A National Vocational Qualifications Framework for India

Preface

This report was prepared as part of the World Bank's Vocational Training Improvement Project (Cr.No.4319-IN). Our assignment was:

> "to provide technical inputs to the policy process surrounding the development and implementation of a National Vocational Qualifications Framework(NVQF) in India".

It follows two visits to Delhi (one by Michael Young in February 2011 and one by both of us in May 2011). The February visit involved leading a workshop for approximately 50 stakeholders, followed by a series of meetings with senior members of Government of India GOI) Departments and agencies as well as discussions with the World Bank/ILO team who commissioned our work. The first section of this report, the Briefing Paper, is a slightly revised version of a paper originally written by Michael Young prior to the February meeting. The idea of an Options Paper spelling out the Options for the GOI, the decisions that follow and our recommendations arose during the visit visit. The second section of this report is a revised version of the original Options Paper presented to government representatives and stakeholders during our second visit to Delhi. The original paper was revised, following these discussions and in response to suggestions made by the World Bank/ILO Team.

The Government of India has already made a commitment to introducing a NVQF which would include all qualifications obtained within TVET programmes. The aim of this report is to draw on the findings of the recent ILO Report on **Implementing NQFs in 16 countries,** as well as other relevant research, to inform the GOI of the problems they are likely to face and the decisions that they will need to take in implementing a NVQF. Following suggestions made at the first Workshop, the second paper included in this Report takes the form of a set of Options, the decisions that follow and our recommendation in each case. As far as we were able, given the limited length of our stay in India, we have tried to take account both of the primary purpose the GOI have expressed for introducing a NVQF and the particular circumstances facing India as a very large federally governed country.

Our experience, both in the ILO Project and in a number of other countries introducing NVQFs with which we have been involved, is that they have rarely had access to the research literature and have all too easily assumed that introducing a NVQF that will fulfill the claims made for it is a relatively unproblematic task. This has never turned out to be the case and the failure to recognize this has been a major cause of the problems these countries have faced.

In preparing this report and in the meetings and discussions that we had in India, we had two main aims, both of which derive from the research on NQFs that we have been involved in during the last 10-15 years . The first aim is to demonstrate that introducing a NVQF is somewhat Janus faced. On the one hand, as a change in the *qualification* system, a NVQF is a relatively modest reform, largely dependent, for the goals associated with it, on other more significant reforms in educational institutions, the preparation of teachers and in the approach to Human Resource Development(HRD) on the part of employers in both the public and private sectors. On the other hand a change in the system of qualifications effects every part of government, educational provision and every employment sector. Successful implementation will therefore involve a re-assessment of their role on the part of all those involved, not just a single government department or qualification agency. If this implication of introducing a NVQF is neglected , India may find itself with a NVQF 'on paper' and all its vocational qualifications listed on a framework but little else will change- something that has all too frequently been the case in other countries,.

Our second aim is to enable those involved in the implementation of the NVQF in India to benefit from the lessons to be learned from the experience of other countries. This does not mean that

this report recommends that India copies any of them and it certainly does not mean that there is a blueprint associated with identifying the most successful country –even if that was possible. It means that it is India's purposes in deciding to introduce a NVQF which must shape the decisions that are made about design and implementation and not vice versa; there is no ideal model of a NQF and what it can do that is waiting to be implemented. This may mean that you recognize that some of the goals associated with introducing a NVQF are unrealizable, however desirable, at least in the short term; this could be important. It is also why both parts of this report may seem over-critical about the possibilities of a NVQF; it points out the problems with and under-emphasises the benefits. This feature of this report will be highlighted if it is set against most official documents about NQFs produced by governments and international organisations. We urge you not to see this report in that way but as an attempt to distinguish unrealistic hopes from realistic possibilities. Changes in TVET of the kind you hope for and its improving the links between educational provision and labour markets are difficult difficult to achieve, and likely to involve incremental steps over a long period. Successful TVET systems as are found in a country like South Korea began in the 1950's in what in many ways were far easier times than today, more than half a century later when global competition has a quite different meaning.

We hope that you find the report useful and would be very pleased to hear from you if you have any questions on reading it.

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London and Johannesburg- June 2011

A BACKGROUND BRIEFING PAPER ON NQFS AND NVQFS

1. Introduction

Qualifications[1] have been a feature of education and training systems in virtually all countries at least since the 19th century. Most arose from the specific recruitment needs of employers as well as the efforts of professions and trades to control entry to particular occupations and maintain standards and their privileges. Indirectly qualifications acted as a form of quality control in the areas of work which they covered.

Until the middle of the 20th century, qualifications in most countries still covered only a relatively small section of the working population (largely the skilled crafts and trades and professions)[2]. They were developed at different levels for different occupations and there was little if any connection between them. Most were closely linked either to apprenticeships controlled by Guilds or to the colleges and other educational institutions providing the programmes that led to the qualifications. It was not until the 1970s and 1980s, when governments began to see education and training as an important instrument of economic reform, that the limitations of the old systems of qualifications became apparent and the idea of ***qualification frameworks*** covering all qualifications began to emerge. The key change that qualification frameworks introduced was to define qualifications in terms of their learning outcomes (or competences) independently any specific educational provision and therefore of how such outcomes were achieved.

One of the earliest outcomes or competence- based[3] framework for vocational qualifications was the English National Vocational Qualifications (NVQ) framework launched in 1987. This was followed by a fully comprehensive NQF launched in New Zealand in 1992 and a similar one in South Africa in 1995. These early frameworks drew their intellectual inspiration from the competence-based teacher training models that had been established in the USA. As recently as 2004, only five NQFs were in existence together with a larger number of competence-based vocational education and training frameworks; the latter were sometimes limited to one or more industry or occupational sector. Since then 120 countries are reported as developing some form of qualification framework- some as NVQFs and restricted to vocational qualifications(like NVQs) and some being comprehensive frameworks for all qualifications (NQFs). Despite limited evidence supporting the claims made concerning what NQFs can achieve, they have been taken up with enthusiasm by many governments (and international agencies). This is somewhat surprising when we note that neither the USA, nor the economically successful South East Asian countries (with the exception of Singapore and more recently, Hong Kong) have adopted an NQF or NVQF. Originally NQFs were a largely an Anglophone phenomenon. However the decision of the EU to launch a European Qualifications Framework(EQF), stimulated the 29 EU countries to develop their own NQFs. Furthermore, with the support of the European Training Foundation (ETF) and other international agencies, countries in the other continents have followed.

Before discussing the more technical issues concerning the design and implementation of NQFs, and the problems they have given rise to, it seems appropriate that this Briefing Paper begins by considering why, given the absence of evidence in support of the claims made for them, so many countries have seen an NQF as an appropriate strategy for reforming their education, and especially their vocational education and training(TVET), systems.

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[1] Until relatively recently, the term ***qualification*** was limited to the certification of knowledge and skills acquired for specific professions and skilled trades. Examinations taken at school and university were referred to as certificates, degrees and diplomas not qualifications. The term **qualification** is now understood as referring to ***any*** formal credential that recognises learning of prescribed knowledge and skills.

[2] The range of occupations for which a legal 'licence to practice' is required still varies widely between counties .

[3] The term competence is largely associated with NVQFs, whereas the term outcomes is used more broadly with reference to NQFs embracing all qualifications.

The first section of this Briefing Paper locates the move from the earlier ***institution-linked*** qualification *systems* to the new ***outcome-based*** qualification *frameworks* in the wider global policy context and comments on each of the policy issues that this context refers to. It does not claim to be an exhaustive list. On the other hand , it is important to see the introduction of NQFs and NVQFs in its wider political and economic context and not either as primarily a technical issue or as an internal issue facing each individual country separately.

2. The global policy context

This section considers five of the main aspects of the global policy context which it is suggested have shaped decisions to adopt an NQF or NVQF.

2.1 Qualifications as an instrument of educational policy - the appeal of outcomes-led approaches

In the last 20 years more and more governments have assumed that qualifications can be a powerful instrument for influencing both the public and private sectors of education and training. At the same time, it became clear that existing qualifications, which were developed to solve the problems of particular trades and professions, not whole countries, were totally unsuitable for such a role. This growing interest by governments in gaining more control over educational provision was paralleled by (a) the introduction into the public or state sector of business management techniques drawn from the private sector which emphasized outcome measures and (b) the development of industry-wide standards as measures of quality. The ideas of competence and outcome-based qualification frameworks appeared to fit neatly into the new culture of performance management. It was also hoped that freeing qualifications from their links with existing providers of education and training would stimulate the development of new qualifications in sectors where they had not previously existed and make them more relevant to the needs of employers.

Comment
Policies always have un-intended as well as intended consequences and outcomes based frameworks as instruments of policy are no exception. Two examples illustrate this point. Firstly, the more governments emphasise qualifications as an instrument for controlling quality, the more educational providers (and teachers and students) will treat qualifications as ends in themselves rather than just as means of ensuring quality. Inevitably, this can lead to the problems of credentialism and credential inflation as was demonstrated many years ago by Ron Dore in his much quoted book **Diploma Disease**[4]. Secondly, establishing a framework and funding the development of new qualifications that were not tied either to specific user needs or to programmes that led to them can, and in a number of cases, has led to the wasteful proliferation of qualifications that in practice are never used.

2.2 Economic development, mobility and flexibility of labour

Recent economic and policy analyses have emphasised developments directly related to the support for NQFs. Firstly, as post compulsory, vocational and higher education has expanded, it has become increasingly complex and in need of coordination. Secondly, boundaries of all kinds- especially those between occupations, between academic and vocational education and between further and higher education- are becoming blurred. In this context, the older qualification systems that were tied to institutions and limited to only some levels, appeared increasingly inappropriate. Indeed they could be seen as acting as barriers rather than supports to the progression of learners or to skill and knowledge development. A single Qualifications Framework appeared to offer the possibility of overcoming such barriers. Thirdly, with the increased spending on education, governments have looked for means of holding providers of education and training accountable for their activities. A qualification framework offers an instrument for achieving this greater accountability[5]. Fourthly, the mobility of labour across sectors, regions, countries, and continents continues to increase as a result of shifts in the location of manufacturing and services under the impact of globalization and the introduction of new technologies.

[4] Dore compared the education systems of Britain, Japan, Sri Lanka, and Kenya.

[5] The role of an outcomes-based qualification framework in overcoming what is sometimes referred to as 'provider capture' was a popular policy slogan in the UK in the 1990s. It presumes that a qualification framework will reduce the influence of individual institutions in the overall education and training system and will provide opportunities for users, (both employers and learners), to assert their needs.

Supporting this global market and the mobility of labour puts a primacy on qualifications being as flexible and transportable as possible; both are features that NQFs claim to offer.

Comment
The old qualification systems were undoubtedly inflexible, and transferring between qualifications for different sectors and occupations was not easy. In other words, the rigid boundaries between qualifications undoubtedly acted as barriers to all kinds of mobility. On the other hand, these boundaries also reflected the process of specialization and at least in part represented tried and tested methods of pacing, sequencing, selecting and acquiring knowledge. In other words, boundaries are not only barriers; they also play a role in supporting the acquisition of specialist knowledge and skills. Learning is not as undifferentiated as a single definition of qualifications covering all kinds of skill and knowledge tends to assume. A balance is always needed between two principles in the design of qualifications- linearity and portability. The principle of linearity emphasises the need for qualification routes to be conceptually coherent if learners are to progress to higher levels of skill and knowledge; this limits their portability. In contrast, the principle of portability focuses on the need to minimise barriers between different qualifications and to provide opportunities for learners to move between different qualifications as occupational labour markets become less insulated from each other. Over-emphasised, this flexibility can limit the coherence of learning pathways and the opportunities for progression and the acquisition of knowledge.

2.3 Expanding opportunities for access to higher education for those on TVET programmes

Technical and vocational qualifications in traditional systems were designed to lead directly to employment and rarely gave opportunities for those who qualified to progress to higher education. With the reduction of craft–based occupations and the growth of technical occupations requiring more theoretical knowledge, governments have become increasingly concerned to open routes from vocational and technical qualifications to higher education. Including qualifications achieved through vocational programmes as well as those obtained in universities and polytechnics within the same framework offers this possibility.

Comment
Overcoming barriers between vocational and higher level qualifications involves more than bringing them into a single qualifications framework. It involves changes in the TVET curriculum and the training of TVET teachers and enhancing their knowledge base.

2.4 Promoting social inclusion and social justice

In some countries, with South Africa as the most notable example, the old qualifications were steeped in racism. An NQF offered, or at least appeared to offer, a quite new way of distributing educational opportunities that appeared relatively free of inherited inequalities. Furthermore, under apartheid, Africans had been excluded from technical education; as a consequence many were skilled but formally un-qualified, and so under-paid. An outcomes-based qualifications framework which could be used to accredit workplace skills and knowledge without requiring workers to attend school or college offered a way of overcoming these injustices.

Comment
In the South African context, many of the new jobs required knowledge that could only be acquired at college. It followed that even if their workplace skills were accredited, Africans would continue to be disadvantaged. Thus it is possible that an emphasis on using a qualifications framework to accredit ***work based*** learning rather than creating new opportunities for ***institutional*** learning might actually sustain rather than overcome social and educational inequalities.

