
	BQA NCQF QUALIFICATION TEMPLATE	Document No.	DNCQF.QIDD.GD02
		Issue No.	01
		Effective Date	04/02/2020

SECTION A: QUALIFICATION DETAILS													
QUALIFICATION DEVELOPER (S)		Botswana University of Agriculture and Natural Resources											
TITLE	Diploma in Horticulture										NCQF LEVEL	6	
FIELD	Agriculture and Nature Conservation			SUB-FIELD		Horticulture				CREDIT VALUE	360		
New Qualification						√		Review of Existing Qualification					
SUB-FRAMEWORK		General Education					TVET					Higher Education	
QUALIFICATION TYPE	Certificate	I	II	III	IV	V	Diploma	√	Bachelor or				
	Bachelor Honours			Post Graduate Certificate				Post Graduate Diploma					
	Masters					Doctorate/ PhD							
RATIONALE AND PURPOSE OF THE QUALIFICATION													
<p>RATIONALE</p> <p>According to the Human Resource Development Council of Botswana (HRDC), agriculture is the main source of livelihood in Botswana as 40% of the population lives in rural areas and derive their subsistence from crop production and related agricultural activities (https://www.hrdc.org.bw/?q=sector-committees). However, crop production in Botswana is severely hampered by low and erratic rainfall, endemic droughts, high summer temperatures, low soil fertility and high incidence of pests, diseases, and weeds. Lack of technology adoption by farmers, poor research-extension linkages and limited human resources have also been blamed as contributing to poor performance of the crop sector. The need for Crop Scientist equipped with adequate knowledge and skills to serve the emerging crop sector in Botswana is strong. A country-wide needs assessment survey conducted revealed that an overwhelming majority of the respondents (96.9%) require graduates in Crop Science in their organizations and therefore, requested that the then Department of Crop Science and Production should introduce the proposed Crop Science qualifications. The diploma in horticulture was designed to provide specialized knowledge horticulture crop production. Special emphasis has been placed on production of cereals, legumes and oilseeds, fibre and industrial crops, root and tubers as well as</p>													

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fruits, vegetables, ornamentals, controlled environment horticulture and irrigation. Also, according to the HRDC's agricultural sector plan of August 2015, there is the need for human capital and skills development for technology transfer to raise the productivity of both small- and large-scale farmers. There is also the need to improve the quality of the agricultural training by improving its relevance and practical training component to produce, among others, breeders and horticulturalists; these, have been identified as occupations in high demand in Botswana. The Diploma qualification is meant to satisfy the lower category of specialist to meet gap left by the higher degree qualifications which is mostly engaged at more scientific operations. The qualification is also meant to fit in basic operations such as farm managers, frontline extension workers and non-governmental organisations community advisors. Furthermore, among the six-broad basis of the National Development Plan 11 (NDP 11) are human capital development and sustainable use of natural resources which this qualification will also address. Graduate of this qualification will further advance Vision 2036 pillars of Sustainable Economic Development, Human and Social Development and Sustainable Environment.

PURPOSE:


The purpose of the qualification is to produce graduates who are skilled in horticulture to be able to drive change that can lead to increased horticulture crop productivity in conditions of Botswana, be industry ready and can be self-employed. Horticulture enterprise management, conduct elementary trials and research in horticulture, operate municipal landscapes/parks, advice horticulture farmers/practitioners.

Graduates of this qualification will have knowledge, skills and competences to:


- Operate and Maintain Horticulture Production Units and Landscape Areas.
- Plan and Implement Harvesting and Post-Harvest Activities.
- Conduct and Implementing Horticulture Research Findings.
- Manage small Horticulture Business and Human Resource.

ENTRY REQUIREMENTS (including access and inclusion)

