

BQA NCQF QUALIFICATION TEMPLATE

SECTION A:		QUALIFICATION DETAILS									
QUALIFICATION DEVELOPER (S)	Botswana University of Agriculture and Natural Resources										
TITLE	Doctor of Philosophy in Agricultural and Applied Economics						NCQF LEVEL	10			
STRANDS (where applicable)	N/A.										
FIELD	Agriculture and Nature Conservation						CREDIT VALUE	360			
SUB FIELD	Agricultural Economics										
New Qualification	<input checked="" type="checkbox"/>		Legacy Qualification				Renewal Qualification				
							Registration Code				
SUB-FRAMEWORK	General Education				TVET			Higher Education			<input checked="" type="checkbox"/>
QUALIFICATION TYPE	Certificate	I	II	III	IV	V	Diploma	Bachelor			
	Bachelor Honours			Post Graduate Certificate				Post Graduate Diploma			
Masters						Doctorate/ PhD				<input checked="" type="checkbox"/>	
RATIONALE AND PURPOSE OF THE QUALIFICATION											

RATIONALE:

There is no qualification of Doctor of Philosophy (PhD) in Agricultural and Applied Economics in Botswana. As a result, the country is spending exorbitant amounts of foreign currency to educate its citizens in foreign Institutions. The training costs abroad are estimated to be P425,000.00 (UK), P421,000.00 (USA); P426,800.00 (Australia) while PhD training costs about P47,600.00 in Botswana (Finance Department, BUAN, 2022). The Human Resource Development Council (HRDC) Agricultural Sector Human Development Plan of 2015 (HRDC, 2015) identified Agricultural Economics and Business Management among skills in high demand for Agriculture (with estimated requirements of 50 and 30 people per annum respectively) at high skills level (Legislators, Administrators and Senior Managers) with Masters and Doctorate degrees with research qualification.

The National Entrepreneurship Policy (NEP) of 2019 called for focus on entrepreneurship education and skills development through the introduction of entrepreneurship as a core subject through all levels of education. This is a focus area long outlined and emphasized in the National Revised Policy on Education (1994) and the Botswana SMME policy (1998). However, HRDC (2022) reported that only 2% of enrolments in tertiary institutions in Botswana are in Agriculture, Forestry, Fisheries and Veterinary. These statistics demonstrate long existing and current need for development of Agriculture-based qualifications such as Doctor of Philosophy in Agricultural and Applied Economics.

The need for Agricultural Economists with advanced knowledge and demonstrate high level of mastery, innovation, autonomy, scholarly and professional integrity in the agricultural sector cannot be over emphasized. The need to develop human resources in Agricultural Economics and Agribusiness for research, extension and managerial positions in the Ministry of Agriculture and food Security and other related ministries and non-governmental organizations is great. The recent National Development Plans (NDP 11 and TNDP 2023-2025), and Human Resource Development Council (HRDC) reports have identified the lack of qualified personnel in specialized disciplines, as one of the bottlenecks to the implementation of agricultural policies and development projects (HRDC, 2023).

The qualification of Doctor of Philosophy in Agricultural and Applied Economics will address and contribute significantly to attainment of Pillar 2 (Human and Social Development) of Botswana's Vision 2036 through high-level education and skills development in Agricultural and Applied Economics. This qualification will be a positive contribution to this pillar for the Botswana society will be knowledgeable with relevant quality education that is outcome based and the education system will be more aligned to the needs of the economy and Agribusiness sector. This qualification will also contribute positively to attainment of Pillar 1 (Sustainable Economic Development) which envisages a knowledge-based economy using science, technology and innovation to propel Botswana to high levels of efficiency across sectors, export-led high-income country and equitable socio-economic development. This pillar will be attained through introduction of this new qualification of Doctor of Philosophy in Agricultural and Applied Economics to enhance knowledge and provide relevant skills necessary to facilitate the

development of private sector-led value chains linking production, processing, marketing and distribution activities in the agribusiness sector.

The findings of the needs assessment survey conducted in May 2023, in which 46 stakeholders participated, indicated that the majority of the respondents (96%) stated that there is a need to establish a qualification of PhD in Agricultural and Applied Economics. On average the stakeholders indicated that a total of 15 graduates per annum would be needed in the next 5 years.

