluntary sector, the Department of School Education and Literacy, Ministry of Human Resource Development, has provided support to Voluntary Agencies (VA) through two separate schemes: (i) Assistance to VAs in Adult Education and (ii) Jan Shikshan Sansthan. The former is an overarching programme to encourage innovation in literacy and continuing education, by establishing State Resource Centers for technical support to adult education. Jan Shikshan Sansthan, on the other hand, provide skill development training to those having no or rudimentary education. The Government have now merged both the schemes.

called a flexible, open, accessible and responsive workforce development system (Young 2010; Young and Allais, 2011; Raffe, 2012; Mehrotra, 2019).

When we raised this question in Bangladesh, we learnt that over a seven year period, a small number of standards under the NTVQF have been agreed upon among the stakeholders (Mehrotra, 2019). As it is, Bangladesh suffers a serious shortage of properly qualified trainers for non-NTVQF courses (as in India) (Mehrotra, 2014; Expert Group, MSDE, 2017; Pilz, 2017). The issues with implementation of the NTVQF do not end there. International experience from South Africa, Australia and India suggests strongly that it has taken years for acceptance among industry employers of such standards for any trade for any particular level.

India, Bangladesh and most developing countries are characterised by a highly in formalized economy. The only countries in the world that have seriously attempted the implementation of a NVQF are now industrialized countries; they all have highly formalized economies and most enterprises are formal sector ones, and the vast majority of workers have formal conditions of work (ILO, 2018). So is India's NSQF going to be implemented only for the formal sector of the workforce, which accounts for a miniscule proportion (20 per cent) of the total workforce (Mehrotra and Parida, 2019)? Half the organized sector workforce is informal (with temporary contracts) and hence not eligible for in-house training. If NSQF is going to extend to the unorganized sector enterprises, how will their concerns be taken on board? Just having a Sector Skill Council for Unorganized Workers (that India and Bangladesh have) does not even begin to scratch the surface of the problem of implementing a NVQF in such a highly in formalized workforce.

Moreover, there is a plethora of international evidence that suggests that the benefits of NVQFs have been over-stated, and their implementation in developing countries in the best of cases, is a work in progress (Allais, 2010; , Pilcher, Scott and Smith, 2015). Drawing from this evidence Allais (2017) presents the major findings of an international study that investigates the labour market outcomes of qualifications frameworks in six countries – Belize, France, Ireland, Jamaica, Sri Lanka, and Tunisia, as well as the regional framework in the Caribbean. It finds limited evidence of success. Allais (2017) argues that the French framework, where labour markets are highly formalized, and also the most regulated and collective bargaining had the widest reach, had the clearest relationships between qualifications and work. “However, the qualifications framework did not seem to be the cause, but rather the effect of such relationships.”

Raffe (2012), in an overview, argues that the evidence, although inconclusive, shows that the impacts of qualifications frameworks have been less than expected, have often taken many years to appear, and have been negative as well as positive. A 16 country study commissioned by the International Labour Organisation (ILO) argued that qualifications frameworks have not provided quick-fix or simple solutions to the complex problems facing countries in relation to education, skills development, and employment (Allais 2010). Yet policy makers and international organisations continue to push this policy that continues not to work.

The disjunction between empirical evidence and policy-maker desires could partly be the result of the amorphous nature of frameworks. Pilcher, Fernie, and Smith (2015) argue that it is almost impossible to evaluate them because there is no way of developing a clear yardstick for measurement. It is well known that there is an enormous amount of consultancy opportunities around the development and implementation of such frameworks, especially since much positive documentation comes from organisations involved in their development (for example, Cedefop 2013, 2015; European Training Foundation, Cedefop, and Unesco Institute for Lifelong Learning 2013). India too has regularly received a lot of UK and Australian official delegations meant to support the Indian NSQF effort from 2012 onwards.

However, research which is favourably inclined is descriptive of the QF, not evaluative. What the literature rarely does is examine the alternative model to the Anglo-Saxon one in the world for TVET: the Germanic one (practiced not only in Germany, but also Austria and Switzerland) (Hoeckel and Schwartz, 2010). From a developing country policy-maker's perspective, both models emanate from now industrialized countries, making both of them directly much less applicable to highly formalized economies in the developing world. However, what is relevant for developing countries is that Germany has built the most successful TVET system in the world, underpinning its manufacturing super power status for 175 years, without any qualification framework.

Similarly, China has one of the most successful TVET systems operating for at least three decades since the economic reforms, and it has underpinned China's industrial strategy; however, it does not rely on an explicit qualification framework.<sup>13</sup> The Chinese state regulates a vast network of institutions, essentially with the Township and County governments (or the rural and urban local bodies, which finance the TVET system), that has met the requirements of industry and agriculture with fair degree of success. But it has not felt the need for a qualification framework. Nevertheless, there continues to be strong donor support as well as support from international organisations for the building and implementation of qualifications frameworks.

