QUALIFICATION SPECIFICATION SECTION A							
QUALIFICATION DEVELOPER	Botswana University of Agriculture and Natural Resources						
TITLE:	Bachelor of Science in Agricultural Extension			**NCQF LEVEL**	7		
FIELD	Agricultural and Nature Conservation		**SUB-FIELD**	Agricultural Extension			
New qualification	X	Review of existing qualification					
SUB-FRAMEWORK	General Education		TVET		Higher Education	X	
QUALIFICATION TYPE	Certificate		Diploma		Bachelor	X	
	Bachelor Honours		Master		Doctor		
CREDIT VALUE	480						

RATIONALE AND PURPOSE OF THE QUALIFICATION

Rationale:

Successive National Development Plans (NDPs) have indicated that Botswana is a net importer of food grains and that the performance of the agricultural sector especially the arable sub-sector is low. In the same vein, the National Master Plan for Arable Agriculture and Dairy Development (NAMPAADD) report of 2000 it is indicated that non- natural constraints that cause low performance of the sub-sector include limited access to credit, high input costs, lack of supporting infrastructure, lack of agricultural insurance schemes and low levels of technology application. The program will therefore produce professionals with the ability and capacity to supply continuously up-dated science-based information that farmers and people engaged in agriculture related industry require to increase food production and to increase the quality of life in the rural set-up.

The National Development Plans (1991, 1997, 2003 and 2009) have all indicated the shortage of qualified human power that hampers meeting the capacity to implement policies and projects. The major problem in the implementation of extension program in National Development plan 9 (2003) was the shortage of professional extension staff. Therefore, the BSc qualification in Agricultural Extension helps alleviate manpower shortage. As for now, there is no higher institution of learning in Botswana offering Agricultural Extension. Training of students in BSc in Agricultural Extension has relevance as training is based mainly on the issues, problems and needs of the country, drawing lessons from regional and international extension systems. The needs assessments undertaken in 2004 and 2009 established a need for graduates in Agricultural Extension to hold key managerial, professional and technical positions in the public sector and the private agricultural sectors.

Furthermore, the rapidly changing social and natural environment in Botswana; the irreversible technological changes in agriculture; the devastating effects of HIV/AIDS on agricultural production, agricultural workforce and rural communities; and the unpredictable Climatic conditions in Botswana need highly trained workforce in agricultural extension to face new challenges in Botswana's endeavour to meet

the national food security needs (Report of National Extension Conference, 1995; UNAIDS, 2002; and Ministry of Finance and Development Planning, 2003).

Purpose:
The purpose of this qualification is to:

- Provide learners with broad understanding on the nature of agricultural extension, principles and practice and its role in agricultural and rural development. In addition,
- Provide an understanding of the wide applications and implications of knowledge for facilitation of technology adoption by farmers,
- Enable the Ministry of Agricultural Development and Food Security to upgrade its extension staff to degree level thus improving service delivery, supervision and administration of the extension services in Botswana.

ENTRY REQUIREMENTS (including access and inclusion)

Minimum entry requirement for this qualification is a:

- NCQF Level IV (eg. BGCSE) or its equivalent.
- Certificate in TVET or its equivalent.

Recognition of Prior Learning (RPL):

- There will be access through Recognition of Prior Learning (RPL) and Credit Accumulation and Transfer (CAT) in accordance with the RPL and CAT National Policies.

QUALIFICATION SPECIFICATION **SECTION B**

GRADUATE PROFILE (LEARNING OUTCOMES)	ASSESSMENT CRITERIA
Holders of this qualification should be able to: 1. Demonstrate knowledge, skills and competencies in linking farmers and government as well as trainers in various agricultural development institutions.	1.1 Develop communication strategies/plan 1.2 Implement communication strategy/plan 1.3 Develop research-extension-farmer linkages 1.4 Apply extension teaching methods 1.5 Apply group dynamics methodologies. 1.6 Implement stakeholder linkage strategies
2. Mobilize people for implementing agricultural development programs and projects.	2.1 Apply group dynamics methodologies to facilitate farmer/stakeholder mobilization 2.2 Apply effective extension communication strategies 2.3 Demonstrate knowledge of extension principles for farmer mobilization
3. Apply knowledge, skills and values of the principles of extension.	3.1 Demonstrate knowledge and understanding of extension principles under a given extension setting.