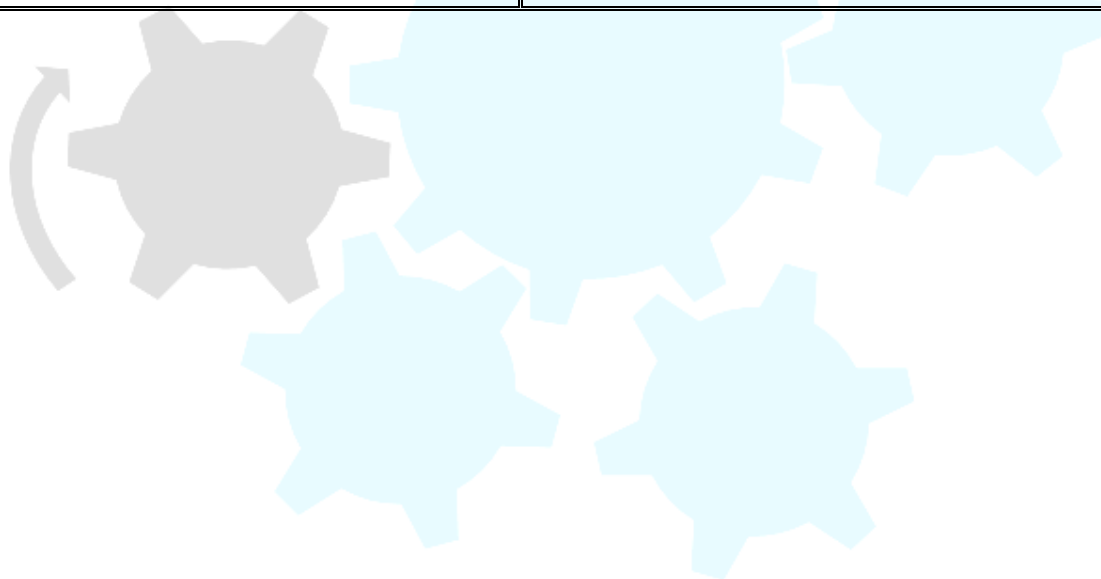
- Minimum entry is Certificate IV (NCQF Level 4) or its equivalent.
- Candidate not meeting minimum requirement will be *considered through Recognition of Prior Learning in accordance with applicable policies.*


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SECTION B		QUALIFICATION SPECIFICATION	
GRADUATE PROFILE (LEARNING OUTCOMES)		ASSESSMENT CRITERIA	
1. Demonstrate knowledge of Planning, Implementation and Evaluation of Viable Horticultural Designs of Vegetable Gardens, Orchards and Landscape Areas		1.1 Draw plans for vegetable gardens, orchards, and designs for landscape areas. 1.2 Execute those plans in a given area using appropriate tools and materials. 1.3 Evaluate horticultural designs and their viability.	
2. Operate and Maintain Horticulture Production Units and Landscape Areas (Vegetables, Fruits and Ornamentals)		2.1 Practice methods and techniques to run production units and landscape areas. 2.2 Identify and apply appropriate crop protection measures. 2.3 Practice appropriate irrigation systems and fertilizer application methods. 2.4 Operate and maintain machinery, tools, and equipment	
3. Plan and Implement Harvesting and Post-Harvest Activities		3.1 Prepare plans, apply, and arrange harvesting and post-harvest activities. 3.2 Utilise various methods in harvesting and apply various technologies in handling produce after harvest.	
4. Manage of Human Resources		4.1 Plan for establishment and recruitment of staff 4.2 Demonstrate good leadership abilities. 4.3 Develop and organise appropriate staff development activities	
5. Promote Awareness of the Potential of Horticulture and Provide Extension Service		5.1 Interpret relevant government policies. 5.2 Plan and organise awareness campaigns. 5.3 Provide advisory services for the development of the horticulture industry. 5.4 Apply appropriate extension methods, channels, and approaches to provide extension services.	
6. Assist in Conducting Trials and Implementing Research Findings to Address Constraints in Horticultural Production		6.1 Plan and execute trials. 6.2 Assist in research projects. 6.3 Interpret and implement research findings.	
7. Promote collaboration between industry and stakeholders		7.1 Identify and establish contacts with stakeholders. 7.2 Coordinate activities of common interest between industry and stakeholders. 7.3 Organise a forum for interaction with stakeholders on	

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	problems and developments in horticulture.
8. Undertake hortibusiness management to achieve commercialisation of horticulture operations	8.1 Carry out market surveys and organise markets for horticulture produce. 8.2 Establish production plans for an enterprise. 8.3 Manage financial resources and make cost benefit analysis. 8.4 Prepare project proposals for funding. 8.5 Utilize appropriate data processing and information systems. 8.6 Assist to analyse the clientele to provide good business contacts and feedback.




