



**NATIONAL COMPETENCY STANDARDS
FOR
COMMERCIAL AGRIPRENEUR(CROP)
(C3)**

AGRICULTURE AND FORESTRY SECTOR

**TECHNICAL & VOCATIONAL EDUCATION AND
TRAINING QUALITY COUNCIL
BHUTAN QUALIFICATIONS AND PROFESSIONALS
CERTIFICATION AUTHORITY
THIMPHU, BHUTAN
DECEMBER 2025**

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FOREWORD

The TVET Quality Council, BQPCA, is pleased to present the National Competency Standards (NCS) for **Commercial Agripreneur (Crop)**, Certificate 3, developed in collaboration with industry experts and trainers. These standards establish a nationally recognized qualification aligned with international best practices, setting a benchmark for TVET qualifications in Bhutan.

The NCS ensures that trainees acquire the necessary skills, knowledge, and attitude required by industries. Developed through close consultation with experts, it enhances the relevance of training to labor market needs, equipping graduates to meet industry expectations and improving their employability. A strong and responsive TVET system will also make vocational education more attractive to youth.

The Council acknowledges the valuable contributions of industry experts and trainers in the development of these standards. We urge employers and training providers to continue their support in implementing the NCS, fostering a skilled and productive workforce that contributes to national socio-economic development. Moving forward, we look forward to enhanced industry engagement and collaborative efforts in building a quality-assured, demand-driven TVET system.

Director
BQPCA

ACKNOWLEDGEMENT

Date of Endorsement : 10th December 2025

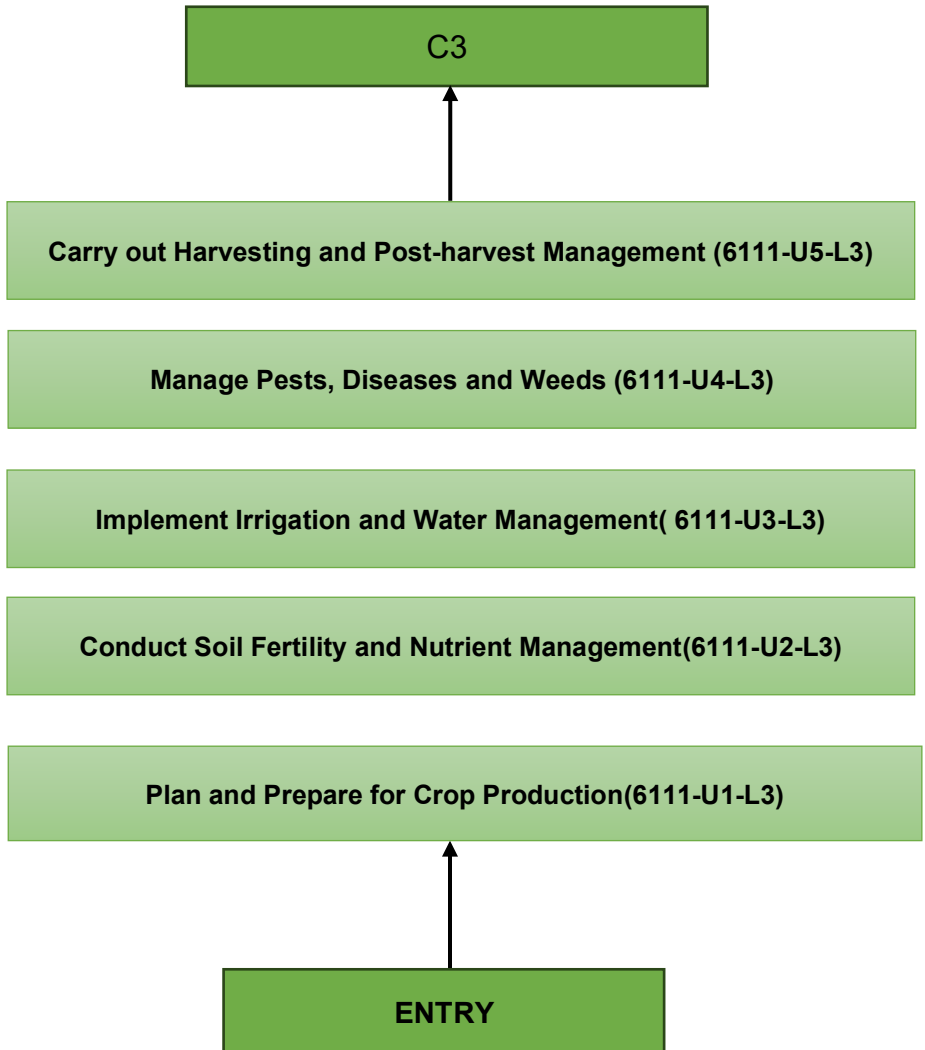
Date of Revision : 9th December 2030

The TVET Quality Council, Bhutan Qualifications and Professionals Certification Authority would like to express our deepest appreciation to the following industry and subject matter experts who have participated in development of the National Competency Standards for Commercial Agripreneur:

Experts involved in the validation of NCS			
SN	Name	Designation	Organization
1	Chogyal	DGM	FMCL
2	Khem Raj Chhetri	Agriculturist	Beekeeping Workshop
3	Tashi Dendup	Secretary General	Horticulture Association of Bhutan
4	Nidup Gyeltshen	Agriculturist	FMCL
5	Dawa Karma Sherpa	Asst. Manager	FMCL
6	Bunu Maya Chhetri	Farm Manager	FMCL
7	Melam Zangmo	CEO	Kitshel Garden
8	Tanka Maya Pulami	Principal Agriculture Officer	ARDC,Bajo

Experts involved in the development of NCS			
SN	Name	Designation	Organization
1	Tashi Phuntsho	Chief DAO	Zhemgang Dzongkhag Administration
2	Arjun Kumar Ghalley	Agriculture Officer	ARDC, Bajo
3	Pema Zangpo	Chairman	Panbang Youth Cooperative
4	Pema Gyeltshen	Trainer	RDTC, Zhemgang
5	Karma Sonam	Training Director	RDTC, Zhemgang

PACKAGING OF QUALIFICATIONS



OVERVIEW OF THE NCS

Unit Title	Element of Competence
1. Plan and Prepare for Crop Production	1.1 Prepare Production Plan 1.2 Prepare Production Fields 1.3 Perform Production Activities
2. Conduct Soil Fertility and Nutrient Management	2.1 Assess Soil Fertility Status 2.2 Apply Soil Amendments 2.3 Enhance Soil Productivity
3. Implement Irrigation and Water Management	3.1 Plan Irrigation Requirements 3.2 Operate Irrigation Systems 3.3 Conserve Water Resources
4. Manage Pests & Diseases and Weeds	4.1. Conduct Pests, Disease and Weed Surveillance 4.2. Perform Integrated Pest and Disease Management 4.3. Perform Weed Management
5. Carryout Harvesting and Post-harvest Management	5.1 Perform Harvesting of Crops 5.2 Perform Post-harvest Management of Crops 5.3 Perform Packaging and Storage

UNIT TITLE	Plan and Prepare for Crop Production
DESCRIPTOR	This unit covers the competencies required to prepare production plan, prepare production field and perform production activities
CODE	6111-U1-L3
ELEMENTS OF COMPETENCE	PERFORMANCE CRITERIA
1. Prepare Production Plan	1.1 Identify suitable crops based on agro-climatic conditions and market demand 1.2 Develop seasonal production schedules 1.3 Estimate input requirements and costs
2. Prepare Production Field and Farm	2.1 Observe OHS following standard procedure 2.2 Perform site analysis as per requirement 2.3 Operate and maintain farm tools and machineries 2.4 Perform land preparation operations 2.5 Perform agriculture support structure installation
3. Perform Production Activities	3.1 Perform nursery operations as per the job requirement 3.2 Perform production of prioritized crops following standard procedure 3.3 Perform appropriate inter-cultural operations

	3.4 Maintain records following standard procedure
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RANGE STATEMENT	
Land preparation operations may include but not limited to:	
• Clearing of field • Tilling operation	• Bed preparation
Agriculture support structure may include but not limited to.	
• Greenhouse • Fences	• Shed nets • Roof Structure
Prioritized crops may include but not limited to:	
• High value vegetables • Mushrooms	• High value/major crops
<i>Critical Aspects</i>	
• Demonstrate competencies in performing site analysis • Demonstrate competencies in identifying suitable crops based on agro-climatic conditions and market demand • Demonstrate competencies in performing nursery operations as per the job requirement	

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
• Ethics and Integrity • Plant botany and morphology • Plant Physiology • Plant nutrient requirement	• Team Work • Communication • Problem Solving