	3.2 Apply appropriate extension teaching methods
4. Apply knowledge and skills of the philosophy of extension.	4.1 Demonstrate advanced understanding of the application of the extension philosophy 4.2 Demonstrate advanced understanding of the practice of extension philosophy under a given extension setting.
5. Apply knowledge of the extension organization management.	5.1 Apply extension ethics within the context of the extension organizational structure 5.2 Demonstrate understanding of the management of an extension organization 5.3 Apply extension management functions
6. Demonstrate ability to work effectively with others (Teamwork).	6.1 Apply leadership skills in the context of extension work 6.2 Demonstrate advanced understanding of team-work strategies 6.3 Apply team-work strategies for the accomplishment of organizational goals 6.4 Apply group dynamics methodologies
7. Apply knowledge and skills of working with groups to achieve group goals.	7.1 Apply group dynamics methodologies 7.2 Demonstrate advanced extension communication skills 7.3 Extension teaching methods selected and applied under a specified extension setting
8. Plan, implement, evaluate and monitor agricultural extension program.	8.1 Demonstrate advanced understanding of extension program planning 8.2 Develop extension program evaluation and monitoring strategy 8.3 Implement extension evaluation and monitoring strategy
9. Apply and skills of extension teaching methods	9.1 Demonstrate advanced understanding of the fundamental extension teaching methods 9.2 Select appropriate extension teaching method/s for a given extension setting 9.3 Apply selected extension teaching method/s
10. Implement an integrated viable production system (Crop and Animal Husbandry).	10.1 Develop cropping cycle/calendar for a given farming system 10.2 Demonstrate advanced understanding of soil fertility principles and practices 10.3 Apply relevant soil fertility practices for a given farming system 10.4 Apply plant protection practices 10.5 Apply animal husbandry principles and practices
11. Collect and analyze data.	11.1 Apply advanced data collection and analysis techniques

	11.2 Analyze data to provide support and participate in the development of an extension program 11.3 Demonstrate advanced data interpretation and technical writing skills
12. Promote and disseminate agricultural technologies.	12.1 Demonstrate advanced extension communication skills 12.2 Apply extension teaching methods
13. Provide leadership in the process of participatory technology development and dissemination.	13.1 Demonstrate advanced understanding of group dynamics methodologies 13.2 Apply participatory extension methodologies
14. Apply inter-personal skills appropriate for a given extension setting.	14.1 Apply extension facilitation skills 14.2 Demonstrate advanced understanding of interpersonal skills

QUALIFICATION STRUCTURE
SECTION C

	Title	Level	Credits
FUNDAMENTAL COMPONENT Subjects / Units / Modules /Courses	Mathematics I	5	12
	General & Inorganic Chemistry	5	12
	Physics I	5	12
	Biology of Cells	5	12
	Communication & Study Skills I	5	12
	Mathematics II	5	12
	General & Inorganic Chemistry II	5	12
	Physics II	5	12
	Total Level 5		**96**
CORE COMPONENT Subjects / Units / Modules /Courses	Biodiversity	6	12
	Computing & Fundamentals of Information Skills I (GEC)	6	8
	Computing & Fundamentals of Information Skills II (GEC)	6	8
	Communication & Academic Literacy Skills II (GEC)	6	12
	Agricultural Cooperative Development	6	12
	Introduction to Agricultural Economics	6	8
	Livestock Production	6	12
	Principles of Crop Production	6	12
	Extension Communication & Teaching Methods	6	12
	Extension Administration & Supervision	6	12
	Adult Education &Rural Community Development	6	12
	Education Technology	6	12
	Total Level 6		**124**
	Field Practical Training	**7**	12
	Extension Programme Planning & Evaluation	**7**	12
	Leadership & Group Dynamics in Extension	**7**	12

	Youth & Gender Issues in Agric. Development	**7**	12
	Principles of Crop Protection	**7**	12
	Fruit & Vegetable Production	**7**	12
	Field Practical Training II	**7**	12
	Analysis of Rural Dev. Projects in Botswana	**7**	12
	Project	**7**	24
	Agricultural Policy	**7**	8
	Research Methods in Education	**7**	12
	Poultry Production	**7**	12
	Cereal Crop Production	**7**	12
	Plant Propagation	**7**	12
	Agricultural Extension	**7**	12
	Weed Science	**7**	12
	Total Level 7		**200**
ELECTIVE COMPONENT Subjects / Units / Modules /Courses	**Optional set 1**		
	Educational Psychology or Rural Sociology	6	8
	Optional Set 2		
	Dairy Production or Livestock Feeds and Feeding	6	12
	Optional Set 3		
	Farm Structures or Agricultural Mechanization	6	12
	Optional Set 4		
	Irrigation Technology or Soil Plant Water Relations	7	12
	Optional Set 5		
	Livestock Production Systems or Beef Production	7	8
	Optional Set 6		
	Field Crop Production or Ornamental Horticulture	7	8
	Total Optional		**60**

Rules of combinations, Credit distribution (where applicable):

The foundation courses which are done in year one form part of the core component of the programme as shown below. The optional sets allow the students to choose a preferred stream of either animal science and production or crop science and production. The GEC/Electives are courses which the learner has liberty to choose from within the range of courses offered in other programmes which add value to the learners' exit profile.

