

	<b>BQA NCQF QUALIFICATION TEMPLATE</b>	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 Agriculture								NCQF LEVEL		6	
FIELD		Agriculture and Nature Conservation				SUB-FIELD		Agriculture		CREDIT VALUE		360	
New Qualification						<input checked="" type="checkbox"/>		Review of Existing Qualification					
SUB-FRAMEWORK		General Education				<input type="checkbox"/>		TVET		<input type="checkbox"/>		Higher Education	
QUALIFICATION TYPE		Certificate	I	II	III	IV	V	Diploma	<input checked="" type="checkbox"/>	Bachelor			
		Bachelor Honours		Post Graduate Certificate				Post Graduate Diploma					
		Masters				Doctorate/ PhD							
RATIONALE AND PURPOSE OF THE QUALIFICATION													
<p><b>Rationale</b></p> <p>About 50% of the population of Botswana depend on subsistence agriculture. Agricultural 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.</p> <p>In the past, the Government has launched both production and market-oriented programmes such as the Arable Land Development Programme (ALDEP) and the Financial Assistance Policy (FAP) to promote agricultural productivity in Botswana. Success of these programmes in transforming the agricultural sector has been minimal. Government introduced another agricultural development initiative known as the National Master Plan for Arable Agriculture and Dairy Development (NAMPAAADD) which was intended to transform the agricultural sector from its subsistence state to a commercial level. NAMPAAADD focused on three sub sectors, namely; rain-fed arable agriculture consisting of field and industrial crop production, irrigated agriculture consisting mainly of horticulture, and dairy farming. Following NAMPAAADD, the Government launched the Integrated Support Program for Arable</p>													

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Agriculture Development (ISPAAD) in 2008. ISPAAD envisaged that the performance of the arable sub-sector would be greatly improved by fencing fields, establishing Agricultural Service Centres as well as assisting arable subsistence, emerging and commercial farmers to acquire requisite inputs and draught power to undertake tillage (Ministry of Agriculture 2013). The Zambezi Integrated Agro-Commercial Development (ZIACD) Project is the Government's ambitious plan to increase food security as well as to create jobs in the agricultural sector by 2020 and beyond. The ZIACD Project will involve drawing 495 million cubic meters of water annually from the Zambezi River for irrigation of about 35,000 ha of commercial agricultural land. A feasibility study has recommended growing of sorghum, beans, sunflower, maize, cotton, wheat, soybean, Lucerne and mango ( <http://www.mmegi.bw/index.php?aid=49222#sthash.nyKYOax8.dpuf>).

In line with the Government of Botswana agricultural development initiatives such as National Master Plan in Agriculture and Dairy Development (NAMPADD) and others, which are meant to transform the agricultural sector from its subsistence state to a commercial level, graduates of Agriculture should be able to take advantage of these initiatives through business development programmes such as Citizen Enterprise Development Assistance (CEDA), local enterprise Authority (LEA) in order to embark on agriculture-based enterprises

## **Purpose**

The purpose of this qualification is to provide qualified human resource with knowledge and skills to meet the growing needs of the various sectors of agriculture and related industries in Botswana and beyond. The qualification will also equip graduate with skills that allows them to venture into agribusinesses, thus creating income for themselves and other citizens. The graduates of this qualification will have a multi-faceted approach in the agriculture discipline and hence are equipped with diverse skills and knowledge in arable, pastoral and agri-business ventures to carry out farming at both subsistence and commercial level.

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

- Establish and manage agribusiness ventures profitably.
- Assess livestock and crop production resources and identify those suitable for different agro-ecological zones.
- Advise small scale, commercial farmers and other stakeholders on best practices for crop and animal production.
- Plan and implement arable and pastoral research findings and activities.

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- Manage agriculture based business and Human Resource.
- Manage animal and crop pests for enhanced productivity based on recommended environment friendly methods.

### ***ENTRY REQUIREMENTS (including access and inclusion)***

#### **Minimum Entry Requirements**

NCQF level IV, Certificate IV (General Education or TVET) or equivalent shall be required for candidates to be accepted into the Diploma in Agriculture.