Improvement of agriculture productivity and commercialization are prime priorities in the economic diversification policy of Botswana (MoA, 2023). Agricultural productivity can be sustainably realized if only supported by value addition practices which involves the input of knowledge, skills and technology across the value chains of each agricultural food produce to minimize losses (quantity and quality), enhance agricultural surpluses and become competitive in the global food markets. High level qualified manpower at PhD level is a necessary step for the development of Agricultural and Applied Economics professionals and expansion of innovative research for the transformation of the agri-food sectors.

The importance of the agricultural sector to the economy of Botswana cannot be overemphasised although the sector's contribution to gross domestic product (GDP) has declined since independence. The relatively poor performance of the agricultural sector has been in part due to limited skilled manpower. However, the agricultural sector remains important especially in the rural areas where a majority rely on it for food, income and investible capital. While one of the government's reactions to the improvement of the agricultural sector was to train technical specialists in areas of crop and livestock production, training on other fields such as agricultural economics, agribusiness, policy & trade, environment and natural resources management and rural development has lagged. However, the government has realised that commercialisation and export-led diversification of the agricultural sector is a way forward to improving the sector's contribution to the national economy. In order to run successful commercial farms, farmers need advice, and this can only be obtained from professionals specialising in agricultural economics and agribusiness. It is against this background that the PhD in Agricultural and Applied Economics qualification will contribute positively by producing specialists with the required advanced knowledge and skills in economics, business, marketing and trade.

PURPOSE: (itemise exit level outcomes)

The purpose of this qualification is to produce graduates with most advanced knowledge, skills, competence to;

1. Design, plan and execute most advanced research and generate knowledge and innovative technology in the field of Agricultural and Applied Economics and related fields.
2. Develop appropriate policies and implementation strategies to ensure effective use of resources for sustainable development in the field of Agricultural and Applied Economics and related fields.

3. Play a leading role in research, academia, outreach services and the advancement of the field of Agricultural and Applied Economics and related fields.
4. Solve complex and unpredicted problems independently, systematically, and creatively in familiar and unfamiliar contexts in the field of Agricultural and Applied Economics and related fields.

MINIMUM ENTRY REQUIREMENTS (including access and inclusion)

Minimum Entry Requirements

Candidates with at least Master's degree, NCQF Level 9 or equivalent in the field of Agricultural and Applied Economics or any other related field will be eligible for admission into the qualification.

Recognition of Prior Learning (RPL) and Credit Accumulation Transfer (CAT)

Candidates who do not meet the minimum academic qualifications stated above but working will be considered through a Recognition of Prior Learning (RPL) process which shall be administered according to the National RPL Policy. There will also be provision for Credit Accumulation Transfer to the learner in a case they are transfer in from another institution as per National Policy on CAT.

SECTION B

QUALIFICATION SPECIFICATION

GRADUATE PROFILE (LEARNING OUTCOMES)

ASSESSMENT CRITERIA

1. Advance frontiers of existing knowledge or professional practice in Agricultural and Applied Economics and related fields through research and high-level reflective practice.

- 1.1 Search relevant literature in Agricultural and Applied Economics and related fields to enhance existing theories and practices and/or generate novel concepts and methodologies.
- 1.2 Identify gaps in the existing body of knowledge to advance knowledge in the field and provide potential solutions to address issues of national importance.
- 1.3 Gather relevant economic data, synthesize and organize relevant information, and analyse the

	<p>data and interpret the results to inform policy and areas of further research.</p> <p>1.4 Write technical and scientific reports to inform policy and share research findings with the broader community for evidence-based decision-making.</p>
<p>2. Undertake original and scholarly research of international standard to solve complex theoretic and practical problems in the field of Agricultural and Applied Economics and related fields;</p>	<p>2.1 Conceive research topics and formulate research problem(s) and/or question (s), and objective(s) to provide relevant and cutting-edge solutions in the field.</p> <p>2.2 Write research proposals, set and test hypothesis to articulate quality and significance of a research project</p> <p>2.3 Design and undertake an independent theoretical and/or applied research to pursue research subjects of their interest</p> <p>2.4 Select appropriate methods and instruments in the conduct of the research to ensure the research is valid, reliable and credible</p> <p>2.5 Generate and analyse scientific data as appropriate that respond to a research problem (s)/question(s) to proffer cutting edge solutions.</p>
<p>3. Apply highest level of specialized skills and techniques including critical analysis, evaluation, and synthesis of new and complex ideas to develop new knowledge and approaches in the field of Agricultural and Applied Economics and related fields.</p>	<p>3.1 Synthesise, evaluate and interpret economic data to gain insight and make informed decisions</p> <p>3.2 Derive specific effects and consequences from policy documents to inform policy revision</p> <p>3.3 Draw conclusions and formulate recommendations, policies or plans from the findings to inform decision making</p> <p>3.4 Make presentation to wide audience based on reviewed scientific papers and reports using</p>