2.5 New ideas about learning

Since the early 1990s, many countries have adopted the goal of Lifelong Learning as a key policy priority. Central to this idea is the principle that learning that leads to qualifications can take place at any point in a persons life, not just during childhood or adolescence, and in any context not just by attending school, college or university. The old qualification systems focused largely on learning that was prior to employment and were tied to learning that took place in institutions and qualifications were only awarded to those who succeeded at a course of study; learning that took place outside formal education institutions was rarely recognized for qualifications. A second influential idea was a growing emphasis in educational policies on the learner rather than on institutions or programmes. Learner-centredness became an increasingly dominant theme in educational policy documents.

Outcomes-based qualification frameworks which define learning independently of where or how it takes place, not only claim to place 'the learner' at the centre of the system, but offer the possibility of accrediting all forms of learning, regardless of where or how it occurs.

Comment
The idea of gaining qualifications through accrediting informal or non-institutional learning raises a number of problems. First, it does not distinguish between institutional and non-institutional learning and how each provides access to different types of knowledge and skill. Furthermore, it does not take into account the wide variation in the extent and types of learning which different workplaces and communities provide. Treating different types of learning as equivalent, as an NQF does, may actually disadvantage those previously denied access to formal learning. Secondly, accrediting informal learning requires a complex assessment infrastructure and the availability of assessors with specialist training. Expanding access to institutional learning might in some cases prove a better investment priority.

2.6 Further comments on the policy context
I mention these issues at the beginning of this Briefing Paper for two reasons. Firstly, they offer some cautionary comments to highlight the patchy track record of NQF/NVQFs to date and emphasise that introducing an NQF is not likely to be without its unintended consequences. Secondly, introducing an NQF or NVQF involves a considerable committment of financial and human resources; inevitably this means that resources for other initiatives will be limited; choices have to be made. No cost benefit analysis of introducing an NQF has been undertaken; however, putting resources into introducing an NQF is likely to mean delaying other important priorities which may actually be a condition for an NQF achieving its goals. An example is improving the terms and conditions of technical teachers and trainers to address the alarming shortage in India.

Virtually all of the research literature on qualification frameworks, both national and international, suggests that they share a number of common characteristics. Firstly, despite being designed for countries which vary enormously in population and geographical size, which have completely different economies and histories, and with education systems at very different stages of development, proposals for NQFs are remarkably similar[6]. Secondly, NQF policy proposals invariably consist of general design statements followed by claims as to what an NQF or NVQF will achieve. In other words, they tell the reader what a qualification framework is and what it is assumed it will achieve when implemented. What they do not address is the specific problems of the existing system and how developing an NQF or NVQF might help to overcome them. Thirdly, NQF and NVQF proposals virtually never report on such critical studies as there have been, nor do they indicate the problems that countries introducing NQFs and NVQFs have faced[7].

This section has suggested that the major reasons for the popularity of NQFs as a policy instrument can be found in the broader global policy culture of which India is a part, and the expectations that governments have had about what a NQF or NVQF can achieve. The next section moves from the broader policy context to the more technical aspects of the design and implementation of an NQF or NVQF and the difficult issues that they raise which have invariably been neglected by countries introducing an NQF.

3. Design issues and priorities

3.1 The Structure of frameworks
Although NQFs/NVQs currently being introduced do not have identical structures, they have strong similarities which differentiate them clearly from previous qualification systems. These common features have been interpreted somewhat differently by each country and need to be understood as real choices that any country has to make.

3.1(i) *NQFs and NVQFs take the form of a dual-axis matrix which includes all qualifications*. The vertical axis defines the **level** of the qualification in terms of level descriptors (usually between 8-10) expressed in terms of learning outcomes. The horizontal axis defines the **occupational field** that the qualification is located in (usually between 12-16).

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[6] The most extreme example of assuming that there is a single model that I have come across is of an NQF (developed by Australian consultants) with 8 levels, and 12 occupational fields which was proposed for a small Pacific Island with a population consisting of 80% subsistence fishermen.
[7] Identical observations could be made about two closely related developments- the use of learning outcomes (especially in the design of level descriptors), and competence-based models for VET.

Comment
Inevitably a dual axis qualification framework is an over-static representation of a dynamic phenomenon (the labour market and its relations with the system of education and training) in which some parts are changing faster than others. This suggests that it is important not to over specify or be too rigid about interpreting fields and levels. The more the framework is seen by learners, teachers and trainers, and employers as guidelines rather as rules, the more likely it is that trust among stakeholders in the new framework is established and shared understandings are developed which are crucial if the goals of the framework are to be realised.

3.1(ii) *Most NQFs/NVQFs assume that all qualifications to be included in the framework can be expressed in terms of a single common definition of a qualification*[8].

Comment
A single definition can cause more problems for NQFs than for NVQFs because they span very different educational sectors and include a greater range of levels of learning. Depending on the relationship between the national agency responsible for accrediting qualifications and the organizations developing the qualifications, over-prescriptive definitions can create unnecessary conflicts and generate new forms of jargon. A number of the early frameworks(South Africa and New Zealand are examples) which began with a single idea that would apply to all qualifications have developed into three or more relatively separate frameworks.

3.1(iii) *Qualification levels in a framework are defined by a single set of level descriptors for all qualifications*.

Comment
Level descriptors are the most problematic feature of NQFs and NVQFs. They rely largely on the implicit assumptions about levels associated with existing qualifications and then try to make these assumptions explicit and generalisable across very different types of qualifications. Although a familiar (and assumed to be an essential) part of any framework, there is little evidence that those designing curricula or qualifications find them a useful tool. Level descriptors need to be extensively trialed in specific fields and across sectors where they might actually be used. A problem in a NVQF is that the different levels do not represent a one dimensional hierarchy which the vertical axis of the matrix assumes. Each level of a NVQF is represents more than one dimension which vary separately. Technical and vocational qualifications refer both to levels of technical expertise (knowledge and skills) AND to levels of ability to manage/coordinate the activities of others. Both are involved separately in workplace performance; however level descriptors have to combine them.

3.1(iv) *Most NVQFs are based on an agreed set of occupational fields and industry sectors*[9].

Comment
Grouping together occupations into 12-16 fields, or using industry sectors as the basis for clustering qualifications, inevitably involves some pragmatic choices and the acceptance of overlap between qualifications and occupations. Qualification Frameworks impose a greater degree of orderliness than is a feature of the real world of occupations. The best solution is the active involvement of users in the design process and the acceptance of flexible definitions of the boundaries between fields and sectors.

3.2 The basis of the framework

3.2(i) *NQFs and NVQFs can be based on either separate qualifications or elements or unit standards, part qualifications which can be grouped to make up whole qualifications*

Comment
Qualification frameworks have been developed in two ways. Some begin with skill standards or competencies and some with whole qualifications. A standards-based framework was the initial preference in both South Africa and New Zealand. The assumption was that such a framework would

[8] Some frameworks(for example the first phase of the Australian framework) have been based on several distinct types of qualifications for example, academic, general vocational and occupationally specific qualifications

[9] NQFs raise different problems of classification as they have to include different disciplinary knowledge bases as well as occupations.

be attractive to both learners and employers as it would maximize their choices by enabling them to choose the standards that suited them. It was also hoped that learners would find the small elements of learning representd by unit standards easier to complete than whole qualifications. In practice, neither employers or learners turned out to have this rather atomized view of learning and qualifications; as a result, most frameworks are in practice largely based on whole qualification.

3.2(ii) NQFs and NVQFs can be either outcomes-based or outcomes- referenced

Comment
The basic principle of an outcomes based framework was stated by Gilbert Jessup[10] in 1991 in the following terms. It is a "qualification-led or assessment-led system…as candidates do not have to undergo any particular programme of learning, the award of (a qualification) is based solely on the outcome of assessment"

There has been some debate in the research literature about whether a useful distinction can be made between an outcomes-based approach as represented by the UK's NVQs and an outcomes-referenced approach that is closer to Scotland's 'Higher Still' framework. The issues for those designing a qualifications framework are clear. The more an NVQF follows the Jessup principle and is outcome-based, the more it will be obliged to assess on the basis of observed workplace performances and thus run the risk of neglecting the knowledge a candidate might need access to but cannot be inferred from performance. On the other hand the more outcomes are treated as only one of a number of 'references' for qualifications(others might be curricula inputs), the more difficult comparability becomes and the less portable qualifications will be. It maybe that the looser 'reference' role of outcomes was popular in Scotland because the Scottish Credit and Qualifications framework is primarily an *educational* framework, designed by the educational community with workplace stakeholders playing only a relatively limited role. The question that remains is the role of learning outcomes and the extent to which they are used to shape curriculum and teaching and learning in different qualifications.

3.3 *The coverage of a qualifications framework*

A qualification framework can be **comprehensive** (covering qualifications in all educational sectors and workplaces) or **partial** (covering one part of the educational system such as vocational education and training or one industry sector such as construction or engineering.

Comment
This choice involves a decision about strategy not design. A partial framework can always be the first stage of implementing a more comprehensive framework. In a large country, it is possible that a national framework could be developed by building on a number of regional and sectoral frameworks.

3.4 The purposes of a qualifications framework

3.4(i) Communication, regulation or transformation
In analysing NQF/NVQFs from around the world, researchers have recognized that they can have a number of different goals. Some have been described as 'enabling' or 'communication' frameworks. They are designed to link different qualifications that have been developed separately and provide support for stakeholders wanting to collaborate in developing new progression routes- e,g from TVET to HE. 'Regulatory' frameworks aim to prescribe how qualifications are used and imply a stronger centralsing role for government or its agencies. Some regulatory frameworks set out to achieve 'transformative', system-wide or even political goals such as re-distributing educational opportunities. In each case, the goal of the framework is intimately connected to its structure. Enabling or communications frameworks, (examples, though they are different in other ways, are Scotland and France), tend to be voluntary and rely on persuasion and shared understandings. At the same time they assume a high level of existing provision. Regulatory frameworks, as in the case of the UK's NVQs and the Australian Training Packages make compliance with the rules of the framework a condition for government funding. Such evidence as we have suggests that frameworks with more modest goals are more successful in achieving them.

[10] The designer of the UK's NVQs and first Deputy Chief Executive of the National Council for Vocational Qualifications.

3.4(ii) Credit Accumulation (CA) or Credit accumulation and Transfer (CAT)[11]
An NQF/NVQF can be the basis for further formalizing qualifications by expressing them in terms of learning credits such as are used in CAT and CA systems. However many NQFs/NVQs do not have credit systems and the CAT capabilities of those that do, such as the Scottish Credit and Qualification Framework, are not widely used.

In addition to the level descriptors of an NQF or NVQF, a CA or CAT mechanism has a number of additional requirements:

- Qualifications are divided into ***units***, defined as the smallest measurable element of learning that make up a qualification on the framework;
- A Notional (Average) Learning Time (NLT), where 1 unit = 10 hours of NLT[12] must be agreed by all providers of qualifications. What distinguishes the idea of NLT from the traditional concept of 'contact hours' is that while the latter refers to 'time in front of a teacher'(and therefore is an input or teacher-centred measure), the former includes any agreed student learning activities, including contact hours(and hence is a learner- centred measure);
- ***credit***, defined as a measure of learning time, where 10 hours learning = 1 credit point; and
- ***credit rating-*** each qualification is given a credit rating or number of credit points.[13]

Comment
Credit rating all qualifications is a long and laborious business, and may not be necessary. For example, the Californian system of post school education which includes community colleges and universities has a high level of accumulation and transfer between institutions at the same and different levels but has no credit rating system. This is because the community colleges and universities were designed as a whole system and trust between students and teachers in different institutions has been established over time.

There is evidence that accumulating credit towards qualifications (Credit Accumulation) is very much easier to achieve than enabling students to move between qualifications and between institutions, workplaces and the community on the basis of credits (a CAT system). Furthermore accumulation on the basis of credit works much better within a sector (such as HE) than between sectors (e.g TVET and HE).

These challenges are further compounded by the different curriculum models used in different educational sectors. For example, a competency-based system may have been developed for vocational training, whereas a more traditional syllabus-based curriculum might be used for technical and general education. Furthermore, a fully effective CAT system is not just a question of credit rating courses. It involves a radical transformation in how most students and teachers perceive learning. For example a teacher has to be willing to encourage or at least support her/his students in moving to another institution or site for learning, even if it is against his (the teacher's) interests. Different institutional funding mechanisms (whether based on a block grant or student numbers) are also likely to be a major influence on whether a CAT system works in practice.

4. Processes and Implementation

Introducing a NVQF or NQF is not just, or even primarily, a design question. A NVQF or NQF implies a quite new approach to learning, curriculum and assessment and involves a ***process*** in which the attitudes to the most basic features of a teacher's work and a student's attitude to learning have to change and be shared among the stakeholders involved. This section discusses some key aspects of this process which are rarely mentioned in most accounts of implementating a NQF or NVQF.