#### **Recognition of Prior Learning/Credit Accumulation Transfer (CAT)**

Applicants who do not meet the above criterion but possess relevant industry experience may be considered using RPL and CATS policies for access.

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<b>SECTION B QUALIFICATION SPECIFICATION</b>	
<b>GRADUATE PROFILE (LEARNING OUTCOMES)</b>	<b>ASSESSMENT CRITERIA</b>
1. Assess crop resources suitable for growing in various environments	1. Apply skills and technical expertise in crop production systems 2. Recommend appropriate crops suitable for production in various agro-ecological zones 3. Prepare annual plans for rotational farming 4. Execute planting of crops for arable production systems
2. Assess livestock resources suitable for raising in various environments	1. Identify suitable small-scale and commercial livestock production for various agro-ecological zones 2. Recommend suitable animals based on recommendations from the production requirement 3. Plan feeding and biosafety schedules plans for various animals 4. Carry out pasture analysis and recommendations for livestock feeding
3. Establish and manage an agribusiness profitably	1. Conduct a market survey for establishment of a viable small-scale or commercial livestock or crop production enterprise 2. Apply practical knowledge and skills to establish a profitable commercial crop and livestock enterprises 3. Provide advisory services for smart productivity 4. Manage farm records and establish production plans
4. Advise small-scale and commercial farmers and other stakeholders on best practices for crop and animal production	1. Communicate technical and government policy information to relevant stakeholders 2. Demonstrate appropriate extension methods 3. Practices approved and good systems to support farmer in raising livestock and crop profitably 4. Schedule livestock vaccination programmes aligned to national vaccination protocols.

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5. Execute government policies related to the agriculture sector	<ol style="list-style-type: none"> <li>1. Apply and implement appropriate policies and guidelines recommended for execution of duties</li> <li>2. Align farming enterprise to national demand and goals</li> <li>3. Practise government recommended vaccination recommendation for infectious diseases</li> </ol>
6. Recommend environmental-friendly management measures for animal and crop pests to enhance productivity	<ol style="list-style-type: none"> <li>1. Identify common pests and diseases of crops and livestock</li> <li>2. Apply best and appropriate control strategies for crop and livestock pests and disease</li> <li>3. Recommend appropriate pest and disease control methods for optimal management</li> <li>4. Manage invasive and noxious plants for enhanced profitability</li> </ol>
7. Manage soils to enhance livestock and crop productivity.	<ol style="list-style-type: none"> <li>1. Determine appropriate livestock stocking rates for different habitats</li> <li>2. Recommend appropriate soil use and conservation methods for optimal crop production</li> <li>3. Manage weed seed banks for maximum profitability in crop production systems</li> </ol>
8. Utilize ICT to apply scientific knowledge for advancement of agriculture	<ol style="list-style-type: none"> <li>1. Apply knowledge and skills on information acquisition from ICT resources for use in crop and animal production systems and value-addition.</li> <li>2. Use ICT resources in preparation and presentation of reports and other official documents</li> <li>3. Use ICT resources for marketing of farm produce</li> <li>4. Create networks with other agriculture enterprises nationally</li> </ol>

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<b>SECTION C</b>		<b>QUALIFICATION STRUCTURE</b>			
<b>COMPONENT</b>	<b>TITLE</b>	<b>Credits Per Relevant NCQF Level</b>			<b>Total (Per Subject/ Course/ Module/ Units)</b>
		<b>Level [ 5 ]</b>	<b>Level [ 6 ]</b>	<b>Level [ 7 ]</b>	
<b>FUNDAMENTAL COMPONENT</b> <i>Subjects/ Courses/ Modules/Units</i>	Mathematics	12			12
	Biology	12			12
	Chemistry	12			12
	Physics	12			12
	Communication skills	12			12
	Computing skills	5			12
<b>CORE COMPONENT</b> <i>Subjects/Courses/ Modules/Units</i>	Agricultural Economics, Agribusiness and Extension		36		36
	Crop Production, Crop Protection and Soil Sciences		84		84
	Animal Nutrition and Production, Animal Health		84		84
	Farm mechanisation, structures and land use		36		36
	Work-based Learning		12		12