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SECTION C		QUALIFICATION STRUCTURE			
COMPONENT	TITLE	Credits Per Relevant NCQF Level			Total (Per Subject/Course/Module/Units)
		Level [5]	Level [6]	Level [7]	
FUNDAMENTAL COMPONENT Subjects/ Courses/ Modules/Units	Physics	5			12
	Mathematics	5			12
	Biometry	5			12
	Chemistry	5			12
	Biology	5			12
	Computing Skills	5			12
	Communication Skills	5			12
CORE COMPONENT Subjects/Courses/ Modules/Units	Agricultural Economics, Agribusiness and Extension		6		60
	Agronomy, Botany, Crop Protection and Soil Science		6		60
	Horticulture		6		72
	Farm Mechanisation, Structures and Land Use		6		48
	Work based learning		6		12
ELECTIVE/ OPTIONAL COMPONENT Subjects/Courses/ Modules/Units	Food Science and Technology			7	12
	Natural Resources			7	12
	Animal Science			7	12

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SUMMARY OF CREDIT DISTRIBUTION FOR EACH COMPONENT PER NCQF LEVEL	
TOTAL CREDITS PER NCQF LEVEL	
NCQF Level	Credit Value
5	84
6	252
7	24
TOTAL CREDITS	360
Rules of Combination: (Please Indicate combinations for the different constituent components of the qualification)	
<p>Rules of Combination = Fundamental (F) + Core (C) + Elective (E)</p> <p style="padding-left: 40px;">= 84 + 252 + 24</p> <p style="padding-left: 40px;">= 360</p> <p>The learner chooses 2 of the 3 electives.</p> <p style="padding-left: 40px;">Core = 252 = 70.00%</p> <p style="padding-left: 40px;">Fundamentals = 84 = 23.33%</p> <p style="padding-left: 40px;">Elective = 24 = 6.67%</p>	

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ASSESSMENT ARRANGEMENTS

ASSESSMENTS

- Formative assessment will contribute 50% to the overall course grade.
- Summative assessment will constitute the other 50% of the overall course grade.
- Assessment will be carried out by BQA accredited assessors.

MODERATION ARRANGEMENTS

INTERNAL AND EXTERNAL MODERATION

Assessment and moderation will be carried in accordance with institutional policies in line with the national policy.

Internal and external moderation will be carried out by BQA accredited moderators.

RECOGNITION OF PRIOR LEARNING

There will be provision for award of the qualification through Recognition of Prior Learning (RPL).

RPL will be carried in accordance with institutional policies in with the national policy.

CREDIT ACCUMULATION AND TRANSFER

Credit Accumulation and Transfer (CAT) shall be used to award the qualification for candidates who have shown evidence for the credits accumulated in accordance with the ETP and national policies on CAT.

PROGRESSION PATHWAYS (LEARNING AND EMPLOYMENT)

Horizontal Progression


- Diploma in Agriculture.
- Diploma in Agricultural Extension.
- Diploma in Forestry and Range.

Vertical Progression

- Bachelor of Science in Agriculture.
- Bachelor of Science in Agricultural Extension.
- Bachelor of Science in Forestry and Range.

Employment Pathways

- Horticulture Extension Officer.
- Agricultural Extension Officer.
- Horticulture Entrepreneur.

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QUALIFICATION AWARD AND CERTIFICATION

- Graduates will be awarded Diploma in Horticulture after obtaining attaining a minimum of 360.
- There will be issuance of a certificate and transcript at award.
- There is provision for award of the qualification through RPL and CAT.

REGIONAL AND INTERNATIONAL COMPARABILITY

For purpose of comparability on rationale, purpose and subject structure, regional and international benchmarking was done. This qualification compares favourably with similar qualifications in the region and internationally. While some of the horticulture qualification only deal with some disciplines, this qualification goes further by incorporating all disciplines of horticulture Ornamentals (floriculture and landscape) and Edibles (vegetables production/olericulture and fruit production/pomology)].

Regionally, this Diploma qualification compares favourably with those offered by Cape Peninsula University of Technology, Tshwane University of Technology and many more registered by the South African Qualification Authority.

Internationally, the qualification is comparable to Diploma of Horticulture offered by Melbourne Polytechnic aligned to Australian Qualification Framework as well as Diploma in Horticulture offered by Egerton University in Kenya. The qualification further compares favourably with many qualifications offered by other institutions offering horticulture qualifications such as:

Australia: TAFE Diplomas at Challenger TAFE in Perth, the University of Melbourne and Swinburne University in Melbourne.

New Zealand: National Advanced Certificate in Horticulture as offered at a variety of New Zealand educational institutions.

United States of America: Undergraduate academic programme in Horticulture at the University of Georgia; Ferris State University, Michigan - Associate Degree in Horticultural Technology; Degree in Horticulture, Landscape and Turf Sciences at the University of Arkansas; two year Diploma in Horticulture at the School of Professional Horticulture of the New York Botanical Garden.

Ontario, Canada: University of Guelph - Diploma in Horticulture.

REVIEW PERIOD

After every five (5) years