



**NATIONAL COMPETENCY STANDARDS  
FOR  
LANDSCAPE TECHNICIAN  
(CERTIFICATE 3)**

**TVET QUALITY COUNCIL  
BHUTAN QUALIFICATIONS AND PROFESSIONALS  
CERTIFICATION AUTHORITY  
THIMPHU, BHUTAN  
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## **FOREWORD**

The TVET Quality Council, BQPCA is pleased to present the National Competency Standards (NCS) for Landscape Technician, Certificate 3. The main objective of developing National Competency Standards is to set up a well-defined nationally recognized TVET Qualifications that will help in setting a benchmark for the TVET Qualifications in the country aligned to the international best practices.

The NCS are developed to ensure that the TVET trainees possess the desired Skills, Knowledge and Attitude required by the industries. In order to ensure the relevancy of the competencies, the NCS are developed in close consultation with industry experts and trainers from training institutes.

A training system based on NCS shall ensure that the training is relevant to the needs of the Industries. As a result, future TVET trainees will be better skilled to meet the needs and expectations of industries and employers. Such a positive impact on the employability of TVET graduates will enhance the reputation of the TVET system and make it attractive to the youths.

While acknowledging the existing level of cooperation and collaboration, the Council earnestly requests employers and training providers to extend the fullest support and cooperation in development and implementation of the NCS. The ultimate objective is to build a competent and productive national workforce that will contribute to the socio-economic development of our country.

We gratefully acknowledge the valuable contributions made by experts from industries and trainers during the consultation and validation processes of the NCS development. We further look forward to improved industry engagement and active participation of trainers in the development of a quality-assured demand driven TVET system.

Director  
BQPCA



## ACKNOWLEDGEMENT

Development Date: 07 Feb 2024

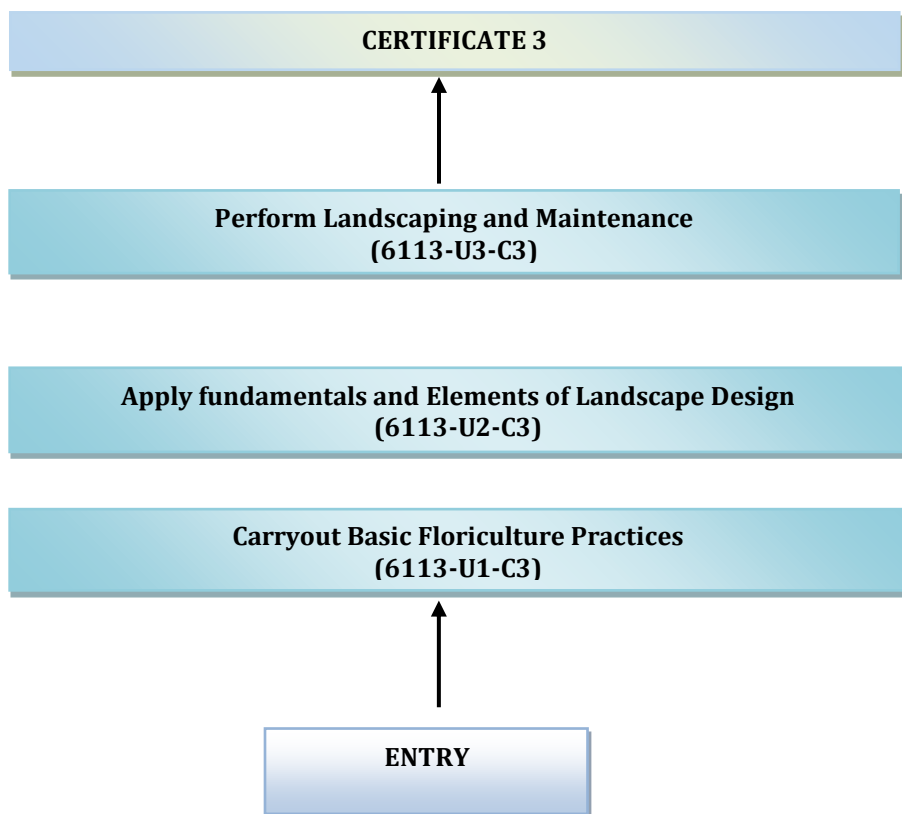
Experts Involved in the Development of NCS			
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2	Kezang Tobgay	Biodiversity Officer	National Biodiversity Center, Thimphu
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4	Chhimi Dorji	Sr. Forestry Officer	Divisional Forest Office, Tsirang
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8	Karma Loday	Specialist	BQPCA