4.1 Generating qualifications - supply and demand

Traditional vocational qualifications were developed in response to demand, jointly by professional bodies/guilds/trade unions, schools and colleges, and employers, and in some countries, Awarding(or certification) Bodies. NQFs and NVQFs have involved the adoption of a much more directive approach to developing qualifications, usually led by or supported by governments in which attempt to

[11] It is important to distinguish a CA system in which students are able to accumulate credit towards a final qualification and a CAT system in which students are also able to transfer 'credit' between courses, institutions and(potentially) workplaces and accumulate them towards a final qualification.

[12] Known, also for example, as 'nominal duration' in Australia.

[13] For example in the Victorian Credit Matrix (in Australia) a Certificate Level 4 in IT requires a student to obtain 134 total credit points made up of 86 core credit points (40 at level 4; 16 at level 3 and 30 at level 2. The learner. Is free to choose her/his remaining 48 credit points

form partnerships with worker and employer organisations. This approach has the advantage that government agencies can identify and fill obvious gaps in sectors where no qualifications had previously existed or only existed at some levels. However it is a case of supply aiming to generate demand.

In most countries developing an NVQF or NQF, qualifications or standard setting bodies (such as sector skills councils in the UK) are established with the brief (in collaboration with Awarding(certification and assessment) Bodies) to fill the framework with qualifications. The qualifications are then marketed either by government agencies, employer bodies(such as the Chambers in Germany) or Awarding Bodies . One consequence of this approach can be that the supply of qualifications can dominate demand and large numbers of qualifications are registered on the framework that are never used.

4.2 Stakeholders

One of the aims of NQFs and NVQFs has been to reduce the role of education providers and broaden the range of stakeholder involvement, especially employers and trade unions, and professional bodies; in this way it is hoped that more economically relevant qualifications are developed and take up is increased. In practice this goal has proved far from easy to achieve. In many countries employers and trade unions have relatively narrow sets of interests concerned with profits and wages and are only marginally concerned with questions of qualification design and development. One consequence is that much of the design work on new qualifications is undertaken by consultants, and the key stakeholders who might actually use the qualifications, are little involved. A high level of stakeholder involvement is a feature of the highly respected German 'dual system' of vocational education. However the specific conditions underpinning the German system have proved extremely difficult to replicate and are even threatened by globalization pressures in Germany. A finding of one of the case studies for the ILO research was that the strongest and best supported vocational qualifications were developed when professional associations and senior managers were actively involved in design and implementation.

4.3 Trust and professional development

However they are designed, qualifications are always only 'proxies' for what someone knows and can do; hence the crucial role of trust and the link between trust and purposes. The main limitation of the old systems of qualifications was that in many countries, they only addressed the needs of a small section of the workforce. Their great advantage was the trust in the qualifications that was built up over time between employers, trade unions, students, assessors and educational providers in those sectors. However, in the context of global economic competition, governments have wanted to develop a fully qualified workforce even in those sectors previously without qualifications. Also changes in the structure and demands of labour markets has meant that the typical bases of trust, the stability of occupational communities, were disappearing.

The new outcomes-based qualification frameworks are attempts to replace the informal and tacit trust associated with the old qualifications with levels, rules and the specification of outcomes as well as being a basis for qualifications in all sectors. However, the experience has been that although qualification rules and level descriptors can support trust, they are no substitute for it. Furthermore, sectors which have not previously had qualifications have been sectors in which the work has involved little skill or knowledge and so relied little on trust. Unless the nature of work in such sectors changes to develop new skills and knowledge for new forms of production and service, qualifications may be created but they will not be used.

The most promising approaches to establishing rust in new qualifications are likely to involve:

- new forms of association that are less tied to localities and specific occupations and involve communities, professional associations, unions and employers and,
- extending professional development beyond teachers and lecturers to include trade unionists and employers.
- new approaches to the nature of work in previously low skill sectors

The UK initiative to create industry-based 'skill academies' as sector specific networks for different providers and industry professionals is one example of such an initiative.

5. Concluding points

Governments have seen a NQF or NVQF as a policy instrument or tool to achieve goals such as greater transparency, portability of qualifications and as ways of improving the quality of provision. However the lessons from those countries where NQFs have been most widely supported by stakeholders are that there are a number of aspects of NQFs which need to be taken into account which are easily neglected. Firstly, NQFs and NVQFs are systemic reforms and imply a radical re-thinking by all stakeholders of the role of qualifications and of education and training more generally. As systemic reforms NQFs are unlike other educational policies in that they will inevitably involve a number of government departments as well as a range of policies which may have been developed quite separately; examples are those concerned with classification of occupations and industrial sectors, skill development, quality assurance, technical teacher training and curriculum development. On the other hand, although NQFs are associated with broad goals of systemic reform, they are only one element in achieving such goals. The goals of an NQF are unlikely to be achieved without an equally strong focus on staff and curriculum development, improving institutional capacity, and reviewing of how education and training are funded. The implications of this argument are that as wide a consultation as possible should take place **in parallel with** thinking about the design issues of an NQF rather than after decisions on design have been made.

Secondly, countries that have hoped that introducing a NQF would achieve a radical 'one-off' break with their existing qualification system have faced the most difficulties in implementation. A radical break gives neither practitioners nor other stakeholders any bench marks to test out new ideas such as level descriptors against their experience. Incremental approaches, that involve 'building blocks' such as partial frameworks, although less appealing to politicians, can establish examples of 'good practice'; also identifying specific examples can reduce the the possibility of two possible negative developments. One is that NQFs remain a rarefied topic that most people who should be involved avoid, not unlike quality assurance. The other is that polarized positions for and against NQFs are established rather than genuine debate.

Thirdly, an over-emphasis on design issues such as level descriptors can neglect the extent to which any qualification framework depends on the confidence and trust of stakeholders. The European Qualification Framework, which faces issues that are likely to be similar to those faced by a very large Federal country such as India, gives considerable importance to developing what are referred to as 'Zones of Mutual Trust'. However, concrete examples of these new 'zones' are rarely given and the time, experience, consultation and compromises that are needed need to be recognised if they are to become more than isolated cases.

Finally, early examples of NQFs such as those found in the UK, New Zealand and South Africa took little account of changes in practice and attitudes that would be involved. As a consequence, not only have they been the subject of much resistance and opposition, but this resistance has been followed by successive modifications and reviews which have inevitably held up implementation.

There is an opportunity for a country like India to learn from these experiences rather than repeat them, even if this may imply a longer timescale for reform.

OPTIONS FOR DESIGNING AND IMPLEMENTING AN NVQF FOR INDIA

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ACKNOWLEDGEMENTS

We would like to thank the officials of the Ministry of Labor and Employment (MOLE), Ministry of Human Resource Development (MHRD) and National Skills Development Corporation for their valuable comments and advice. In addition, we would also like to thank the participants of the Workshop on National Vocational Qualification Framework (NVQF), February 07, 2011, who provided useful inputs for the paper.

This paper was prepared with input from Alan Abrahart and Nalin Jena of the World Bank and Paul Comyn of the International Labour Organization (ILO).

We would also like to thank the Department of Economic Affairs (DEA), the India Country Management Unit of the World Bank and DFID for approving the proposal under which this technical assistance is being provided to the Government of India and other stakeholders.

We also express our gratitude to Amit Dar, Education Sector Manager, South Asia, World Bank for his constant support for this exercise. Last but not the least, huge thanks are due to Nina Badgaiyan, World Bank Consultant, Renu Gupta, Program Assistant, World Bank, and Anjana Chelani, Senior Program Officer of ILO who have provided sundry technical and administrative support.

The findings, interpretation and conclusions expressed in this paper are those of the authors and do not represent the views of the World Bank or the International Labour Organization

PREFACE

Skill development and reforming education and training systems are among the policy priorities of most countries around the world today. Two particular concerns are how to address the mismatch between skills imparted by education and training systems and the changing labor market, and how to create a learning system that is more transparent and coherent and allows vertical and horizontal mobility on the learning ladder.

Increasingly, qualifications frameworks have been seen as a useful policy tool by many countries to achieve these and other goals. The last five years have seen a dramatic increase in the number of countries adopting National Qualification Frameworks (NQFs). Recently, recognizing the high demand for skills in India, the Central Advisory Board of Education (CABE) emphasized the need for a National Vocational Qualification Framework (NVQF) for India to provide a common reference framework for linking various vocational qualifications and setting common principles and guidelines for a nationally recognized qualification system and standards. The National Skills Development Policy of the Government of India also mandates development of a NVQF.

The World Bank financed the Vocational Training Improvement Project (VTIP). Started in December 2007, and implemented by the Ministry of Labor and Employment, this project has an important project component focusing on "Promotion of Reforms". Under this component four areas of policy reforms were identified and one of them is developing a NVQF. The World Bank organized a brainstorming session on NVQF in March 2008 with some key stakeholders including MOLE, MHRD, Industry Associations, International Skills Partners, and researchers. A second brainstorming event was organized where representatives of the Scottish Qualification Authority presented the Scottish Qualification Framework.

Under the current technical support initiative, the World Bank and ILO are jointly working to support the GOI efforts by bringing in lessons from international experience of implementation of NQF/NVQF and based on these lessons suggesting design and implementation options that are relevant to the Indian context. Another objective of this effort has been to sensitize key stakeholders on various aspects and implications of this important policy change. A National Workshop on NVQF was organized on February 07, 2011 where there were about sixty participants representing MOLE, MHRD, Planning Commission, Industries and Industry Associations, National Skills Development Corporation, national level institutions such as Indira Gandhi National Open University, National University of Educational Planning and Administration, National Council of Educational Research and Training, National Institute of Open Schooling, newly constituted Sector Skills Councils, training providers and international donor organizations. Drawing on the discussions and inputs provided by the participants in the February workshop, the first version of this paper, "Options for Designing and Implementing an NVQF for India," was prepared.It has been revised in light of the discussions during the second workshop and suggestions from Nalin Jena(World Bank) and Paul Comyn(ILO).

1. INTRODUCTION: STRATEGIC ISSUES

> "Wherever in the world we live, Indians are famous for being swots, nerds, dweebs, boffins and dorks"
> Angela Saini GEEK NATION: How Indian science is taking over the world (2011)

If Angela Saini, an Indian journalist trained as an engineer is right, India must support and build on this potential. This will mean a very different NVQF from those so far introduced. Helping India to achieve such an NVQF is the aim of this Options Paper.

The idea of introducing an NVQF in India is widely supported among stakeholders and the relevant Ministries of both the federal and state governments[14]. Most significantly, it is supported by the Prime Minister's National Council on Skills Development. The aim of this report is to provide the basis for deciding on a strategy for the implementation and design of an NVQF. The report focuses on the specific issues facing India but takes into account the experiences of other countries which have introduced or are in the process of introducing a NVQF (or NQF). In particular, the report draws on the findings of the 16-country study of NQF implementation undertaken by the ILO during 2009/2010.

NQFs and NVQFs have been initiated in many countries in the world—over 100 at the last count. The early frameworks emerged in industrialized Anglophone countries (and South Africa), which were followed by Anglophone developing countries, often focusing on vocational education. Recently, under the influence of the European Qualifications Framework, EU countries and a growing number of countries in the European region are adopting comprehensive NQFs which include vocational qualifications. This means that countries with very little in common—and in many cases exhibiting dramatic differences in terms industrialization, provision of education, living standards, population sizes, and so on—are all adopting a similar policy mechanism. The one message all case studies conducted for the ILO research had in common was that ambitious expectations about what qualifications frameworks can achieve in relatively limited time periods seem to be ill-founded. Most NVQFs[15], especially those being introduced in developing countries which have some similarities with India, are at an early stage of development. It was not surprising therefore, that the ILO study found little evidence of the impact of NQFs on key goals such as improving the national level of skills and knowledge. However, the ILO study did find evidence on a number of important issues concerning design and implementation that any country seeking to introduce a NVQF is likely to face. In suggesting the options open to the Indian government, this report is primarily a consideration of these issues.

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[14] It is assumed in this report that an NVQF and not an NQF is being proposed for India. The NVQF will include all TVET programs and qualifications, but not the programs or qualifications in general education offered by schools or universities. Within the NVQF therefore, TVET includes all non-degree programs that provide technical and vocational education and training, pre-employment and livelihood skills training, apprenticeships, education and training for non-professional workers, including workplace training, and employment oriented and job-related short courses preparing students for both domestic and international markets.

[15] The term NVQF is used throughout the paper to reflect the framework that the Indian government proposes.

This Options Paper is designed with the aim of maximizing the chances of the NVQF in India being a success. By success we mean that it achieves the realizable goal of improving progression opportunities in and from TVET. It is for this reason that 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. On superficial reading the issues we raise in Section 1 may appear obvious. However, this is far from being so. The issues raised in Section 1 are difficult and challenge many pre-conceptions about NQFs; they need detailed and serious discussion among as wide a section of those involved as possible.

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 were then masked by the absence of any rigorous evaluation. The few examples (as in South Africa) of evaluation treated the process as little more than a consumer survey – were people in favour of a NQF? This revealed nothing about what the NQF was achieving.