• Importance and objectives of production planning • Principles of seasonality and cropping calendars • Crop growth requirements • Types of cropping systems • Estimation of farm inputs • Cost of production • Land resource evaluation (soil types and fertility status) • Basic farm economics • Work planning, workflow sequencing and timelines • Environmental sustainability and resource efficiency • Basic legislative and workplace safety requirements • Basic Soil science • Entrepreneurship • 5S Principles	• Interpersonal Relationship • Time Management • Innovation and creativity • Growth oriented
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UNIT TITLE	Conduct Soil Fertility and Nutrient Management
DESCRIPTOR	This unit covers the competencies required to assess soil fertility status, perform sustainable soil management, and soil fertility management
CODE	6111-U2-L3
ELEMENTS OF COMPETENCE	PERFORMANCE CRITERIA
1. Assess Soil Fertility Status	1.1 Conduct soil sampling following standard procedure 1.2 Conduct rapid soil testing using appropriate methods 1.3 Interpret soil lab result accurately
2. Perform Sustainable Soil Management	2.1 Perform appropriate multi-cropping 2.2 Apply appropriate organic matter to improve soil structure 2.3 Perform sustainable land management practices as per requirements
3. Perform Soil Fertility Management	3.1 Apply appropriate fertilizers in correct quantity 3.2 Apply soil amendments as per crop requirements 3.3 Observe Occupation and health safety standards

RANGE STATEMENT

Fertilizers may include but not limited to:	
• Organic	• In-organic
Soil amendments may include but not limited to:	
• Organic	• In-Organic
Multi-cropping may include but not limited to:	
• Crop rotation • Intercropping	• Cover cropping • Green manuring crops
<i>Critical Aspects</i>	
• Demonstrate competencies to adhere to OHS standards • Demonstrate competencies in soil sampling • Demonstrate competencies in application of fertilizers	

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
• Ethics and Integrity • OHS • Fertilizer types and properties • organic fertilizers and manures • Soil amendments • Sustainable soil management practices • Environmental and human impacts of inorganic fertilizers • Interpretation of soil test result • Entrepreneurship	• Team Work • Communication • Problem Solving • Interpersonal Relationship • Creativity and Innovation • Time Management • Growth-mindset

UNIT TITLE	Implement Irrigation and Water Management
DESCRIPTOR	This unit covers the competencies required to plan irrigation, operate irrigation systems and conserve water resources
CODE	6111-U3-L3
ELEMENTS OF COMPETENCE	PERFORMANCE CRITERIA
1. Plan Irrigation Requirements	1.1 Estimate water needs based on crop stage 1.2 Design smart <i>irrigation systems</i> 1.3 Prepare watering schedule effectively
2. Operate Irrigation Systems	2.1 Install and maintain irrigation networks 2.2 Regulate water distribution and flow 2.3 Troubleshoot basic common irrigation system faults
3. Conserve Water Resources	3.1 Apply water-efficiency practices 3.2 Apply waterlogging and loss prevention practices 3.3 Apply water harvesting practices 3.4 Implement water source conservation practices

RANGE STATEMENT	
Irrigation system may include but not limited to:	
• Sprinkler	• Automated

• Drip	
<i>Critical Aspects</i>	
• Demonstrate competencies to Install and maintain irrigation networks • Demonstrate competencies to design suitable irrigation systems	

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
• Ethics and integrity • Basic Hydrology • Irrigation equipment • Water-saving strategies • Smart irrigation • Scheduling methods • Irrigation planning tools • Principles of water conservation in agriculture • Policies, regulations, or guidelines on sustainable water use • Water requirement in different types of crops	• Team Work • Communication • Problem Solving • Interpersonal Relationship • Time Management • Innovation • Growth mindset

UNIT TITLE	Manage Pests, Diseases and Weeds
DESCRIPTOR	This unit covers the competencies required to conduct pest, disease and weed surveillance, perform integrated pest and disease management and weed management
CODE	6111-U4-L3
ELEMENTS OF COMPETENCE	PERFORMANCE CRITERIA
1. Conduct Pests, Disease and Weed Surveillance	1.1 Implement surveillance procedures 1.2 Monitor pests, diseases, and weeds 1.3 Report and analyze findings accurately
2. Perform Integrated Pest and Disease Management	2.1. Observe OHS following standard procedure 2.2. Assess pest and disease risks 2.3. Implement integrated management strategies 2.4. Apply agrochemicals safely and correctly 2.5. Apply organic formulation 2.6. Monitor and evaluate control measures
3. Perform Weed Management	3.1 Observe OHS following standard procedure 3.2 Identify and assess weeds infestation 3.3 Implement weed control measures 3.4 Monitor and evaluate weed control effectiveness