The international studies corroborate the argument in Allais (2010) that where occupations are not regulated in terms of licence to practice or similar requirements, policy makers try to improve education/work relationships by involving employers in developing competence-statements for qualifications, in the hope that the qualifications thus developed can be used to reform curricula and to reform the delivery of education. In other words, the implicit idea is that getting employers to specify competences will lead to a policy mechanism which plays a similar role to a framework of regulated occupations. But in reality this often is not the case. We have already seen in the previous section how poorly NOSs and QPs have been prepared, and how little industry engagement of a serious kind has occurred in India in the six years since implementation of NSQF began from January 2014.

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<sup>13</sup> All the Chinese TVET ecosystem does is to use five levels of certification: Primary Worker Certificate; Intermediate Worker Certificate; Advanced Worker Certificate; Technician Certificate; Senior Technician Certificate.

Young and Allais (2011) had cautioned Indian policy makers against expecting Sector Skills Councils to be very effective. They noted that they have ‘an uneven record in other countries (eg. Sector Education and Training Authorities (SETAs) in South Africa and Sector Skills Councils (SSCs) in the UK). The SSC’s in the UK are at least the fourth attempt to establish such sectoral bodies; previous attempts have failed repeatedly through lack of employer interest in at least some of the sectors.’ That has not prevented the government of India to go on proliferating SSCs from zero to 40 between 2011 and 2016, whose functions overlap significantly, and which mostly were not performing the role that they were assigned according to the memorandums of agreement under which they were created (Expert Group of MSDE, 2017). At the request of MSDE, this Expert Group had analysed in a systematic three-volume report, and concluded why the number of SSCs in India should be reduced from 40 to 21, and how this should be done, with little effect.

One problem seen from the international evidence in all the cases is that in the absence of occupational regulation employers tend not to be involved in Qualification Frameworks, or to be involved sporadically or inconsistently. In India, the employer involvement in NSQF has been confined to the SSCs, who have no particular domain knowledge of pedagogic systems, and we had found that employer involvement in design of curriculum is practically nonexistent (Expert Group, 2017). Occupation regulation is a situation where most employers are formal enterprises, with hierarchical levels of positions. Such formal enterprises are governed also by laws, which govern different aspects of minimum wages to be paid, benefits to be given, occupational health and safety concerns met, social insurance provided, pollution standards met. Entry into the occupation itself for the enterprise is governed by certain requirements, legal or otherwise.

However, in a highly informalized economy, none of these conditions would apply in informal units; the majority of workers are self-employed (and have no employer as such); and even formal firms (as in India) may only be registered under some Act of Parliament, but are not regulated or inspected or monitored for most activities. Even organized firms employ workers with very limited term contracts, without social insurance (not just in India) (see Mehrotra and Parida, 2019 for details). Not surprising that the majority of firms do not conduct enterprise based training for their workers, certainly not for the informal workers. Why would acceptance of a NSQF matter to them under such circumstances?

But more fundamentally, in an economy where 90% of all workers are informal, it is not clear how a NVQF applies to such workers. Even in the formal economy, if the entrance to occupations is not regulated through licences to practice, even where employers do specify competences they are unlikely to value such qualifications in practice as they tend to be low level and narrow; this is aggravated by the ways in which competence-based systems cause problems for providers, as has been well documented elsewhere (Allais 2007; Wheelahan 2008; Wolf 1995, 2002; Young 2011). We have ourselves argued that the Qualification Packs developed for the job roles in various sectors under the NSQF have narrow NOSs (Mehrotra and Singh, 2017; Expert Group report to MSDE, 2017).<sup>14</sup> Moreover, recruitment rules, even

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<sup>14</sup> The number of NOS were 6857 and QPs 2507 in January 2020.

in government organizations let alone private formal firms, had not been modified to take into NOSs.

The framework in France is the only example of an occupational framework in the international studies, where qualification levels are linked to levels of work and pay. However, the qualifications framework in France did not seem to be the cause, but rather the effect or codification of such relationships (Allais, 2007). A regulated occupational labour market and strong collective bargaining has historically enabled the French system to relate qualification levels explicitly to levels in the workforce. This, as Boudier and Kirsch (2007) point out, was circular. What this means is that unless one has levels of work (a hierarchy of levels of positions or posts at work), a NVQF cannot specify what qualification matches with which level of post.

For any Qualification Framework, we have the additional problem that levels of qualifications for different occupations are difficult, if not impossible, to equate. On what basis would 500 hours of training as a motor mechanic be equated with 500 hours of training as a hair salon specialist? By assigning a level in a QF to each of those 500 hours, one would be equating what is conceptually impossible to equate. On top of that, if the QF attempts to equate that number of hours of training to some equivalent level of schooling at higher secondary or tertiary level of general education, what would be the basis for the QF to assign a level?