LEVEL	COMPONENT	CREDITS
5	**Fundamental**	**96**
	Core	**324**
6		124
7		200
	Electives/options	**60**
6	Compulsory options	32
7	Compulsory options	28
Total		**480**

Furthermore, the elective/optional component has 60 credits, should be coming from compulsory options indicated.

ASSESSMENT & MODERATION ARRANGEMENTS

ASSESSMENT ARRANGEMENTS

All assessments, formative and summative, leading/contributing to the award of credits or qualification will be based on learning outcomes and/or sub-outcomes.

Formative assessment

The contribution of formative assessment to the final grade is 50%.

Summative assessment

The contribution of summative assessment to the final grade is 50%.

MODERATION ARRANGEMENTS

The purpose of the moderation is to ensure that assessment and marking across all Modules is fair, valid, and reliable. It also ensures that the assessment tool is aligned to the learning outcomes, that it is set at appropriate level of study and, that the process of marking is consistent.

Internal and external moderators to be engaged will be BQA accredited subject specialists in relevant fields with relevant industry experience and academic qualifications.

Both internal and external moderation shall be done in accordance with applicable policies and regulations.

RECOGNITION OF PRIOR LEARNING (if applicable)

The structure of the qualification makes the Recognition of Prior Learning possible and as such the qualification may be achieved in part through the Recognition of Prior Learning which includes formal, informal and non-formal learning and work experience.
If the learner can demonstrate competence in the knowledge, skills, values and attitudes inherent in this qualification, the applicable credits shall be assigned to the learner. Recognition of Prior Learning will be done through Integrated Assessment.

PROGRESSION PATHWAYS (LEARNING AND EMPLOYMENT)

Learning Pathways

Horizontal Articulation

- BSc General Agriculture
- BSc Horticulture
- BSc Crop Science
- BSc Animal Science
- BSc Agriculture Mechanization
- BSc Agriculture and Applied Economics

Vertical Articulation

Holders of the qualification can further their studies as follows:

- MSc/MA Agricultural Extension,
- MA Adult Education,
- MA Rural Development Studies,
- PhD in Agricultural Extension, Adult Education, Rural Development Studies.

Employment Pathways

Holders of the qualification can serve as:

- Farm Managers,
- Cooperative Development Advisors,
- Professionals in line ministries,
- Advisors in Non-Governmental Organisations,
- Consultants.

QUALIFICATION AWARD AND CERTIFICATION

Graduates will be awarded a Bachelor of Science in Agricultural Extension after obtaining a minimum of 500 credits and an overall pass mark of 50% or more.

REGIONAL AND INTERNATIONAL COMPARABILITY

This qualification compares favourably with similar qualifications in neighbouring countries and internationally:

The Lilongwe University of Agriculture and Natural Resources (LUANAR) in Malawi offers a similar qualification (Bachelor of Science in Agricultural Extension). The primary purpose of the qualification is to equip learners with appropriate technical and professional competencies in agricultural extension and rural development. The qualification comprises of courses in general agriculture, communication and group dynamics just like this particular qualification. These are also some of the courses to be offered by the proposed qualification.

- This qualification does not carry any basic science courses. The LUANAR qualification carries only 312 credits as opposed to the 512 credits in the proposed qualification.
- In the same vein, the Sokoine University of Agriculture offers a qualification called Bachelor of Science (BSc) in Applied Agricultural Extension. This qualification just like the proposed qualification carries courses such as Rural Sociology, Leadership and Group Dynamics, Principles of Horticulture, Extension Communication, Soil Science, and Extension Methods. However, the Sokoine University of Agriculture offers only one course in basic sciences (Mathematics 1) while the proposed qualification has six basic science courses. The proposed qualification will have 512 credits whereas the Sokoine qualification carries 473 credits.

The Egerton University in Kenya also offers a similar qualification (Bachelor of Science in Agricultural Education and Extension. The graduate profile for learners which is similar to the proposed qualification include:

- Develop, implement and evaluate agricultural extension programs
- Develop and conduct training in agricultural extension
- Design and conduct agricultural extension research

The primary aim of the qualification is to prepare graduates with appropriate technical and professional competencies in agriculture, biology and extension education.

- Courses offered in this qualification include communication and technology, rural sociology and extension education, and general agriculture courses which are significantly similar some courses in the proposed qualification.

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Jimma University's College of Agriculture and Veterinary Medicine (Ethiopia) has a related qualification (Bachelor of Science in Rural Development and Agricultural Extension).

The graduate profile for this qualification just like for the proposed qualification include:

- Conduct research in the areas of socio-economics, extension, gender and sustainable development
- Facilitate rural innovation
- Disseminate agricultural technologies
- Planning, implementing, monitoring and evaluation of extension programs/projects

However, the examined qualification carries a credit value of 464 while the proposed qualification will carry a credit value of 480.

REVIEW PERIOD

This qualification will be revised after every 5 years.