RANGE STATEMENT	
Organic formulations may include but not limited to:	
• Neem-based • Locally-formulated	• Bio pesticides • Fungicides
<i>Critical Aspects</i>	
• Demonstrate competencies to identify and monitor pests, diseases, and weeds • Demonstrate competencies to apply control measures for pest, disease and weeds	

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
• Ethics and Integrity • IPM • Agrochemical safety, biosecurity practices • Common pests and diseases • Life cycle, behavior, and ecology of pests • Types and application of Bio-chemicals • Signs and symptoms of diseases • Common weed species and their growth patterns • Monitoring and Surveillance • Safe handling, storage, and disposal of chemicals and bio-formulations	• Team Work • Communication • Problem Solving • Interpersonal Relationship • Time Management • Innovation • Entrepreneurship • Growth- mindset

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| <ul style="list-style-type: none">• Legal and regulatory requirements for chemical or biological agent use | |
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UNIT TITLE	Carry out Harvesting and Post-harvest Management
DESCRIPTOR	This unit covers the competencies required to perform harvesting of crops, post-harvest management and packaging and storage.
CODE	6111-U5-L3
ELEMENTS OF COMPETENCE	PERFORMANCE CRITERIA
1. Perform Harvesting of Crops	1.1 Prepare for harvesting operations 1.2 Observe OHS following standard procedure 1.3 Use appropriate harvesting tools and equipment 1.4 Harvest crops using appropriate methods
2. Perform Post-Harvest Management	2.1 Implement on-farm storage measures 2.2 Grade and sort produce as per market norms 2.3 Store produce under suitable conditions
3. Perform Packaging and Storage	3.1 Prepare appropriate packaging materials 3.2 Perform processing and packaging following standard procedure 3.3 Store processed products under appropriate conditions 3.4 Maintain sales and inventory records

Critical Aspects

- Demonstrate competencies to prepare for harvesting operations
- Demonstrate competencies to implement on-farm storage measures
- Demonstrate competencies to grade and sort produce as per market norms
- Demonstrate competencies to perform packaging following standard procedure

UNDERPINNING KNOWLEDGE	UNDERPINNING SKILLS
• Ethics and Integrity • Market and Value chain • Grading standards • Storage techniques • Maturity index • Post-harvest loss • Packaging and labeling • Relevant rules and regulations • Cost of production • 5S Principles	• Team Work • Communication • Problem Solving • Interpersonal Relationship • Time Management • Innovation • Entrepreneurship • Growth- mindset

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:

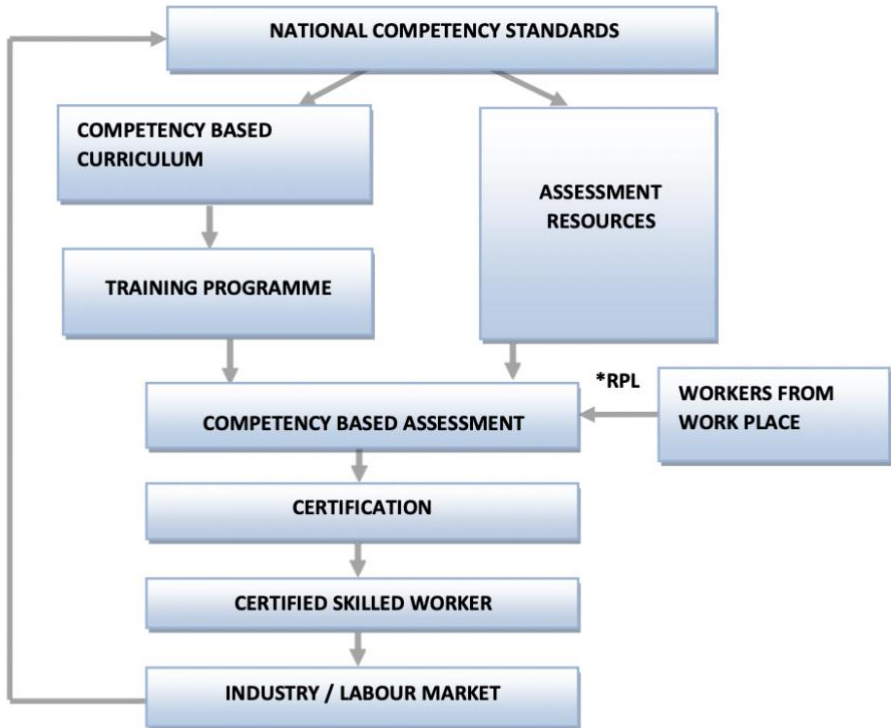
- Providing advice to curriculum developers about the competencies to be included in the curriculum.
- Providing specifications to assessment resource developers about the competencies within an occupation to be demonstrated by candidates.
- Providing advice to industry/employers about job functions, 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 have seven levels as per the BQF, as follows:

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> འབྲིང་རིམ་གོང་མ།
2		Bhutan Certificate for Secondary Education	Certificate 2		<i>Dringrim Barma</i> འབྲིང་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 qualification level descriptor is as follow:

Level	Knowledge	Skills	Values	Application
	Knowledge that is:	Demonstrate skills that involve:	Demonstrate values that involve:	Applied in contexts that involve:
4	Broad theoretical, technical and operational	Selecting and applying a range of standard processes relevant to varied and sometimes unpredictable tasks Selecting and applying a range of solutions involving formulation of solutions to resolve complex issues Demonstrating a high level of proficiency in English and Dzongkha	Strong level of awareness of self and others; and an appreciation of belief system, role of social norms, and the importance of relationship building Application of ethical norms and legal rules in decision-making; and comprehending the correlation between values and behavior Commitment to own profession and quality of work	Stable tasks with predictable changes Broad guidance with some self-direction that requires sound judgement Taking some responsibility for planning and coordination with others
3	Theoretical with some technical and operational processes	Applying a range of standard processes to known but varied tasks	Sound level of self-awareness and beliefs; and ability to apply social	Stable tasks with some aspects of change

		Selecting and applying a range of solutions to familiar and unfamiliar problems Communicating effectively and clearly, both oral and written, in both English and Dzongkha	norms and build relationships Application of a set of ethical norms Commitment to own field of interest and apply self-management of learning and performance	General guidance and supervision that require discretion and judgement Adapting to own behaviour to work with others
2	Basic, factual and conceptual	Applying standard processes relevant to carry out known tasks Applying a set of known solutions to solve simple and straightforward issues Using simple and direct exchange of information on familiar and routine matters Developing basic proficiency in Dzongkha and English	Some level of self-awareness and beliefs, and appreciation of social norms; and significance of relationships Awareness of ethical norms, and openness to different activities Developing own knowledge and skills	Structured and stable tasks General support and Supervision that require some discretion and judgement Collaboration with others to achieve goals
1	Foundational, every day and general	Applying operational literacy, numeracy skills required to carry out simple tasks Applying simple solutions to solve simple and	Basic awareness of self, beliefs, and social norms; and understand the significance of relationships	Highly structured tasks with close support and supervision Minimal Discretion and judgement

		straightforward everyday issues Communicating using everyday expressions and simple phrases in Dzongkha and English	Basic awareness of fundamental ethical norms, basic civil rights, and responsibilities Willingness to understand tasks and motivated to implement them successfully	Readiness to work together and share knowledge with others
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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 Technical & Vocational Education and Training Management Information System (TVET – MIS) both in terms of economic sector identification and that of the individual standard.

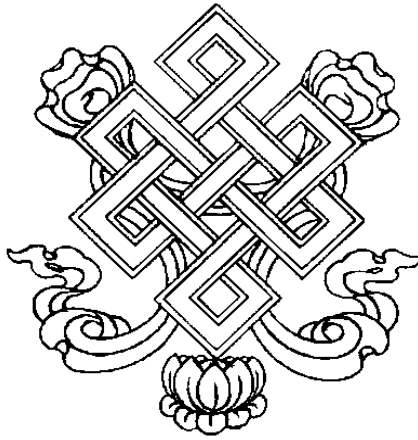
Coding the individual national competency standards

Coding the individual skills standard has a multiple purpose:

- to identify the level,
- to identify to which module the standard belongs,
- to identify in which order the standard is clustered within that module.

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 module. Some standards are so complex that they need to stand alone.



TVET Quality Council
Bhutan Qualifications and Professionals Certification Authority
Chang Gidaphu
P.O. Box 1956, Thimphu
www.bqpca.gov.bt