Introducing a NVQF involves a considerable amount of work, time and investment. On the other hand, it is only a small part of any reform program designed to achieve real improvements to progression in and from TVET. It is for this reason that Section 1.1 concentrates on what NQFs and NVQFs **can** and **cannot do**. The truth about what it is **assumed that a NVQF can do** but **in reality cannot** do is an absolutely vital starting point for establishing an NVQF that really will support progression. These statements are not just opinions of the authors but are the result of many years of experience and research in a variety of countries that is not challenged by evidence to the contrary. This does not mean there aren not different views in the literature; there are. The recommendations presented here reflect both the research findings , particularly of the ILO Report, and the well-considered opinions of the authors who have been involved in research and policy analysis on qualifications for over 10 years.

2. INITIAL CONSIDERATIONS

An NVQF is not an end in itself

An NVQF is not an essential feature of a quality education and training system. Some successful systems (as in a number of South East Asian countries) do not have an NVQF. However, an NVQF can be *part* of a solution to problems that arise in all TVET systems. An Indian NVQF, however, must be designed, in conjunction with other complementary policies and strategies, to respond to the specific problems that TVET in India faces.

An NVQF should not be a 'solution' looking for a 'problem'

It follows that the starting question for policy makers should not be:

- How do we implement an NVQF?

BUT <u>RATHER</u>

- 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?
- What strategies and policies in addition to an NVQF will be necessary if these problems are to be overcome?

LESSONS FROM THE INTERNATIONAL RESEARCH

An NVQF will not itself increase provision

A NVQF frames provision of TVET; it does not itself create new provision. If the poor progression within and from TVET is largely caused by the absence of appropriate programs at different levels, then new programmes must be developed which treat progression as their major objective (for example, bridging programmes involving both TVET providers and HE). Therefore, when thinking about the role a NVQF might play in addressing the lack of progression within and from TVET, it is important to be very specific about the causes of this problem.

- Is it that some TVET programmes do not prepare students adequately for accessing existing higher-level provision, and that therefore there may be un-filled spaces in, for example, Polytechnics and Colleges of Engineering?
- Is the lack of progression a product of programmes at lower levels with weak curricula?
- Is it that there are no courses for students graduating from TVET programmes to progress to?
- Is it that different programmes offered by the different ministries have been developed quite separately from each other, and therefore progression between them is restricted?
- Is it that graduates of certain programs are denied entry to higher level programs because of unnecessarily restrictive entry requirements?

Progression may be inhibited by some or all of these factors. All except the last are problems of ***provision***; they are not primarily problems of qualifications or accreditation.

It follows that in addressing the problem of progression, substantial improvements in TVET provision in addition to an NVQF will be necessary, if progression is to become a reality for growing numbers of students.

An NVQF will not improve progression on its own

A NVQF can represent one component of an integrated approach to improving the scope and quality of TVET. Other components of such an integrated approach will include:

- developing more coherent relationships between public and private providers (see the Malaysia case study in the ILO Report), and between government departments (see the Australia case study);
- increasing the involvement of industry (employers and trade unions) and Professional Associations in the planning, development and delivery of programs and the design of qualifications (see the UK case study on NVQs);
- enhancing institutional capacity, improving the quality of curricula and assessment of TVET programmes provided by schools, by ITIs and ITCs;
- improving the quality of the initial and further professional development of teachers and trainers in the TVET sector;
- strengthening curriculum and learning resource development capacity at local, state and national levels;
- building partnerships between educational providers, employers and trade unions, and professional associations within each occupational sector and in each state;
- reviewing the links between TVET and employment policy and practices (eg: industry occupational profiles and their links to qualification structures, apprenticeship arrangements, regional employment policies, and approaches to developing new industries and services).

The international experience shows that NQFs and NVQFs ***on their own*** do not easily change provision, or even relationships between qualifications. In other words, if a problem for policy makers is that certain programmes are dead-ends for students, this problem is unlikely to be solved solely by changing the specifications or requirements of qualifications; improving progression possibilities for students requires detailed and hard work on the curriculum and pedagogy of educational programmes.

An NVQF will not on its own overcome education/labour market 'mismatch'

Most countries have introduced NQFs and NVQFs in an attempt, amongst other things, to improve communication between education and training systems and labour markets. The ILO research found mixed evidence of this being achieved. In Scotland, there are some indications that a qualifications framework can play some role in improving information flow—for example, the framework is used by a national career guidance service. Another example is England where the government required public sector employers to guarantee their employees access to NVQs. However whether this actually improved progression depended on other factors such as the approach to HRD on the part of the employers. In Sri Lanka, public sector recruitment practices were changed to ensure reference to NVQF qualifications in job advertisements. However we do not have evidence as to what this has achieved. Most of the case studies were unable to find empirical evidence demonstrating that employers found qualifications easier to use than they had been prior to the introduction of an NQF; nor was data found to demonstrate

that qualifications frameworks have improved the match of supply and demand between education and training institutions and the labour market; although as stated earlier, most NVQFs studied were at an early stage of development, and not surprisingly, data on impact was lacking. Representatives of qualifications authorities, government agencies, and industry bodies who were interviewed, did not have concrete evidence, evaluations, or research reports to show that there had been achievements in this regard, and publically available information from these organizations also did not contain such evidence. While policy makers strongly believe that involving industry in the development of qualifications (including the specification of learning outcomes and competence statements) is important, the case studies found only limited evidence that, up to now, this had, in practice, led to improved involvement by industry, or in turn that NQFs or NVQFs have improved communication in the hoped for ways.

There is no one model for the design or implementation of an NVQF

India could, as many countries have done, consider models from other countries. For example, it could develop an outcomes or competence-based NVQF on the lines developed in a number of Asian countries such as Sri Lanka and Bangladesh, or the Singapore approach, where they have developed their own version of the Australian 'Training Packages'. In Bangladesh the inclusion of pre-vocational pathways at levels 1 and 2 was seen as an important mechanism for establishing pathways for people with low levels of formal education into higher-level formal programs. This is a common assumption of many such programs (the UK's NVQs are a much copied example). However, agreement on the goals of a policy is quite different from there being evidence that such programmes actually do provide a basis for progression to higher levels. For example, in the case of Bangladesh, whilst there are expectations that registered training providers will register to provide assessment services, as the system is yet to be implemented it is difficult to ascertain the likelihood of success.

As a tiny rich city-state, Singapore is a special case and therefore offers little as a model for India, except the high level of commitment to TVET on the part of the government. Furthermore, Singapore is currently re-evaluating their competency-based training system as they seek to upgrade the knowledge of their workforce in response to competition in South Korea, China, and Japan.

The major alternative approach to competence-based models is to attempt to develop a version of the German 'occupational' approach to TVET; this is what Malaysia has tried to do (see ILO Case study). The ILO Report provides a good account of the Malaysian case, and there could be much benefit from a more detailed investigation of it by researchers from India. However, there are two problems facing any country trying to build on the German and Malaysian experience. First the German model has a history of at least 150 years, and is based on close relationships between education providers and the state, employers, and trade unions that would be extremely difficult to replicate in India, at least in a short time, as well as on a regulated labour market, strong formal sector, and strong provision of general education. Secondly, Malaysia itself has limitations as a model for India; it is a far more centralized, even autocratic, and less democratic society than India and does not have a similar federal structure.

Further, the international evidence suggests that 'policy borrowing' rarely works and that 'policy learning' which begins from where a country is at and asks what lessons it can learn from the experience of other countries, is a more fruitful approach. For example,

the UK and South African experience suggests that initial development of an NVQF with a set of levels based on outcomes can lead to a proliferation of qualifications which 'fill' the framework but are rarely used. The lesson seems to be that a qualification framework should follow, and to some extent, shape provision, but not attempt to 'lead' it.

Our conclusion is that there is no standard model NVQF that can be 'taken off the shelf' and introduced in the Indian context; nor is there a standard implementation strategy. Despite their superficial similarities, the NVQFs developed so far vary widely in purpose and structure. Implementation strategies have also varied widely. This means that neither design nor implementation are straightforward 'technical' tasks but will involve a range of decisions that have often been treated as 'given' in other countries. It also follows that the design and implementation of an Indian NVQF needs to involve a process of detailed and extensive consultation and dialogue between **all** those who will have a stake in its development, at every level – national, state, and local. Such an approach is also crucial to ensure that the NVQF is really understood and used by the relevant stakeholders. How the NVQF is ***developed*** and ***implemented*** may be even more important than how it is designed and what it ultimately ***looks like.***

Decisions on how the NVQF will be implemented will thus be as important as decisions about its form and structure if it is to result in improved progression.

3. THE PURPOSE OF INTRODUCING AN NVQF IN INDIA

All the documentary sources we have consulted and all the advice we have received from stakeholders suggest there are a number of problems that it is hoped introducing a NVQF in India will help overcome. These include:

- improving the pathways between formal TVET programmes in schools and ITI's (Industrial Training Institutes), ITC's (Industrial Training Centres) and MES (Modular Employability Skills) programmes and improving the progression opportunities that they offer to employment or to Polytechnics, Colleges of Engineering, and higher education more generally;
- improving the quality, status and availability of TVET programs;
- establishing pathways and progression ***from*** informal short courses that are provided by various government agencies (often in the 'unorganized' sector), NGOs and industry, ***to*** formal TVET programmes; and
- narrowing the 'gaps' between what TVET graduates know and can do and the skills and knowledge that employers say they need.

The limited progression possibilities together with a demand for TVET that far exceeds supply are undoubtedly major barriers to skill development in India. These are primarily issues of ***provision*** not ***qualifications***. However, a vocational qualifications framework (NVQF) can play a role in improving pathways between existing or newly introduced forms of provision and in more clearly articulating the relationship between qualifications and occupations. However such improvements will depend primarily on the raising the capacities of educational institutions and ensuring greater industry involvement in program development and delivery.

It follows therefore that the introduction of an NVQF in India should not be seen in isolation but as ***part of a broad strategy of reform*** that is designed to improve progression within and from TVET programmes. It is achieving this objective which should be the primary criterion for making decisions about the implementation and design of an NVQF.

Because it is such a key concern, the issue of progression is considered in more depth in the following section.

TVET IN INDIA AND THE ISSUE OF PROGRESSION

TVET and skills training in India has a complex history which reflects the long term neglect, by successive Indian (and earlier British) governments, of educational provision for the most disadvantaged sections of society. As in the UK, the very fact that TVET and skills training have been associated with creating opportunities for disadvantaged groups has contributed to their low status and lack of recognition. Recent TVET developments in India have been initiated by different Ministries and have often had very little relationship to each other. This fragmentation of provision has inevitably limited progression between programmes.

It is arguable that before the change in India's rate of economic growth and the new demands for higher-level skills that followed the 'liberalization' of the economy after 1991, this lack of progression within and from TVET was of relatively little significance. Now, when improved levels of skill and knowledge are seen in India, and by increasing numbers of governments across the world, as integral to economic growth, and when India has to compete with emerging high skill economies such as Japan and South Korea but is less competitive with low skill/low wage economies in the South East Asian region, the weak skill and knowledge base of the workforce in India is recognized as a serious problem. Furthermore, multinational corporations are less and less tied to their countries of origin; they are increasingly able to choose to locate their production where they have identified a population with the appropriate skill and knowledge base. In this emerging global context a more coordinated TVET system will be essential if Indian government targets for more students progressing to advanced and higher-level programmes are to be met. The diversity of TVET is in part an organic consequence of India's federal structure and the inherent cultural diversity of the country. However, two aspects of this diversity have disadvantages from the perspective of this report; one is ***organizational*** and one is concerned with ***qualifications***.

Organizational challenges facing TVET provision

The responsibilities for TVET provision are currently divided between:

- the two Main Ministries: MOHRD (Human Relations Development), responsible for vocational programmes in secondary schools, Polytechnics, and Colleges of Engineering; and MOLE (Labour and Employment), responsible for ITIs (public Industrial Training Institutes), ITCs (private ITIs) and the system of Modular Employability Skills;
- many of the 16 other federal Ministries which have responsibility for technical training in their specialist fields and deliver or fund some forms of formal and/or informal TVET through specific programs;
- the 38 state and territory governments that fund and deliver both formal and informal national and/or state developed TVET programmes; and

- the National Skills Development Corporation (NSDC), with responsibility for Sector Skills Councils which are likely to be the bodies with major responsibilities for the development and or endorsement of TVET qualifications and curricula in the future.

This pattern of governance of TVET is both complex and highly diversified. Hence the significance of the finding from the ILO case study that one of the most frequently cited reasons given by those interviewed for the limited success of NVQFs in achieving their goals was the absence of agreement and communication between government Departments with overlapping responsibilities. This suggests that the Prime Minister's National Council on Skills Development and the National Skills Development Coordination Board need to consider the issue of the governance of TVET provision in India as part of the reforms needed to address the issue of progression.

It is important to remember that an NVQF is never just *'another policy'.* It is part of a new approach to the whole TVET system, its relationship to the different employment sectors and the role of different stakeholders in the system. If this is not recognised, a NVQF runs the risk of becoming something that complicates the system further, as in South Africa and Mexico, instead of reducing complexity. One of the first decisions to be taken, then, is whether an NVQF will be seen as the main vehicle for coordinating TVET provision, or whether this coordination is seen as a wider issue of inter-government relationships of which the NVQF is only a part.