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	<p>appropriate technological media to clarify issues of policy interest</p>
<p>4. Self-direct and demonstrate strategic leadership and high-level mastery of professional practice in the field of Agricultural and Applied Economics and related fields.</p>	<p>4.1 Participate in professional organization and related activities to guide policy in agriculture and natural resources.</p> <p>4.2 Undertake independent research in the field of Agricultural and Applied Economics and related fields to pursue research subjects of their interest</p> <p>4.3 Serve with authority and high impact scholarship in the field of Agricultural and Applied Economics and related fields to enhance agricultural sector development.</p> <p>4.4 Uphold ideals of advocacy, responsibility, and accountability to the profession.</p>
<p>5. Exhibit sustained commitment to development of new ideas and processes at the forefront of Agricultural and Applied Economics and related fields, through research and high-level reflective practice;</p>	<p>5.1 Identify research problem(s) to guide the researcher on what they need to do and why they need to do it.</p> <p>5.2 Identify relevant scientific literature in the field of Agricultural and Applied Economics to understand current knowledge in the field and justify their research</p> <p>5.3 Review, interpret and synthesize literature from different sources on the research problem (s) to guide the researcher on what they need to do and how</p> <p>5.4 Identify research gaps in the body of literature to advance the field and contribute to knowledge</p> <p>5.5 Develop a theoretical and/or conceptual framework based on the literature review and own research objectives to guide the development and analysis of the research</p>

	<p>5.6 Devise new, innovative, and creative technologies, frameworks and concepts that will bring profitability, environmental stewardship, and professional ethics to the agricultural and applied economics sectors to enhance economic development</p>
<p>6. Conduct innovative and independent research and provide leadership in the field of Agricultural and Applied Economics and related fields</p>	<p>6.1 Discuss needs for further knowledge and to take responsibility for own knowledge development to develop innovative and novel way of doing things in the field.</p> <p>6.2 Perform research ethical protocols and assessments to uphold integrity in research in the field.</p> <p>6.3 Design and conduct basic and/or applied, innovative independent research in the field of agricultural and applied economics and related fields to provide evidence-based policy recommendations.</p> <p>6.4 Provide leadership, outreach, and advisory / consultancy services in the field of agricultural and applied economics and related fields to enhance agricultural development</p>

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SECTION C	QUALIFICATION STRUCTURE				
COMPONENT	TITLE	Credits Per Relevant NCQF Level			Total Credits
		Level [10]	Level []	Level []	
FUNDAMENTAL COMPONENT Subjects/ Courses/ Modules/Units					
CORE COMPONENT Subjects/Courses/ Modules/Units	Independent Supervised Research Thesis	360			360
	TOTAL	360			360
STRANDS/ SPECIALIZATION	Subjects/ Courses/ Modules/Units	Credits Per Relevant NCQF Level			Total Credits
		Level []	Level []	Level []	

1.					
	N/A				
2.					
Electives	N/A				

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SUMMARY OF CREDIT DISTRIBUTION FOR EACH COMPONENT PER NCQF LEVEL

TOTAL CREDITS PER NCQF LEVEL

NCQF Level	Credit Value
10	360
TOTAL CREDITS	360

Rules of Combination:

(Please Indicate combinations for the different constituent components of the qualification)

The credit distribution is made up of 360 credits from the core component.

Rule of combination

The total number of credits to be completed comprises of 360 credits from the core component distributed as follows:

Core (360 credits) + Fundamentals (0 credits) + Electives (0 credits) = 360 credits.

A learner must accumulate a minimum of 360 credits through submission of a research thesis to graduate.

ASSESSMENT ARRANGEMENTS

All assessments which are leading to the award of the qualification should be based on learning outcomes and associated assessment criteria. Assessment will be conducted by Assessors who have been registered with Botswana Qualifications Authority (BQA) or any other recognized Authority/Body. The assessor should hold a Doctor of Philosophy in Agricultural and Applied Economics or equivalent. The assessments will be as follows:

Formative Assessment

The weighting of formative assessment is 20 % of the final assessment mark.

Summative Assessment

The weighting of summative assessment is 80 % of the final assessment mark.

MODERATION ARRANGEMENTS

There shall be provision for both internal and external moderation in accordance with institutional policies aligned with national policies.