**Validation Date:** 06 July 2024

**Date of Review:** 05 July 2029 (Maximum Five Years)

Experts involved in the validation			
SN	Name	Designation	Working Agency
1	Tshering Yangdon	Head, Planning, Monitoring & Marketing Section	GBCL Ltd. Thimphu
2	Chhimi Dorji	Sr. Forestry Officer	Divisional Forest Office, Tsirang
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6	Kabita Gurung	Proprietor	Green Bhutan Nursery, Gelephu
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## PACKAGING OF QUALIFICATIONS



## OVERVIEW OF COMPETENCY STANDARDS

Unit Title	Elements of competence
1. Carryout Basic Floriculture Practices	1.1 Perform ornamental plant identification 1.2 Perform nursery management 1.3 Perform plant health management
2. Apply fundamentals and elements of landscape design	2.1 Perform hand sketching 2.2 Perform basic CAD programming 2.3 Perform pre-construction activities
3. Perform landscaping and maintenance	3.1 Perform landscape designing 3.2 Install hardscape 3.3 Perform softscaping 3.4 Perform maintenance

<b>UNIT TITLE</b>	<b>Carryout Basic Floriculture Practices</b>
<b>DESCRIPTOR</b>	This unit covers the competencies required to perform ornamental plant identification, nursery management and to manage plant health
<b>CODE</b>	<b>6113-U1-C3</b>
<b>ELEMENTS OF COMPETENCE</b>	<b>PERFORMANCE CRITERIA</b>
1. Perform ornamental plant identification	1.1 Use <b>PPEs</b> as per the job requirements following standard procedure. 1.2 Select and use <b>tools and equipment</b> as per the job requirements following standard procedure 1.3 Identify <b>common ornamental plants</b> following standard procedure
2. Perform nursery management	2.1 Use PPEs as per the job requirements following standard procedure. 2.2 Select and use tools and equipment as per the job requirements following standard procedure 2.3 Construct greenhouse and shed house following standard procedure 2.4 Perform <b>nursery management activities</b> following standard procedure
3. Manage plant health	3.1 Use PPEs as per the job requirements following standard procedure. 3.2 Select and use tools and equipment as per the job requirements following standard procedure 3.3 Perform <b>plant care activities</b> following standard procedure

RANGE STATEMENT	
<b>PPE</b> may include but not limited to:	
<ul style="list-style-type: none"> <li>● Rain boots</li> <li>● Dust masks</li> </ul>	<ul style="list-style-type: none"> <li>● Safety Gloves</li> <li>● Work dress</li> </ul>
<b>Tools and equipment</b> may include but not limited to:	
<ul style="list-style-type: none"> <li>● Spades</li> <li>● Sickle</li> <li>● Rake</li> </ul>	<ul style="list-style-type: none"> <li>● Shovel</li> <li>● Hoe</li> <li>● Wheelbarrow</li> </ul>
<b>Common ornamental plants</b> may include but not limited to:	
<ul style="list-style-type: none"> <li>● Ornamental trees</li> <li>● Ornamental herbs</li> </ul>	<ul style="list-style-type: none"> <li>● Ornamental climbers/vines</li> </ul>
<b>Nursery management activities</b> may include but not limited to:	
<ul style="list-style-type: none"> <li>● Preparation of growing media</li> <li>● Performing plant propagation</li> </ul>	<ul style="list-style-type: none"> <li>● Performing seedling care</li> </ul>
<b>Plant care activities</b> may include but not limited to:	
<ul style="list-style-type: none"> <li>● Performing pruning and thinning</li> <li>● Performing plant feeding</li> <li>● Managing pests</li> </ul>	<ul style="list-style-type: none"> <li>● Managing diseases</li> <li>● Managing weed</li> </ul>
<b>Critical Aspects:</b>	
<ul style="list-style-type: none"> <li>● Demonstration of occupational health and safety practices at workplace</li> <li>● Perform plant care activities following standard procedure</li> </ul>	