Key Decision 1:

Should India consider the NVQF as the primary means by which coordination of TVET and skills development will be improved or, will improved coordination be achieved by separately building and strengthening systems of coordination and working relationships amongst government bodies as well as between government and stakeholders?

Recommendation 1:

Overall coordination of the entire TVET and skills development system is crucial.However, coordination cannot be the sole responsibility of a Qualifications Authority. It is likely to involve strengthening existing coordination structures, such as Inter-Ministerial Committees, and the Skills Development Council.

Organisational challenges facing TVET provision

Well articulated pathways for students between TVET programs in secondary schools, ITIs, ITCs, and MES and between these programs and higher level courses offered in Polytechnics, Colleges of Engineering and other higher education institutions are a crucial condition for improving progression opportunities for students. However, increasing the numbers of students passing through well-articulated pathways depends on more than a framework and the mapping of possible routes. It depends on an appropriately designed curriculum; well qualified teachers and assessors of specialist vocational subjects; and careers advisory staff to encourage, guide, and support student aspirations, if the numbers actually achieving their destination are to be maximised. At

present many TVET programmes operate as *dead ends* leading nowhere. It is this problem that a NVQF offers the possibility of addressing, but only **as part of a broader strategy.**

The question of course prerequisites for higher level courses and whether they are appropriate or over-restrictive is an issue which needs specific attention, both in terms of how the framework is designed and the necessary professional development of teachers; it is likely to be of more concern in some sectors than others. An overall review of existing entry requirements could be part of the initial mapping exercise that we recommend.

We recognise that all countries have diversity in their education and training systems as a consequence of their historical development. It is inevitable therefore that a country the size of India will have a highly complex and not always co-ordinated array of provision. Furthermore, countries which have tried to ensure that all provision fits into a centrally designed system, like South Africa, have found that they run the risk of stifling the responsiveness of many community and NGO-based providers, and may even, in some cases, have reduced the amount of provision available to learners. By looking to develop a more centralised system, government and regulators in India will need to ensure they don't stifle the responsiveness of providers, as was the case in South Africa.

Finally, most countries find relationships between Ministries of Labour and of Education challenging. However, in many countries, technical and vocational education relate to both ministries. Even though vocational education is primarily under the Minister of Labour and Employment in India, clearly an NVQF will require support and cooperation of the Ministry of Human Resources, if it is to succeed. Establishing agreement with this Ministry is seen as particularly important.

Some other key aspects of the progression/pathway issue are now explored further.

For those students in India who move from secondary education to university and who aim to enter a profession, pathways and entry criteria are well known, have a long history and substantial institutional support. In recent decades however, the numbers of vocational and technical qualifications and the institutions providing them have expanded fast, but with no clear progression pathways, with relatively little support and a lack of clear and appropriate entrance requirements. These problems are exacerbated in a number ways. For example:

- lower level courses, especially those that are solely based on outcomes, rarely provide students with access to the ***knowledge*** that they need either to gain entry to higher level programmes or to cope successfully with such courses if they are admitted;
- qualifications at the full range of levels are only available for some occupations and sectors;
- there are no clearly agreed admissions criteria for students wishing to progress from an MES program to an ITI, ITC, or from a school vocational programme to a polytechnic.

These factors have influenced the poor progression possibilities for students in a range of pathways and were frequently referred to in our discussions with stakeholders and Government Departments. The following are examples of pathways where there are significant barriers to progression:

- MES to ITI and ITC;

- non-formal short courses to ITI and ITC;
- ITC to ITI;
- ITI and ITC to Polytechnic;
- non-accredited industry programs to ITI, Polytechnics and Engineering Colleges;
- TVET in schools to ITI and ITC;
- TVET in schools to Polytechnic;
- Polytechnic to Engineering College; and
- ITI and ITC to Engineering College.

A clear vertical framework including all TVET qualifications offers at least part of a solution for improving progression opportunities - hence, no doubt, the enthusiasm for NVQFs globally. What is undoubtedly true is that ***without*** a single framework which clearly demonstrates relationships between different qualifications at different levels, progression opportunities will remain unevenly distributed across different education and occupational sectors and levels. At the same time, it is important to recognize that a vertical framework is not a ladder which anyone can climb once the rungs are in place. Locating all qualifications on a single framework is ***only one part of a solution to improving progression.***

The following sections of this Report explore the range of issues that framework designers in India will need to consider and the key decisions that they will have to take. In most countries, these issues, crucial to the aims of NVQFs, have not been considered by policy makers prior to the design and implementation of an NQF/NVQF.

4. OPTIONS FOR THE DESIGN AND IMPLEMENTATION OF A NVQF

The experience, especially of New Zealand, South Africa and the UK, is that introducing an outcomes-based NVQF involves **substantial changes** on the part of all stakeholders, the implications of which have rarely been thought through. If such a change is undertaken quickly and with limited consultation with key stakeholders, it is likely to lead to opposition, resistance, and confusion – or as in some countries, to little more than ritual compliance. Those countries which adopted what might be called a 'big bang' approach were forced to carry out expensive reviews with the consequent waste of resources. Other countries, such as Botswana and Mauritius, which have introduced an outcomes-based NVQF (either on its own, in the case of Botswana, or as part of a broader NQF, in the case of Mauritius) have found that the new qualifications in the framework have been largely ignored. Provision has continued to be based on old vocational qualifications either as a result of inadequate discussions with stakeholders (as in the case of UKs NVQs), or because other necessary and supporting reforms had been neglected, or because educational institutions did not understand or believe in the new qualifications, or, importantly, because employers have, in many instances, had more trust in existing qualifications.

It is vital therefore that implementation is seen ***as an iterative learning process*** that takes place over time, builds in feedback from the beginning and is complemented by supporting strategies that build the capacity of TVET institutions and their workforce. While the decisions listed below are primarily government responsibilities, it will be useful to involve other stakeholders from the earliest stages, both to ensure their active

support, and to guarantee that a framework is developed that is well understood and meets their needs.

Key Decision 2:

How should the design and implementation begin? Two possibilities are: (i) mapping existing qualifications, or (ii) developing an initial design to indicate future desired qualifications and desired relationships between qualifications?

Recommendation 2:

*Our recommendation is to start by mapping the **most offered** existing types of qualifications as part of a single system.*

The process of attempting to map out all existing types of qualifications, qualifications, pre-requisites, pathways and provision will be a useful one for government and other stakeholders. Starting from existing provision, it will be possible to gain a clear sense of where problems, gaps, and obstacles are. Frameworks which start from future visions tend not to realize those intricacies, amongst other reasons because they underestimate the difficulties in actually achieving the future vision. On the other hand, it is necessary to have a vision of the future that is not about qualifications *per se* but in terms of the purposes of the Indian TVET system as a whole and what it is trying to achieve.

This, then, leads to the next strategic issue: from the map of existing qualifications, should the government treat the map as a loose provisional framework or a pre-design a framework prior to implementation?

A PROVISIONAL OR PRE-DESIGNED FRAMEWORK?

The next implementation issue that needs to be considered is whether the design of the NVQF is undertaken separately from, and prior to implementation. We refer to this as a 'pre-designed framework' which involves initial agreements on levels, fields, definitions of types of qualifications etc. The alternative is a loose 'provisional framework' in which levels and types of qualifications etc are merely suggestions which are then explored in relation to different occupations and sectors. Such a 'provisional framework' could start from the map of existing qualifications described above, and then be modified so that a more stable framework that has maximum active support from stakeholders gradually develops over time. The sort of changes associated with an NVQF involve much re-thinking of attitudes and practices among everyone involved and so should not be rushed if they are to have productive consequences and have a real impact on learner progression.

Key Decision 3:

Will India commence with a provisional or pre-designed framework?

Recommendation 3:

Our recommendation is to begin with a provisional framework.

This approach enables the design stage to begin quickly and take place concurrently with the various other policy changes being introduced, as well as ensuring that all stakeholders are actively involved. If government chooses to design a framework up-front, and then proceed with implementation, we would stress the need for flexibility, and openness to change and revision.

A PARTIAL OR COMPREHENSIVE FRAMEWORK?

The second key implementation decision is whether the design begins with a *comprehensive* framework for all TVET programs, or involves beginning with one or more occupational sectors or levels (a *partial* framework) and over time extends this experience to create a more comprehensive framework.

The ILO research found most evidence of success in specific sectors of economies across countries, where sectoral frameworks of qualifications could be designed in line with needs of specific sectors, accommodating employers' skills needs and employees' desire for career progression. An important advantage of this approach is that it allows some flexibility for different logics to apply in different sectors, and for specific interventions to be targeted. It also allows government to target sectors which are seen as key for economic development and enables them to build on areas which are more likely to be successful and thus develop examples of good practice.

Given the experiences of other countries, and recognising that the current approach to the establishing Sector Skills Councils (SSC) in India is incremental, beginning with a limited number of sectors would appear to be consistent with developing a partial framework for sectors in which Sector Skills Councils have been established.

Key Decision 4:

Will India start with a partial or comprehensive framework?

Recommendation 4:

Our recommendation is to start with a partial framework.

This type of approach will allow designers and stakeholders to work with existing provision, and also will allow the targeting of sectors which are key for economic or social reasons and in which key stakeholders have some prior experience of collaboration.

A LOOSE OR TIGHT FRAMEWORK?

The international literature points to a relatively common model of an NVQF/NQF based on 6-10 levels defined by level descriptors expressed in terms of learning outcomes. However, in reality NVQFs/NQFs are nothing like as similar as the published

documents suggest and any country has important design decisions to make about the kind of framework they are going to have.

The broadest distinctions are between 'loose' and 'tight' frameworks and between 'partial' and 'comprehensive' frameworks discussed earlier; the former referring to the structure and the latter to the coverage of the framework. The diagram below represents the possible **Types of Framework.**

Structure	***Loose***	***Tight***	
Coverage	***Consensus or Regulation based***	**Consensus-based**	**Regulation-based**
Partial	Type 1 1a (incomplete) 1b (complete)	Type 2	Type 3
Comprehensive	Type 4	Type 5	Type 6

The starting point for most countries, including India, will typically be a Type 1a framework, where there is a diverse range of un-linked (and largely non-comparable) qualifications that cover some sectors and some levels and not others. Such a system is **incomplete** in that some sectors and some levels have no qualifications, and it is **loose** both in the sense that not all qualifications cover a similar range of levels and levels may be specified differently. It may also be that the criteria for obtaining some qualifications are loosely defined and the outcomes they deliver under-specified. In Type 1 systems the pathways ***between*** qualifications and institutions are likely to be limited and as a result, many programmes become *cul de sacs* offering no progression.

Any reform of such a system is likely to involve an attempt to improve both *structur*e (moving from a Type 1 to a Type 2 or a Type 3 framework) and extend the *coverage* (moving from a Type 1 to a Type 4 framework). The first phase of countries introducing a NQF moved from a ***Type 1*** to a ***Type 5 framework*** (Scotland and Ireland) or from a ***Type 1*** to ***Type 6*** framework (SA, NZ, UK) or a strategy somewhere in between (Australia).

Both 'loose' and 'tight' frameworks have disadvantages. The move from a Type 1 to a Type 6 framework involves a top down approach which is likely to require substantial financial resources and may require legislation. It aims to introduce more coherence by requiring all stakeholders to adopt the same rules about qualifications and levels. These rules could in principle be the basis of pathways supporting progression. However strategies that have attempted to treat a framework as a rule-governed system rather than as a set of guidelines to be interpreted by the different stakeholders have all faced difficulties. The ILO study suggests that such a strategy is likely to lead to resistance, uneven adoption, and the potential for collapse and the need for re-design. This is not to suggest that rules are incompatible with a successful NVQF, but that they should be derived from and relate to current practices and be based on the agreement of stakeholders.

Whilst moving from a ***Type 1*** to a ***Type 5*** framework might avoid such problems, where this was tried, as in Scotland, it was possible because there was an existing consensus within a relatively small policy and practitioner community. In that case, only

relatively modest 'consensus building' measures (for example, new forms of professional development) were necessary. What was achieved was a wider awareness of qualifications obtained in different educational sectors among different educational providers. This was a potential benefit both as a condition for progression between educational sectors, and for the more difficult but crucial step of improving the active participation of employers.

Moving from a *Type 1* to a *Type 6* Framework in a large and far more diversified society such as India would require extensive 'consensus building' measures which could be prohibitively costly. Furthermore, in a country where TVET provision is relatively weak and employer involvement limited, strategies for involving employers must, where possible, be introduced in parallel with developing a framework.

Key Decision 5:

Should India begin by introducing a loose or tight framework?

Recommendation 5:

Our recommendation is that the NVQF starts as a loose, partial qualification framework based on and building a new consensus, which can then be modified in light of experience.

THE HORIZONTAL AXIS OF AN NVQF

There are two sets of decisions that need to be made in developing the horizontal axis of an NVQF:

- Should qualifications be classified by type or by occupational field?
- Are whole qualifications or parts of qualifications (units) located on the framework?