Moderation will be carried out by experts who are registered and accredited as moderators by a recognised authority. The moderator should hold a Doctor of Philosophy in Agricultural and Applied Economics or equivalent.

Internal moderation arrangements

Moderation of tests, examination question papers and examination marked scripts.

Moderation of dissertation proposals, presentation to departmental board

Internal Examiner moderation of final dissertation report

External moderation arrangements

External Examiner moderation of final dissertation report.

RECOGNITION OF PRIOR LEARNING

Recognition of Prior Learning (RPL) will be applicable for consideration for award in this qualification.

CREDIT ACCUMULATION AND TRANSFER

Credit Accumulation Transfer (CAT) will be applicable for consideration for award in this qualification.

PROGRESSION PATHWAYS (LEARNING AND EMPLOYMENT)

Learning Pathways

The Doctoral Degree is the highest qualification type on the NCQF. The only progression pathway is horizontal articulation with another Doctoral Degree in a cognate field.

Horizontal Progression

Graduates may progress horizontally, pursuing a different Doctoral level qualification related to this qualification on several qualifications but not limited to:

- Doctor of Philosophy in Agricultural Economics
- Doctor of Philosophy in Agribusiness
- Doctor of Philosophy in Business Management
- Doctor of Philosophy in Economics
- Doctor of Philosophy in Econometrics
- Doctor of Philosophy in Resource Economics
- Doctor of Philosophy in Environmental Economics
- Doctoral Degrees in relevant varying fields, ranging from Policy to Business, Entrepreneurship, Marketing, Trade, Accounting and Finance.

Employment Progression Pathways

Holders of the qualification can work in public and private organizations and across economic sectors as (but not limited to):

- Consultant
- Researcher
- Academia
- Policy Analyst
- Economic Advisor
- Policy Advisor
- Entrepreneur
- Professional Farm Manager
- Production Management Supervisor
- Marketing Manager
- Trade Analyst

QUALIFICATION AWARD AND CERTIFICATION

Candidates meeting the prescribed requirements will be awarded the qualification in accordance with the qualification composition rules and applicable policies.

To be eligible for the award of the Doctor of Philosophy in Agricultural and Applied Economics, candidates should have obtained a minimum of 360 credits.

A certificate will be issued to learners who are awarded the qualification.

SUMMARY OF REGIONAL AND INTERNATIONAL COMPARABILITY

Similarities

- Most of the comparative PhD qualifications are offered by research that is examined by written thesis and oral presentation.
- A candidate will graduate only upon satisfying the examiners by passing the written thesis and oral defence of the thesis.
- The qualification is offered mostly on full time basis and over a minimum duration of study of three (3) years.
- Like our proposed qualification, University of Pretoria offers a 360-credit NQF level 10 by research.
- The title of the proposed qualification is the same as that of the University of Nairobi (Kenya) and the other Universities have different titles of the qualifications. However, the content and main exit outcomes of the proposed qualifications and the existing qualifications for the compared universities are similar.
- As noted above, this proposed qualification generally compares well with all the qualifications studied since the exit outcomes cover similar scope and depth and are aligned to exit level descriptors typically of this level and type of qualification as done within the region and beyond.

Differences

Stellenbosch University and the University of Western Australia offer the qualification by research over a period of study of four (4) years.

Unlike other institutions and our proposed qualification, the qualification offered by the University of Pretoria has a minimum duration of study of two (2) years.

The University of Nairobi offers the qualification through coursework and thesis.

However, what sets this proposed qualification apart from the ones highlighted above is the fact that it incorporates broad cutting disciplines involved in Agricultural and Applied Economics into one interdisciplinary qualification. The nature of its intensity is to emphasise application of economic theory in decision-making and problem-solving and allow learners to research critically around a wide range of agricultural and applied economics issues (of their choice) affecting the country, regional,

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continental, and international economies within reasonable and affordable duration of PhD study of three (3) years.

Progression pathways include Doctor of Philosophy in Agricultural Economics, Doctor of Philosophy in Econometrics, Doctor of Philosophy in Resource Economics etc., and possible jobs are researcher, policy advisor, policy analyst etc, and all these are similar to opportunities provided by other qualifications.

REVIEW PERIOD

This qualification will be reviewed after 5 years upon registration.

For Official Use Only:

CODE (ID)			
REGISTRATION STATUS	BQA DECISION NO.	REGISTRATION START DATE	REGISTRATION END DATE
LAST DATE FOR ENROLMENT		LAST DATE FOR ACHIEVEMENT	