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
<ul style="list-style-type: none"> <li>● Ethics and Integrity</li> <li>● Occupational Health and Safety Regulations</li> <li>● Basic First Aid</li> <li>● Nursery Management</li> <li>● Plant Health Management</li> <li>● Plant Identification</li> <li>● Norms and standards for Nursery and Plantation</li> <li>● Related BAFRA and Forestry Rule</li> </ul>	<ul style="list-style-type: none"> <li>● Team Work</li> <li>● Communication</li> <li>● Negotiation</li> <li>● Problem Solving</li> <li>● Creativity</li> <li>● Time Management</li> </ul>

<b>UNIT TITLE</b>	<b>Apply Fundamentals and Elements of Landscape Design</b>
<b>DESCRIPTOR</b>	This unit covers the competencies required to perform hand sketching, perform basic CAD programming and perform pre-construction activities
<b>CODE</b>	<b>6113-U2-C3</b>
<b>ELEMENTS OF COMPETENCE</b>	<b>PERFORMANCE CRITERIA</b>
1. Perform hand sketching	<p>1.1 Use <b>PPEs</b> as per the job requirements following standard procedure.</p> <p>1.2 Select and use <b>tools and equipment</b> as per the job requirements following standard procedure</p> <p>1.3 Perform <b>landscape design by sketching</b> following standard procedure</p>
2. Perform basic CAD programming	<p>2.1 Use <b>PPEs</b> as per the job requirements following standard procedure.</p> <p>2.2 Select and use <b>tools and equipment</b> as per the job requirements following standard procedure</p> <p>2.3 Perform basic CAD operations following standard procedure</p> <p>2.4 Design a basic garden following standard procedure</p>
3. Perform pre-construction activities	<p>3.1 Use <b>PPEs</b> as per the job requirements following standard procedure.</p> <p>3.2 Select and use <b>tools and equipment</b> as per the job requirements following standard procedure</p> <p>3.3 Perform basic site analysis following standard procedure</p> <p>3.4 Prepare site map following standard procedure</p>

	3.5 Perform estimation and costing following standard procedure
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RANGE STATEMENT	
<b>Tools and equipment</b> may include but not limited to:	
<ul style="list-style-type: none"> <li>• Computer with internet connection</li> <li>• Camera</li> </ul>	<ul style="list-style-type: none"> <li>• Color Printer</li> <li>• Artist Pencil set</li> <li>• Color Pencils</li> </ul>
<b>PPEs</b> may include but not limited to:	
<ul style="list-style-type: none"> <li>• Hand Sanitizer</li> </ul>	<ul style="list-style-type: none"> <li>• Dust Mask</li> </ul>
<b>Landscape design by sketching</b> may include but not limited to:	
<ul style="list-style-type: none"> <li>• Identify elements of sketching</li> <li>• Sketch softscapes</li> </ul>	<ul style="list-style-type: none"> <li>• Sketch hardscapes</li> </ul>
<b>Critical Aspects:</b>	
<ul style="list-style-type: none"> <li>• Demonstration of occupational health and safety practices at workplace</li> <li>• Prepare site map following standard procedure</li> </ul>	

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
<ul style="list-style-type: none"> <li>• Ethics and Integrity</li> <li>• Occupational Health and Safety Regulations</li> <li>• First Aid</li> <li>• CAD</li> <li>• Hand Sketching</li> </ul>	<ul style="list-style-type: none"> <li>• Team Work</li> <li>• Communication</li> <li>• Problem Solving</li> <li>• Creativity</li> <li>• Time Management</li> </ul>

<b>UNIT TITLE</b>	<b>Carryout Landscaping and Maintenance</b>
<b>DESCRIPTOR</b>	This unit covers the competencies required to perform landscape designing, install hardscape and perform softscaping and perform maintenance
<b>CODE</b>	<b>6113-U3-C3</b>
<b>ELEMENTS OF COMPETENCE</b>	<b>PERFORMANCE CRITERIA</b>
1. Perform landscape designing	1.1 Use <b>PPEs</b> as per the job requirements following standard procedure. 1.2 Select and use <b>tools and equipment</b> as per the job requirements following standard procedure 1.3 Prepare residential landscape design following standard procedure 1.4 Prepare urban landscape design following standard procedure 1.5 Prepare commercial landscape design following standard procedure
2. Install hardscape	2.1 Use PPEs as per the job requirements following standard procedure. 2.2 Select and use <b>tools and equipment</b> as per the job requirements following standard procedure 2.3 Perform <b>hardscape construction and installation</b> following standard procedure
3. Perform softscaping	3.1 Use <b>PPEs</b> as per the job requirements following standard procedure. 3.2 Select and use <b>tools and equipment</b> as per the job requirements following standard procedure 3.3 Perform lawn development following standard procedure 3.4 Perform <b>ornamental plantation</b> following standard procedure