We consider these two questions separately.

Qualifications by type or occupational field

Qualifications can be classified according to **type (**e.g. academic or technical/vocational) or **occupational field** (financial services, engineering, tourism etc). Classifying qualifications according to type is the simplest method of developing an initial framework and requires fewest changes to existing qualifications. It is useful as it highlights the parts of the existing system where there are no qualifications and where missing links are most obvious. It may therefore be the best way to begin designing a framework as a basis for developing more precise classifications later. The Australian NQF and earlier versions of English NQF adopted this approach. A typical classification is between school, vocational, and higher education qualifications, although many countries further distinguish between different types of vocational qualifications (for example between technical, occupational, and general vocational; in some countries, workplace-based qualifications like apprenticeships are also distinguished from those that are school or college-based). An NVQF based on broad types of qualification, which offer limited possibilities for improving progression between them, is relatively easily extended to classifying qualifications according to occupational field or industry sector. This offers the possibility of identifying common elements in different qualifications and hence encouraging the possibility of learners moving between qualifications and taking

some 'credit' with them, at least within the same occupational cluster or industry sector. On the other hand it can lead to debates about which field an occupation is located that may frustrate improvements to progression.

Key Decision 6:

Should an Indian NVQF classify qualifications by type, by occupational field or both?

Recommendation 6:

Our recommendation is to approach the classification of qualifications both in terms of type and broad occupational fields

When the Sector Skills Councils (SSC) in India are fully established there will be 25-30 and this number is far too large to be the basis of the horizontal axis of the framework. We considered the possibility of a framework not having a horizontal axis – making it more like a single sector framework. However, this would in effect, make horizontal boundaries implicit and not explicit and so be unlikely to encourage 'horizontal progression between different providers, technical specialisations and different jobs. Hence our recommendation that qualifications be classified both in terms of type and broad occupational field.

Whole qualifications or parts of qualifications?

Frameworks differ according to whether they locate 'whole qualifications' or part qualifications (referred to in different countries as units, unit standards or statements of attainment) on the framework. NQF designers in South Africa, New Zealand and the UK initially opted for locating individual units on the framework as well as whole qualifications. The hope of designers was that this would introduce greater flexibility for both learners and key potential users such as employers and enable students to gain confidence by acquiring small bits of assessed learning, which they could later put together towards a qualification. However this approach makes assumptions that the process of gaining qualifications can be represented by the accumulation of separate 'bits of assessed learning' rather 'becoming qualified' as a development process over time. It shifts the balance towards the goals of flexibility, portability and transferability and away from the more linear process of acquiring knowledge and skills over time. The evidence on the whole is that, except within specific educational sectors such as higher education (where relatively large 'modules' are in widespread use as a basis for credit accumulation towards degrees), 'whole qualifications' are more valued by employers and by those involved in accepting students for higher level programmes than those achieved by accumulating small assessed 'units' of learning. The recognition of part-qualifications is pertinent to India as that it could provide a mechanism for those who have undertaken informal TVET programs (which are typically of a short duration), to gain accreditation and enter a pathway within the formal framework. Our experience, though, and the evidence, certainly in the UK, is that accrediting 'part qualifications', can fragment learning and does not necessarily support progression particularly for those taking lower level courses. Further, it is not necessary for recognizing learning and giving accreditation—other mechanisms can do this more easily.

There is some international evidence that offering students and other users opportunities to be accredited for small elements of learning increases participation. However, what is far less certain is whether this widening of participation becomes the basis for progression. Furthermore, accrediting 'bite sized chunks' of learning can inhibit progression unless it is combined with summative forms of assessment. This does not mean that there should be no possibilities for credit accumulation; students should have the opportunity to accumulate accredited learning based on specific subjects, courses, or programmes, without it being necessary for these to be registered as part qualifications on the NVQF.

Key Decision 7:

Should a NVQF for India be comprised of whole qualifications, part qualifications (such as units), or both?

Recommendation 7:

Our recommendation is that the NVQF in India should be based on whole qualifications.

THE VERTICAL AXIS OF AN NVQF (I): OPTIONS FOR DEFINING LEVELS

Option A: An 'informal ranking'approach to levels

Option 1 is based on a relatively un-prescriptive informal approach where qualifications are loosely ranked in terms of current hierarchies (certificates below diplomas and diplomas below degrees). Experience in many countries suggests that the idea of formal levels can be misleading, and can have undesired consequences—such as learners not wanting to enroll for qualifications at lower levels which do not show vertical progression up the framework. Within the less restricted field that a NVQF applies, it may be possible to introduce greater prescription. It would enable a map to be developed so that qualifications of different types and sectors can be aligned and ascribed a level. A map of this kind can provide the starting point for the development of the vertical and horizontal axes of a framework, as suggested above. Broad qualification types can be used instead of attempting to classify each individual qualification.

This does not address the more difficult issue of improving progression either horizontally or vertically. The research evidence suggests that there is little movement between the TVET (TAFE) sector and universities in Australia. However, rather than being a consequence of the framework itself, this might be better explained as a consequence of the different curriculum models associated with the TVET and university sectors, by the conceptual weaknesses of TVET programmes, or by the inappropriately 'conservative' attitudes towards TVET of certain professions and higher education institutions. On the other hand, most TVET frameworks are based on learning outcomes, separated from learning inputs, which may negatively affect their curriculum model and the conceptual strength of programmes, particularly those at higher levels.

Option B: A formal approach to level descriptors

This Option involves developing a formal system of level descriptors expressed in terms of learning outcomes which are then used to rank qualifications on a single vertical axis. The level descriptors then become an instrument for those designing, developing and using qualifications. The methodology for developing level descriptors is similar to that used by educational psychologists developing attitude scales (often known as Likert scales). It relies on a implicit consensus that learning outcomes can be ranked and expressed as a general set of levels using an agreed common language that is independent of the specific contexts, occupational field or industry sector where learning takes place. The ILO research reported that although 'in practice' these outcome based level descriptors are invariably part of NQFs, they are little used. They are attractive to policy makers because they appear 'objective' and so, in theory, can not only be developed independently from the specific contexts where learning is assessed, but also independently of the cultural context in which they were originally developed (eg: the Scottish SCQF level descriptors have been adopted by the Maldives and those developed in New Zealand by Sri Lanka)

However the level descriptor approach makes enormous assumptions about similarities across education and industry sectors and cultures, and in the end reflects existing implicit assumptions of stakeholders about ranking that are a feature of any society. At most, formal level descriptors can be used as general guidelines for curriculum developers and as a means by which recruiters may establish greater trust in qualifications with which they are unfamiliar.

Option C: A negotiated approach to levels

This approach recognizes that there is little point in a formal attempt to define levels unless they have some link with experience of those involved (for example, the existing assumptions about links between qualifications at different levels and occupations in a particular industrial sector). If the levels do not have some explicit basis in how stakeholders rank and make judgments about what people know and can do, they are unlikely to be trusted or used as a basis for improving progression opportunities. Experience of other countries suggests that where levels are pre-determined, there are often long and invariably unproductive debates about fitting qualifications to levels. Furthermore, a negotiated approach allows for a strategy that starts with existing qualifications, and gradually brings them into more coherent relationships with each other and an agreed set of loosely specified levels, not only by redesign and specification, but by strengthening curricula and improving approaches to pedagogy and assessment.

Key Decision 8:

Which option should India take to establish the vertical axis of the NVQF:

A. An informal 'ranking' approach;

B. A formal 'level descriptors' approach;

C. A negotiated approach to qualification levels?

Recommendation 8:

Our recommendation is for option (c), whereby the vertical axis on the NVQF is determined through a developmental approach to determining levels that begin with 'informal ranking' to establish broadly based levels across sectors that are established by agreement rather than by an attempt to specify level descriptors from the outset.

Level descriptors always have to rely on existing understanding, implicitly or explicitly; they cannot be 'context free' like measures of height or weight. It is far more likely that a reliable set of levels will be developed if it is based on existing understandings of the relationships between different programs, rather than expecting users to apply generic levels to particular cases, and therby allowing existing understandings to influence judgements implicitly. Some kind of hierarchy of levels will be a feature of all qualification systems. Whether or not progression within such a hierarchy might be facilitated by a formal set of levels defined by descriptors expressed as outcomes is an issue that will need to be returned to after the initial framework has been agreed and introduced.

3.6 THE VERTICAL AXIS OF AN NVQF (II): DETERMINING THE CRITERIA AND NUMBER OF LEVELS IN THE FRAMEWORK

Bringing all TVET qualifications into a common level-based framework involves agreeing on (a) the criteria for distinguishing levels and (b) the number of levels in the framework. Most frameworks develop a generic ranking system based on occupation-related criteria such as 'responsibility for others' and 'abstractness of the required skill/knowledge'. However such criteria do not apply in the same way in different sectors and occupations so it makes sense to treat any criteria as guidelines rather than as prescriptions. With regard to the number of levels, the most straightforward approach is to start with the existing informal rankings of qualifications in current use and compare these with those used in other countries as there are only small differences in the number of levels used by different national frameworks.

Key Decision 9:

Should the levels of qualifications in the TVET Framework be based on an agreed occupational hierarchy or on general criterion that distinguish levels of skill, knowledge and responsibility as the basis for classifying all occupations?

Recommendation 9:

We recommend that the criteria for qualification levels be determined after the detailed mapping of existing programs and qualifications has been completed and that they should be treated as broad guidelines rather than as prescriptions.

Key Decision 10:

How many levels should be established?

Recommendation 10:

Our view is that there are no principled reasons for opting for a given number of levels and that the final number of levels should emerge from the mapping recommended above.

We do not make a specific recommendation for the number of levels in the framework, particularly given our recommendations above, that design should not start with levels. On the basis of international experience NQFs tend to have 8-12 levels and a NVQF between 5-8. Two factors will influence the decision. The first relates to existing distinctions (e.g those between craftspeople and technicians and between what is taken to be skilled, semi-skilled and un-skilled work) and the second, which is the relative importance of benchmarking qualification levels against those widely used internationally.

4. A BOTTOM-UP OR TOP-DOWN APPROACH TO DESIGN?

Most NVQFs have been designed by first developing qualifications at the lowest levels of the framework and moving upwards. This is understandable for two reasons. Firstly there are invariably political imperatives to establish qualifications for those, who although at present unqualified, may have skills that can be accredited. Secondly, international experience suggests that resistance to establishing a outcomes-based framework is far greater among those responsible for higher level and well established qualifications. One consequence, in the case of the UK's NVQF, was that very few higher-level qualifications were developed with even fewer people achieving them.

As a contrasting example, the NQF regarded by many as the most successful, the Scottish SCQF, was led by the universities; this gave the whole framework a status among stakeholders that is lacking in some other countries.

Our conclusion is it makes sense to begin with qualifications at the higher levels where professional bodies can be directly involved – those leading to polytechnics and colleges of engineering in India – and move downwards. Where there are no professional bodies, government may need to work more actively in developing alternative strategies which make sense in different sectors. This could include working with leading subject matter experts, employers, and trade unions. This is more likely to ensure progression as the knowledge and skills required by higher-level programs can inform the design of lower level programs. This will be the best possible strategy for ensuring that people can move from lower levels to higher levels, and thus avoid what has happened in a number of countries, where new TVET qualifications have established new *cul de sacs*. It can also be a way of ensuring that there are no unfair pre-requisites for courses or programmes, but, at the same time, that learners acquire knowledge and skills in lower level qualifications which prepare them to succeed at higher levels.

Key Decision 11:

Will India adopt a top down or a bottom up approach to the design and delivery of a NVQF?

Recommendation 11:

Our recommendation is for a top down approach to the design and development of individual NVQF credentials

Outcomes and inputs

Much of the literature on NVQFs/NQFs implies that such frameworks are based on learning ***outcomes (or competences)*** and that these outcomes can be (and are) clearly separated from the ***inputs*** of learning. Many reports go further than this and suggest that a global 'shift to learning outcomes' can be identified. The arguments in favour of separating 'outcomes' from 'inputs' are that:

- it is more straightforward to locate outcomes-based qualifications on a single framework;
- qualifications expressed in terms of learning outcomes, in theory, present more choices to both learners and other users;
- outcomes can be more easily linked to government policies; and
- outcomes can be used to accredit non-formal, informal and experiential learning.

However a number of problems have arisen with the introduction of outcomes-based NVQFs and NQFs, in their role in accrediting experiential learning, in the guidance that outcomes or competencies give to teachers, as an instrument for driving curriculum reform and as being a basis for improving progression. We summarize these arguments in terms of the following points:

- Outcomes-based frameworks cannot on their own lead to a significant expansion in the accreditation of informal learning as this requires training and/or assessment organisations, and other existing institutions, to make such assessments available and have the trained staff to do so. One way around this is to have the same assessment procedures for accreditation of informal learning as for formal learning—in other words, to have no prerequisites for assessment. This may work well in some instances—like tests for particular trades and crafts. A challenge is that in many

instances learners who want their prior learning accredited need much support in this process. It is also in some cases difficult to remove all requirements for course attendance, particularly where knowledge acquisition is important, such as for higher-level qualifications. This issue is explored in more detail below.