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<b>ELECTIVE/ OPTIONAL COMPONENT</b>  <i>Subjects/Courses/ Modules/Units</i>	Food Science and Technology			12	12
	Natural Resources and Management			12	12
	Irrigation Technology			12	12
	Biometry			12	12

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<b>SUMMARY OF CREDIT DISTRIBUTION FOR EACH COMPONENT PER NCQF LEVEL</b>										
<b>TOTAL CREDITS PER NCQF LEVEL</b>										
<b>NCQF Level</b>	<b>Credit Value</b>									
<b>5</b>	<b>84</b>									
<b>6</b>	<b>252</b>									
<b>7</b>	<b>24</b>									
<b>TOTAL CREDITS</b>	<b>360</b>									
<b>Rules of Combination:</b> <b>(Please Indicate combinations for the different constituent components of the qualification)</b>										
<p>Rules of combination = Fundamental (F) + Core (C) + Elective (C)</p> <p style="padding-left: 40px;">= 84 + 252 + 24</p> <p style="padding-left: 40px;">= 360</p> <p>The learner chooses 2 from the 4 electives</p> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 30%;">Core</td> <td style="width: 30%;">= 252</td> <td style="width: 40%;">= 70%</td> </tr> <tr> <td>Fundamentals</td> <td>= 84</td> <td>= 23.33%</td> </tr> <tr> <td>Elective</td> <td>= 24</td> <td>= 6.67%</td> </tr> </table>		Core	= 252	= 70%	Fundamentals	= 84	= 23.33%	Elective	= 24	= 6.67%
Core	= 252	= 70%								
Fundamentals	= 84	= 23.33%								
Elective	= 24	= 6.67%								

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## **ASSESSMENT ARRANGEMENTS**

### **Formative Assessment**

- Formative assessment will contribute 60% of the overall course grade.

### **Summative Assessment**

- Summative assessment will constitute the other 40% of the overall course grade.
- Assessment will be carried out by BQA accredited assessors

## **MODERATION ARRANGEMENTS**

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 Animal Science.
- Diploma in Animal Health
- Diploma in Horticulture.
- Diploma in Agricultural Extension.
- Diploma in Agricultural Extension.

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- Diploma in Forestry and Range.

#### **Vertical Progression**

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

#### **Employment Pathways**

- Crop Production Officer.
- Animal Production Officer
- Horticulture Extension Officer.
- Agricultural Extension Officer.
- Horticulture Entrepreneur.
- Animal Production Entrepreneur.
- Farm Manager (Crops and Livestock).

#### **QUALIFICATION AWARD AND CERTIFICATION**

- Graduates will be awarded Diploma in Agriculture after attaining a minimum of 360 credits.
- There will be issuance of a certificate and transcript at award.

#### **REGIONAL AND INTERNATIONAL COMPARABILITY**

There is no national institution that offers a diploma in Agriculture qualification and hence, for purpose of comparability on rationale, purpose and subject structure regional and international comparisons were made as a benchmark for our qualifications.

#### **Regional Comparison:**

The diploma in Agriculture compares well with qualifications from two colleges in South Africa based on the (South African Qualifications Authority (SAQA). The qualification compares well with a Diploma in Agriculture

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from Owen Sithole College of Agriculture (SAQA Qualification ID: 110928) and Cedara College of Agriculture (SAQA Qualification ID: 110309)

**International Comparison:**

Internationally the qualification is comparable to Diploma of Agriculture offered by TAFE Queensland aligned to Australian Qualification Framework (AHC 50116, Release 4). Even though this qualification does not specify the entry requirements, direct entry is based on extensive experience in the rural industry and recognition of prior learning is accepted for credit transfers.

The qualification is also comparable to Diploma of Agriculture from University of Manitoba, Canada.

**REVIEW PERIOD**

The qualification will be reviewed after every 5 years.

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