4. Perform maintenance	4.1 Use <b>PPEs</b> as per the job requirements following standard procedure. 4.2 Select and use <b>tools and equipment</b> as per the job requirements following standard procedure 4.3 Perform hardscape maintenance following standard procedure 4.4 Perform lawn maintenance following standard procedure 4.5 Perform plant care following standard procedure 4.6 Perform irrigation and drainage management following standard procedure.
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RANGE STATEMENT	
<b>Tools and equipment</b> may include but not limited to:	
<ul style="list-style-type: none"> <li>• Power Plant Auger</li> <li>• Lawn Mower</li> <li>• Power Hedge Trimmer</li> <li>• Power Tools</li> <li>• Jack Hammer</li> </ul>	<ul style="list-style-type: none"> <li>• Tree top pruner</li> <li>• Root Pruner</li> <li>• Lawn Roller</li> <li>• High Speed Cutters</li> <li>• </li> </ul>
<b>PPEs</b> may include but not limited to:	
<ul style="list-style-type: none"> <li>• Work dress</li> <li>• Safety Goggles</li> <li>• Respirator</li> </ul>	<ul style="list-style-type: none"> <li>• Rain boots</li> <li>• Safety Gloves</li> <li>• Safety Helmets</li> </ul>
<b>Hardscape construction and installation</b> may include but not limited to:	
<ul style="list-style-type: none"> <li>• Installation of patios and walkways</li> <li>• Installation of gazebos and rest spots</li> <li>• Installation of water features</li> <li>• Installation of landscape lighting</li> </ul>	<ul style="list-style-type: none"> <li>• Installation of deck and platforms</li> <li>• Installation of retaining walls and fencings</li> <li>• Installation of planters</li> </ul>

<ul style="list-style-type: none"> <li>• Installation of irrigation and drainage systems</li> </ul>	
<b>Ornamental plantation</b> may include but not limited to:	
<ul style="list-style-type: none"> <li>• Prepare planting bed</li> <li>• Perform plantation</li> </ul>	<ul style="list-style-type: none"> <li>• Perform mulching</li> </ul>
<b>Critical Aspects:</b>	
<ul style="list-style-type: none"> <li>• Demonstration of occupational health and safety practices at workplace</li> <li>• Prepare site map following standard procedure</li> </ul>	

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
<ul style="list-style-type: none"> <li>• Ethics and Integrity</li> <li>• Occupational Health and Safety</li> <li>• First Aid</li> <li>• Root Balling</li> <li>• Plantation practices</li> <li>• Landscape elements maintenance</li> </ul>	<ul style="list-style-type: none"> <li>• Team Work</li> <li>• Communication</li> <li>• Problem Solving</li> <li>• Creativity</li> <li>• Time Management</li> </ul>

## **ANNEXURE**

### **National Competency Standards (NCS)**

The National Competency Standards specify the skill, knowledge and attitudes applied to a particular occupation. Standards also specify the standards or criteria of performance of a competent worker and the various contexts in which work may take place. Standards provide explicit advice to assessors regarding the skill and knowledge to be demonstrated by candidates seeking formal recognition either following training or through work experience.