- Outcomes-based frameworks tend to assume that informal (non-school or college) and formal learning can be equated in terms of a single set of criteria. However this inevitably under-values the distinctive qualities of both types of learning. Informal learning is a resource for learners and can support their progression to higher level programmes. However, in most cases this involves *recognizing* the learner's experiential learning, not necessarily *accrediting* it for a full qualification. It is the view of the authors that experiential learning is best used by teachers as a resource for supporting progression and linked to institution-based 'access programmes' designed to offer alternative routes to higher-level courses. It some cases it may generate evidence that learners can meet the entry requirements of higher level programs without further study.
- Research on learning suggests that what can be learned in a formal education setting is ***qualitatively different*** from what can be learned informally from experience and from most workplaces. Furthermore, workplaces, like institutions, vary considerably in the nature and quality of experiences they offer for learning. Learning undertaken in workplaces is often important in the specific context of particular workplaces, but may not necessarily provide a transferable basis for progression (even if accredited).
- It is not clear that the costs of accrediting informal learning are balanced by the benefits.
- In practice, most qualifications, and by implication most qualification frameworks, assume some specification of participation in taught programmes offered by institutions. All qualifications represent the 'outcome' of a learning programme, and they all have, to varying degrees, some sense that a learner is being qualified for something. It could be said, then, that all qualifications have some input and some outcome aspects. However by claiming to be outcome-based or competence-based, and that outcomes can be separated from 'inputs', the 'inputs' are often inappropriately specified and this can lead to under-emphasising the contribution of teachers with specialist fields of knowledge.
- Emphasising the outcomes basis of a NVQF can lead to a devaluing of the role of institutions and lead to a neglect of institution building, ironically making it less likely that the outcomes will in fact be achieved.

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 there is limited specific empirical evidence supporting some of the claims made for them. 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 the 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 (for example, Germany) adopt a more holistic 'occupational' approach to competence

rather than the atomistic 'task-based' approach of the UK's NVQs. The German, and other successful TVET systems, recognize 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

A major weakness of relying on 'outcomes', is that its performance–focus makes it very difficult to specify or assess higher level tasks which involve complex understanding. What is important is:

- developing a consensus on standards, at industry, national, or institutional levels,
- deciding on the locus of curriculum development (this may be different for different sectors and different levels of education—for example, nationally developed curricula may be necessary or useful in some areas, or at some levels, and not at others);
- ensuring that curricula which specify the appropriate knowledge and skills are developed;
- ensuring that strong institutions exist that can offer these curricula;
- ensuring that there are credible assessment mechanisms (including external assessment); and
- ensuring that there are mechanisms for monitoring and the development of standards and assessment systems
- involving, where possible, professional associations

In some countries, implementation of outcomes-based qualification frameworks, and CBT models have taken these issues for granted and assumed that as long as outcomes are 'correctly' specified, 'the rest will follow' ie: that the existence of an outcomes-based NVQF will somehow itself enable the development of curricula, institutions, and assessment. International experience indicates this is clearly not the case.

An example of an outcomes-based framework can be found at www.saqa.org.za, the website for the South African Qualifications Authority. What will be seen there is a set of levels (10) populated by 9206 registered qualifications, and 11661 registered unit standards (part qualifications). The format of unit standards and qualifications is reasonably similar to other outcomes or competency-based systems: outcomes are specified, along with assessment criteria, range statements, and other specifications.

Outcomes-based frameworks and progression

On their own, outcomes and outcomes-based frameworks are primarily tools focused at ***recording what a learner can do***. Unless linked to well-designed programs, they cannot support learners to progress to higher-level programmes because the specialist knowledge recognised as being important for progressing in a particular occupation is often not adequately specified. Although the evidence is not clear, this may be one explanation for why few learners reach the higher levels of outcomes or competency-based frameworks and that many of the qualifications obtained in such systems cluster around the lower levels. It may also be explained by the fact that outcomes-based or ***competence-based*** frameworks are essentially 'assessment frameworks' that rely on parallel quality assurance systems to guarantee the quality of learning processes and programmes. Assessments of performance on their own cannot specify what someone knows or might do in a new situation.

Outcomes-based frameworks have limitations in how they can specify the knowledge that many types of performance rely on and that may be crucial to progression to higher levels. However, it should be noted that the challenge of identifying relevant knowledge also exists in traditional curriculum development models. Whereas performance on its own can be observed and assessed, using this as the only source of evidence that a person is competent can only be reliably applied to a very limited range of manual operations. If competence is defined broadly enough to include knowledge and attributes, then these elements have to be assessed in relation to a curriculum or a structured program of learning. If an outcomes or competency based NVQF is to be the basis for students to progress (eg: from a school-based TVET programme to a Polytechnic), the outcomes must be complemented or include the necessary 'inputs' ie: the knowledge that a learner needs to acquire if he/she is to move beyond his/her existing levels of performance. 'Inputs' here relate to the specialist knowledge associated with particular sectors or occupations. In the case of India this points to how crucial it is that Polytechnic teachers and members of professions are involved in designing the school TVET curriculum. The integral role of professional expertise in acting as a guarantor of the quality of lower level qualifications is an issue that has been ignored in the development of most competency-based models that are limited to the specification of outcomes.

Key Decisions 12:

Will India choose to have (a) an outcomes-based NVQF or (b) a framework that combines outcomes and inputs?

Recommendation 12:

Our recommendation is that the NVQF in India combines the broad specification of outcomes related to performance and inputs which specify the specialist knowledge to be delivered through curricula agreed by (educational institutions, professional bodies, and subject/occupation specialists.

There can be no one-size-fits-all approach that should apply to all qualifications on the proposed NVQF. On the basis of research in a number of countries, we advise against adopting a NVQF based solely on outcomes or assuming that such a NVQF can on its own be the basis of specifying a curriculum. Learning programmes offering progression possibilities need knowledge which is specified separately from performance and draws on the specialist knowledge of the professional bodies associated with different occupational sectors. This does not mean that the NVQF should not specify learning outcomes. It is the view of the authors that they should be treated as guides to the skills needed and performances expected and not as actual criteria for assessing performance. It is possible to specify 'knowledge outcomes' – for example "understands Ohm's Laws'; it is however quite a different matter to specify how Ohm's Law might be part of a physics curriculum.

Those involved in designing the NVQF will need to consider the following key questions that arise from Recommendation 12:

- How will outcomes be (a) specified, and (b) assessed?

- Who will be involved in the assessment of outcomes?
- How will the knowledge-based inputs be specified? Through outcome statements, knowledge units, underpinning knowledge statements or through syllabuses?
- Who will be involved in developing the syllabuses? To what extent will they be centralized?
- How will the knowledge-based inputs be assessed? By end-of-course written examinations? By continuous written assessment or by question banks?
- Who will be involved in the assessment of knowledge? and
- What kinds of teacher training and lecturer development programmes will be needed?

Addressing these questions in relation to different types of TVET qualifications at different levels will be one of the most important continuing processes central to the development of the NVQF in India.

It needs to be emphasized as strongly as possible that the professions, university teachers and researchers associated with different sectors and their specialist knowledge need to be involved, ***even in the design of qualifications at lower levels of the framework.*** It is this involvement of members of specialist professions that is most likely to ensure the quality of lower level courses and improve the possibility of progression for those in them (see ILO study on NVQs in England). Furthermore, this strategy is consistent with the role of the new Sector Skills Councils being established in India. There is however, much to learn from the uneven record of such bodies 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 in 20 years to establish such sectoral bodies; previous attempts have failed repeatedly through lack of employer interest in at least some of the sectors. The current Sector Skills Councils have relied heavily on a government funded agency, the Sector Skills Development Agency.

A major challenge that India is likely to face in developing its NVQF will be developing trusted and valued qualifications in those expanding manufacturing and service sectors, like hospitality and retail, that are currently dominated by low skill work and have no past tradition of apprenticeships or employees gaining qualifications.

The problem of low skill/low wage work is not primarily a qualification problem. If companies are able to make profits by employing low skill workers on low wages, and if the current organization of work is such that technically skilled workers are not needed, there will be no immediate or obvious incentive for workers to become more 'qualified' or for employers to become involved in the development of new qualifications. New qualifications can only be responses to and catalysts for the up-skilling of work; they cannot generate that up-skilling themselves. A test case in India will be how expanding sectors like Retail and Hospitality develop. Whether the NVQF can play a role in promoting skill and knowledge in these industries will depend largely on whether employers value the development of their staff and demand specific qualifications for employment in specific job roles. Although this is not inevitable, both sectors have de-skilling tendencies leading to low wage/low skill work, and low value production. Industries adopting a high value product approach will need employees with higher levels of skill and knowledge, and an NVQF could play a valuable role in supporting the necessary progression pathways. If this does not occur however, there will be few

incentives for employees to gain qualifications or for managers to take their qualifications seriously.

5. QUALITY ASSURANCE AND MONITORING AND EVALUATION

Monitoring and evaluation are obviously essential features of implementing any government policy, and quality assurance has become a dominant approach to monitoring and evaluating the delivery and assessment of education and training internationally. Any monitoring and evaluation, or quality assurance system, must be designed for the specific system it is monitoring and measuring. This report has laid out a set of decisions for those involved in designing and implementing the Indian NVQF, and it would be inappropriate to propose anything specific regarding quality assurance until these decisions have been taken. However we can draw on some of the findings from the ILO study, as well as experiences from other countries, and raise a few more general issues. Firstly, we discuss the ways in which the NVQF can be part of systems of quality assurance of educational provision. Secondly, we discuss monitoring and evaluation of the NVQF itself.

QUALITY ASSURANCE

In many of the countries reviewed in the ILO study, costly and time consuming processes to register and accredit providers of education and training were found to deliver mixed results in the absence of strong educational institutions and more traditional ways of attempting to ensure quality, such as prescribed syllabuses and centrally set assessments. Concerns were expressed about policies which were heavily dependent on accreditation because of the capacity of the accrediting institutions, and potential bottlenecks in the accreditation processes. In some countries, attempts to create quality assurance and accreditation systems led to over-complex governance arrangements, sometimes in contradiction with existing systems.

Some further discussion of quality assurance may be necessary to understand the background of the problems experienced in the countries in the ILO study.

Quality assurance arose with the expansion of education systems and the development of training markets that included private training providers. As a consequence, concerns emerged that it was no longer possible to rely solely on providers to ensure the quality of education and training. Quality assurance, therefore is an attempt to maintain and enhance quality through a *separate regulatory system.* It is important to remember, though, that while independent scrutiny, to the extent that it can be afforded, is invaluable, at best what it can do is *evaluate* or *comment on* quality. It can *encourage*, but cannot *ensure* quality. 'Ensuring' quality is not a technical trick or organizational device that can be wrenched away from the curriculum, pedagogy and assessment within which it is inescapably embedded. This means that any approach to quality has to start from existing provision and the institutions in which it is located as well as taking account of current proposals for reform.

While more detailed ideas about quality assurance can be developed at a later stage when decisions have been taken about the design of the Indian NVQF, we suggest the following pointers for thinking about quality assurance in TVET provision:

- Quality assurance systems must be carefully designed so that they do not add unnecessary bureaucratic burdens to the organisations they are monitoring, and that they can justify their requirements through some kind of evidence. They must also be alert to the various problems that can exist with different approaches to monitoring and improving educational quality, and should never assume that it is easy or straightforward to make educational judgements.
- While public criteria of quality do have a role, and some focus on outcomes is important in educational processes, they cannot be the only basis for designing education interventions.
- Any approach to quality has to take account of the diversity of provision that exists in vocational education, and cannot be of a monolithic 'one-size fits all' type. It must encourage the maintenance and extension of the highest standards where those already exist without relying too narrowly on one model of quality which all others must aspire to, and in terms of which the majority must necessarily be found wanting.
- External assessment may be the most cost-effective mechanism for many qualifications.
- Processes to evaluate the quality of teaching and learning taking place in institutions (such as traditional inspectorates in school systems) can play an important part in monitoring and improving quality. However, doing this well is expensive.

MONITORING AND EVALUATION OF THE NVQF

The ILO research found 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. There was little to be learnt from other countries in, for example, developing success indicators. In many cases there were indicators developed for separate institutions and parts of the qualifications systems. Where qualifications authorities have success indicators, they tend to be based on more operational objectives, such as how many qualifications have been registered or developed—which can lead to perverse incentives, as large numbers of qualifications are designed and registered, in the absence of provision systems. It may be that the aims of qualifications frameworks are so embedded in other structures and processes that governments and authorities do not envisage separate monitoring and evaluation. It is certainly the case that monitoring a policy as complex as a qualifications framework, which impinges on so many different aspects of complex systems, is inevitably going to be complex. Nonetheless, it is crucial for governments to tackle head-on.

We suggest that once clear decisions have been taken about the purpose, design, and implementation process for the NQF, success indicators must be developed in these areas, as well as baseline data collected.

Most crucial will be the process of deciding on a small number of clear and measurable indicators, and establishing the location of judgement against these indicators. We suggest that a wide range of measurements or processes of judgement need to be developed, to ensure expert professional judgement, and avoid bureaucratization and perverse incentives developing.