One abiding problem with NVQFs is that occupational standards should always be linked to occupational fields as opposed to specific jobs, but in NVQFs they tend towards specifying standards for specific jobs. This is particularly the case with the Indian NSQF – which makes it an inappropriate instrument to achieving quality skilling. However, the idea behind quality skill development is not to create a narrow description of the tasks undertaken by a novice, but to identify the wider professional domain, taking into account processes of adaptation to the job and professional integration. That is the reason why the Expert Group report to MSDE (2017) had made the case for adopting the International Classification of Occupations (ISCO), specify 430 occupational groups for which training will be imparted.

The fact that qualifications are a weak proxy for skill is widely acknowledged (for example, Guile 2010), and it seems increasingly apparent that rising education attainment, rising youth unemployment, and the changing nature of work are creating challenges for transitions from education to work in many countries, but especially in India (which in 2018 had a 45-year high rate of unemployment of 6.1%, and youth unemployment of 18% (Mehrotra and Parida, 2019). There is still little evidence to support qualifications frameworks as a way of improving these transitions. If the concern in developing countries is that it is not enough to pass an conventional examination, since ‘competency’ in performing a task is not demonstrated by it, then the answer is ensure quality training of adequate duration and not just a few hundred hours (as is often happening in India), with a well-structured curriculum, that has been arrived at in consultation with employers/industry’. In addition, the training should be imparted by trainers themselves aware of what employers expect, with training incorporating theory, practical workshop experience, and on-the-job internship or

apprenticeship. With such training, competency will be an inevitable outcome, especially if the assessment is itself conducted by industry experts.

These are problems that have to be solved regardless of whether India has a NSQF or not. At best, an NSQF can merely be part of a larger strategy to reform the TVET system. The National Skills Policy (of 2009 or 2015) both spell out goals, not necessarily a strategy or activities associated with that strategy to achieve those goals.

Qualifications frameworks seem to continue to derive popularity from the way they promise to offer simple solutions to these very real, complex problems. Unregulated labour markets (which are typical to developing countries, including India), the diversity of provision particularly within TVET systems, and qualification inflation, all aggravate the ways in which there are weak relationships between educational provision and labour markets.

Qualifications frameworks which have either succeeded in creating some buy-in and understanding of the national system of qualifications as a whole (such as in Scotland and France) are invoked as proof that qualifications frameworks can improve relationships between education provision and the labour market (Allais, 2017). But the main mechanism which is offered to developing countries in order to create a qualification framework is employer-led competency statements. This mechanism leads to complexity – undermining the aim of improving understanding of the qualification system – and does not lead to improved labour market outcomes.

There seem to be two options for policy makers: accept that improving the description of your qualification system is a useful although very minor intervention; do it, but do not make extravagant claims about improving labour market relationships. It would be better to focus on occupational regulation and licence to practice – to prevent any further in formalization of work and enterprises – in order to have clear relationships between education and work. Most importantly, make sure that the combination of inputs are right, before expecting that outcomes (seen as competencies of trainees) will improve

## **5. Concluding remarks**

If India is to become a manufacturing nation, it must create a education and skills development ecosystem that supports an industrial policy – as the success story of East Asian economies has demonstrated in the 20<sup>th</sup> century (Mehrotra and Guichard, 2020). However, the efforts since 2011 at reviving and building an effective skills development ecosystem are faltering; the NSQF is one such effort. We have seen in this paper that while NSQF was introduced in India after much discussion within the government of India its implementation trajectory has left much to be desired (as we argued in sections 1 and 2).

The promise and the reality have turned out to be rather different. This is not surprising. The fact is that the NSQF was not really rolled out in India in the way that the original blueprint had outlined. In addition, it appears that those entrusted with implementing the task perhaps never really understood the risks associated with rolling out a vocational qualification

framework in a developing country with a. a highly informalized economy and workforce; b. low quality general academic education accessed by the majority of young; and c. a highly fragmented and extremely narrowly based skills ecosystem. The NSQF itself did not focus on building on competency based curriculum, but rather on creating NOS and QPs, which were rarely accepted by industry, since they hardly contributed to it. When employers conduct enterprise-based training, they themselves don't adopt any element of the NSQF.

Those implementing the NSQF did not recognize (or were even aware of), it seems, the problems that vocational qualification frameworks have faced even in Anglo Saxon countries, and even greater problems in emerging market economies. In fact, India's skills ecosystem was, and still is, facing a plethora of other problems (shortage of teachers, very limited serious industry engagement, a supply driven as opposed to a demand driven system) – all of which were identified by those who wrote the base paper in 2011 on India's qualification framework – to which NSQF had no answers. That the promise and reality turned out to be rather far apart, is not inconsistent with the international evidence that we presented. If the Indian government is committed to the introduction of a system-wide qualification framework (a goal currently far from achievement), it must be developed as part of a broad strategy of TVET reform (which is not in evidence).

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