### **Purpose of National Competency Standards**

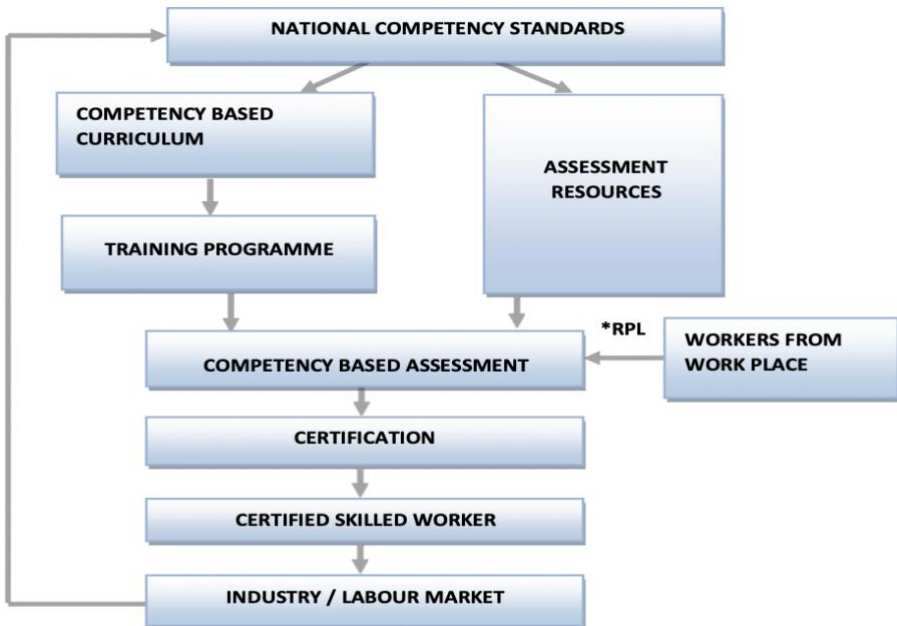
National Competency Standards serve a number of purposes including:

- Providing advice to curriculum developers about the competencies to be included in the curriculum.
- Providing specifications to assessment resource developers about the competencies within an occupation to be demonstrated by candidates.
- Providing advice to industry/employers about job functions, which in turn can be used for the development of job descriptions, performance appraisal systems and work flow analysis.

### **Bhutan Qualifications Framework (BQF)**

Bhutan Qualifications Framework is an integrated national framework that outlines all types of qualification in Bhutan. As an established and nationally accepted instrument, the BQF has been benchmarked against international practices in terms of standards. The BQF aims to recognize all forms of learning systems, including formal, non-formal, and informal learning. It acknowledges technological advancements and recognizes contemporary modes of delivery. It covers a broad range of education systems including the TVET education.

## Implementation of TVET Qualifications



\* RPL = Recognition of Prior Learning

## TVET Qualifications Levels

TVET Qualifications has seven levels as per the BQF. The levels are:

### *Bhutan Qualifications Framework 2023*

*Table 2: Qualification Types and Levels Based on Education Sector.*

BQF Level	Community Education	School Education	TVET	Higher Education	Monastic Education
8				Doctoral Degree	<i>Khewang</i> མཁས་དབང་།
7			Master's Degree Postgraduate Diploma Postgraduate Certificate	Master's Degree Postgraduate Diploma Postgraduate Certificate	<i>Tsugla Gongma</i> གཞུག་ལག་གོང་མ།
6			Applied Degree	Bachelor's Degree Bachelor's Degree (Honours) Graduate Diploma Graduate Certificate	<i>Tsugla Wogma</i> གཞུག་ལག་འོག་མ།
5			Advanced Diploma	Advanced Diploma	
4			Diploma	Diploma	
3		Bhutan Higher Secondary Education Certificate	Certificate 3		<i>Dringrim Gongma</i> འགྲིང་རིམ་གོང་མ།
2		Bhutan Certificate for Secondary Education	Certificate 2		<i>Dringrim Barma</i> འགྲིང་རིམ་བར་མ།
1	ALC		Certificate 1		

## Level Descriptors

The TVET Qualification levels are set based on the level descriptors, as defined in the BQF. The detail of the qualifications level descriptor is as follow:

<b>Level</b>	<b>Knowledge</b>	<b>Skills</b>	<b>Values</b>	<b>Application</b>
	<b>Knowledge that is:</b>	<b>Demonstrate skills that involve:</b>	<b>Demonstrate values that involve:</b>	<b>Applied in contexts that involve:</b>
4	Broad theoretical, technical and operational	<p>Selecting and applying a range of standard processes relevant to varied and sometimes unpredictable tasks</p> <p>Selecting and applying a range of solutions involving formulation of solutions to resolve complex issues</p> <p>Demonstrating a high level of proficiency in English and Dzongkha</p>	<p>Strong level of awareness of self and others; and an appreciation of belief system, role of social norms, and the importance of relationship building</p> <p>Application of ethical norms and legal rules in decision-making; and comprehending the correlation between values and behaviour</p> <p>Commitment to own profession and quality of work</p>	<p>Stable tasks with predictable changes</p> <p>Broad guidance with some self-direction that requires sound judgement</p> <p>Taking some responsibility for planning and coordination with others</p>
3	Theoretical with some technical and operational processes	<p>Applying a range of standard processes to known but varied tasks</p> <p>Selecting and applying a range of solutions to familiar and unfamiliar problems</p> <p>Communicating effectively and clearly, both oral and written, in both</p>	<p>Sound level of self-awareness and beliefs; and ability to apply social norms and build relationships</p> <p>Application of a set of ethical norms</p> <p>Commitment to own field of interest and apply self-management of</p>	<p>Stable tasks with some aspects of change</p> <p>General guidance and supervision that require discretion and judgement</p> <p>Adapting to own behaviour to work with others</p>

		English and Dzongkha	learning and performance	
2	Basic, factual and conceptual	<p>Applying standard processes relevant to carry out known tasks</p> <p>Applying a set of known solutions to solve simple and straightforward issues</p> <p>Using simple and direct exchange of information on familiar and routine matters</p> <p>Developing basic proficiency in Dzongkha and English</p>	<p>Some level of self-awareness and beliefs, and appreciation of social norms; and significance of relationships</p> <p>Awareness of ethical norms, and openness to different activities</p> <p>Developing own knowledge and skills</p>	<p>Structured and stable tasks</p> <p>General support and Supervision that require some discretion and judgement</p> <p>Collaboration with others to achieve goals</p>
1	Foundational, every day and general	<p>Applying operational literacy, numeracy skills required to carry out simple tasks</p> <p>Applying simple solutions to solve simple and straightforward everyday issues</p> <p>Communicating using everyday expressions and simple phrases in Dzongkha and English</p>	<p>Basic awareness of self, beliefs, and social norms; and understand the significance of relationships</p> <p>Basic awareness of fundamental ethical norms, basic civil rights, and responsibilities</p> <p>Willingness to understand tasks and motivated to implement them successfully</p>	<p>Highly structured tasks with close support and supervision</p> <p>Minimal Discretion and judgement</p> <p>Readiness to work together and share knowledge with others</p>

## **CODING USED FOR NATIONAL COMPETENCY STANDARDS**

The coding and classification system developed in Bhutan is logical, easy to use, and also aligned with international best practices. The Bhutanese coding and classification system is based on the International Standard Classification of Occupations, 2008 (ISCO-08) developed by the International Labour Organisation (ILO).

The coding of the National competency standards forms the basis of the identification code for the Vocational Education and Training Management Information System (VET – MIS) both in terms of economic sector identification and that of the individual standard.

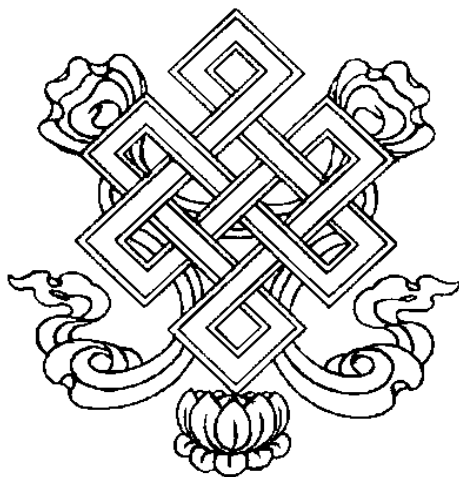
### **Coding the individual national competency standards**

Coding the individual skills standard has a multiple purpose:

- to identify the occupational code
- to identify the units
- to identify the qualification level.

A job can include a number of competencies described in the national competency standards.

However, in order to follow a logical order, only national competency standards related to each other and following a logical sequence in terms of training delivery, from the simple to the complex, are clustered into a qualification level. Some standards are so complex that they need to stand alone.



TVET Quality Council  
Bhutan Qualifications and Professional Certification Authority  
Thimphu, Bhutan