For each aim of the NVQF, there would need to be activities which would lead to the achievement of that aim, indicators of their achievements, processes delineated for

measuring them, and a clear locus of responsibility for the measurement. This will need to include a wide range of sources of information. It may involve adding categories or requirements to data that is routinely collected by government bodies or educational providers, or it may involve commissioned research. Crucially, there needs to be a clear locus of responsibility for collating the information that collected.

For example, if a key aim is articulation within the TVET sector, articulation with other sectors of the education and training system, and articulation between TVET and the labour market, there is a range of potential sources of information which may reflect on the achievement of this aim, including:

- Annual reports showing growth in qualifications registered, and learners enrolled and qualified
- Enrolment and graduation rates by institutions, field of study, and qualification
- Annual reports of institutions, collated by government information management systems
- Evidence from monitoring the movement of students between institutions, through annual data collated by government information systems
- Tracer studies within education and training and between education and training and the labour market
- The inclusion of relevant categories (such as SES information) to data collected annually by providers and government information systems
- The inclusion of RPL numbers in data collected annually by institutions and government information systems
- Qualitative research on RPL practices

Considerable effort would need to go into the design of indicators, as well as developing a broad strategy for measuring them, ensuring that the various components of the system collect the right kinds of information, and ensuring that responsible authorities are able to collate, synthesize, analyze, and use that information in intelligible ways. Considerable capacity will be needed in government bodies responsible for the NVQF, if the Government of India is going to get meaningful evaluations of its progress.

6. SUMMARY OF RECOMMENDATIONS, DECISION-POINTS, AND STRATEGIC QUESTIONS

Key decisions	We recommend….
1. Should India consider the NVQF as the primary means by which coordination of TVET and skills development will be improved or, will improved coordination be achieved by separately building and strengthening systems of coordination and working relationships amongst government bodies as well as between government and stakeholders?	Overall coordination of the entire TVET and skills development system is crucial. This could involve strengthening existing coordination structures, such as Inter-Ministerial Committees, and the Skills Development Council.
2. How should the design and implementation begin, following consideration of the background issues (listed above)? There are	Starting by describing existing qualifications as part of a single system. From this improvements in clarity and coherence can gradually be planned and

two possibilities: (i) mapping existing qualifications, or (ii) developing an initial design to indicate future desired qualifications?	implemented.
3. Will India commence implementation with a provisional or pre-designed framework?	Beginning with a provisional framework.
4. Will India start with a partial or a comprehensive framework?	Starting with a partial framework.
5. Should India begin by introducing a loose or tight framework?	That the NVQF should start as a loose qualification framework based on consensus which can then be modified and made more explicit in light of experience.
6. Should an Indian NVQF classify qualifications by type, by occupational field or both?	Approach the classification of qualifications in terms of both type and broad occupational field
7. Should an Indian NVQF be comprised of whole qualifications, part qualifications (such as units), or both?	That the NVQF in India be based on whole qualifications.
8. Which option should India take to establish the vertical axis of the NVQF: A. An informal 'ranking' approach; B. A formal set of level descriptors; C. A developmental approach to levels?	That the vertical axis on the NVQF be determined through a developmental approach to qualification levels.
9. Should the number of levels or qualification types in the TVET Framework be based on an occupational hierarchy or on a general criterion that distinguishes levels of skill, knowledge and responsibility as the basis for classifying all occupations?	That the number of levels or qualification types should be determined after the detailed mapping of existing programs and qualifications has been completed.
10. How many levels should be established?	No specific number of levels is recommended. The final number of levels should emerge from the detailed mapping of qualifications.
11. Will India adopt a bottom up (beginning with the lowest levels and moving up) or top down (beginning with the highest levels and moving down)?	For a top down approach to the design and development a NVQF
12. Will India decide to have (a) an outcomes-based NVQF or (b) a framework that combines outcomes and inputs?	That the NVQF in India should combine outcomes and inputs.
13. Is it proposed that the Indian NVQF will include a Credit Accumulation and Transfer system? If so: • What plans for professional development to support the expansion of credit transfer? • How far are existing systems for funding institutions consistent with a CAT system?	That developing a CAT system is deferred to a later stage. **NB** This recommendation is elaborated on in Annexe 1

We further recommend that:
14. if the Indian government is committed to the introduction of an NVQF, it must be developed as part of a broad strategy of TVET reform.
15. the Indian government should be extremely clear about the specific goals of the NVQF in relation to other policies and processes, and it should ensure that stakeholders understand what an NQF can and cannot do (stakeholder consultations tend to create 'wish lists' of goals, even when there is no way that an NVQF is the appropriate policy for achieving them).
16. an NVQF should be introduced in conjunction with other policies focused on increasing quantity and quality of provision in targeted areas.
17. an NVQF should be introduced in conjunction with other policies focused on improving progression, including addressing organizational incoherence and relationships between key role players, improving the specialist knowledge and skills of technical teachers and work-based trainers, and reviewing and strengthening curricula to ensure that courses do not lead to dead-ends.

These recommendations are based on the experience of the authors researching qualifications frameworks in various countries, as well as on the ILO comparative study in which they played leading roles. However, more important than the content of the recommendations is that the Indian government, as well as key stakeholders, carefully consider the questions and decision points suggested here. . Policy makers introducing NQFs up to now have been enormously reluctant to question the basic assumptions of the approach to design and implementation of the models they have decided to adopt. As a consequence, the issues raised here as questions have in most cases been taken for granted and there has been a failure to recognize that there are crucial choices involved in the design and implementation of an NVQF, as well as choices about key policies that need to be introduced at the same time.

The data on the impact of NVQFs is limited. It is therefore not surprising that the ILO study and other research discovered limited evidence of positive outcomes resulting from the introduction of an NVQF. If India makes the right decisions in implementing the NVQF, it stands a chance of not only of making significant improvements in the quality and outcomes of TVET, but also of becoming a global leader in the developing world in establishing a high quality TVET system supported by a NVQF, in a similar way to how, in the last century, Germany became a world leader for developed countries. This report has tried to articulate as clearly as possible the choices and decisions that policy makers implementing a NVQF in India have to make; it is up to them what choices they make.

7. NEXT STEPS

To ensure the development of an NVQF that has a real impact on progression within and from TVET programmes, the most important next step is to take time to seriously consider the questions raised in this report, as well as the key decisions that we have identified, and our recommendations. We cannot emphasise enough the importance of discussing these questions and issues with the widest possible range of stakeholders, including the large number of organisations working under different ministries delivering both formal and informal TVET and skills training. Meetings with representatives of national employer bodies will not be enough; it will be crucial to have discussions with actual employers as well as education and training providers. The substance of this process will obviously need to be determined and driven by the Government of India.

A very crucial early step will be deciding on the locus of the NVQF within and in relation to the departments that make up the Government of India, clarifying the roles of the various Ministries and Committees, and ensuring ownership and drive from

Government as a whole. In the absence of this step, success is unlikely. Some possible further steps include:

- STEP 1. The key stakeholders and representatives of government involved in TVET are brought together to discuss and clarify the issues raised in this Report, consider the recommendations, and make the necessary decisions.

- STEP 2. A step by step plan is developed for wider consultation and discussions with stakeholders.

- STEP 3. Existing qualifications and provision are mapped into a provisional framework. This process can start concurrently with STEP 3, and is likely to be more complex than it seems. It is in this process that government and key stakeholders will become clear about where there are qualification-based barriers to progression, and what other problems need to be addressed.

- STEP 4. On the basis of the previous steps, the agreements reached, and the map of existing provision and qualifications developed, further steps can be planned. A likely further step will be the creation of an appropriate Steering Committee, the development of a strategic plan, and the identification of responsible parties. At the same time it will be necessary to be clear what other policies and strategies will be needed to address the identified problems, in addition to developing the NVQF and how close links are maintained between them and NVQF developments.

- STEP 5. Develop a plan to take the decisions that have been made at a national level to those responsible or involved in TVET in the Indian states.

ANNEXE 1- Credit, credit rating and credit accumulation and transfer

When designing an NVQF, a key issue is whether it is designed to recognize only the accumulation of learning towards a qualification (Credit Accumulation) or also to allow for the transfer of learning between qualifications, jobs and institutions (Credit Accumulation and Transfer (CAT).

A CAT (Credit Accumulation and Transfer) system is a way of improving the links between different TVET qualifications and higher-level programmes by representing numerically (as 'units of credit') the amount of learning that a learner is expected to achieve both in terms of level and with reference to the nominal duration of learning involved. In this way, at least theoretically, all qualifications with quite different origins and for different occupations and sectors can be compared for the purposes of progression. In addition to the level descriptors of a NVQF, such a Credit Accumulation and Transfer (CAT) system involves a number of additional features.

- Qualifications have to be expressed as a multiple of one or more ***units of learning***. Units are defined as the smallest measurable elements of learning that make up a qualification on the framework;
- A ***Notional (or Average) Learning Time (NLT)***, where 1 unit = 10 hours of NLT[16] must be agreed by all providers of qualifications. What distinguishes the idea of NLT from the traditional concept of 'contact hours' is that while the latter refers to 'time in front of a teacher' (and therefore is an input or teacher-centred measure), the former includes any agreed student learning activities, including contact hours (and hence is a learner- centred measure);
- ***credit***, defined as a measure of learning time(typically, 10 hours learning = 1 credit point) and
- ***credit rating*** - each qualification is given a credit rating or the number of credit points at each level that has to be achieved to gain the qualification.[17]

The decision facing policy makers is whether to invest the considerable time and resources needed to 'credit rate' all TVET qualifications and if so for what purpose. Credit rating is a long and laborious business, and may not be the best way of improving progression possibilities for those in TVET programmes. Even if all TVET qualifications have been 'credit rated', the issues of trust and professional judgment will remain (employers and teachers/lecturers will still make judgements when interpreting credit scores). The crucial issue will still be improving the quality of lower level TVET qualifications and building trust in them. At a minimum a credit framework is a way of providing quantitative evidence to recruiters and admission tutors about qualifications which they may be unfamiliar with from direct experience. However, there is little reliable evidence of the success of CAT systems and the decisions made by employers and teachers/lecturers are likely to continue to be less informed by the credit rating of a qualification and more by the judgements they make about the quality of provision at different institutions, unless they are familiar with a recognised quality system, such as ISO or in the case of India, QCI.

[16] Known, also for example, as 'nominal duration' in Australia.

[17] For example in the Victorian Credit Matrix (in Australia) a Certificate Level 4 in IT requires a student to obtain 134 total credit points made up of 86 core credit points (40 at level 4; 16 at level 3 and 30 at level 2. The learner. Is free to choose her/his remaining 48 credit points

Evidence of the use of a credit matrix in the state of Victoria in Australia illustrates that a credit framework can be used as a basis for obtaining qualifications by ***accumulation of credit*** (rather than only by assessment at the end of the programme). However, the Victoria case provides very few examples of students being able to ***transfer credit*** between qualifications and between institutions, particularly when it involved institutions recognizing workplace learning where there may be much less basis for shared trust.

These problems of trust are partly a consequence of the different curriculum models used in different educational sectors. For example, a competency-based system may have been developed for vocational training, whereas a more traditional syllabus-based curriculum might be used for technical and general education. This suggests the advantages of a common approach to curriculum to underpin the delivery of TVET delivered in schools and other institutions such as ITIs, ITCs, and Polytechnics. The problem however is to reach agreement as to what should the common basis underpinning the CAT system should be. *The more it is based on a competence approach which tend to lack a reliable basis for specifying knowledge, the less likely it will encourage progression – the major policy aim of establishing an NVQF for the Indian government.*[18] Furthermore, irrespective of the system used to determine credit, there are other issues which will impact on the extent of progression that do not arise directly from the design of the NVQF. These include:

- **how institutions are funded:** if institutions are funded on the basis of student numbers or funded to deliver full qualifications, they may be reluctant to encourage credit transfer even when it is in the student's interest.
- **the provision of effective programmes of professional development**– teachers and other stakeholders will need to meet to explore the implications of greater student mobility between different institutions and reach agreements and develop new expertise.

An alternative approach that would not involve so many additional resources is to establish local and regional partnerships in which issues concerning progression are discussed and informal agreements between different providers and users are reached at a local level. However, this approach on its own would make it difficult to maintain national consistency in a large country like India, especially for those sectors of the population that are highly mobile.

[18] There have been a number of attempts to overcome this weakness of competency based system such as 'underpinning knowledge and understanding and holistic competence-based assessment; however, it is our view that both should be treated with caution.

Key Decision 13:

Is it proposed that the Indian NVQF will include a Credit Accumulation and Transfer system? If so:

a) *What plans for professional development to support the expansion of credit transfer?*

b) *How far are existing systems for funding institutions consistent with a CAT system?*

If a CAT system is planned, what system will be used to determine the amount of learning needed for each qualification and the equivalence or difference between qualifications:

a) *nominal duration?*

b) *credit rating?*

c) *common national modules across educational sectors?*

d) *locally agreed credit arrangements between individual institutions?*

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