



**South African**  
**Public Colleges Organisation**



**AMAHLONGWA**  
**HOLDINGS**

**Towards the development of a Strategic Framework for the Agriculture Vocational Training and Education in the TVET colleges in South Africa**



# Background

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- 6 out of 15 universities in South Africa offer relevant agriculture related qualifications: Central University of Technology, University of North West, University of South Africa, University of Mpumalanga, Nelson Mandela University and the University of Cape Town.
- There are the following Colleges of Agriculture: Cedara College of Agriculture, Ekurhuleni Agriculture College, Elsenburg Agriculture Training College, Glen College of Agriculture, Lowveld College of Agriculture, Madzivhandila College of Agriculture, Marapyane College of Agriculture, Owen Sithole College of Agriculture, Taung Agricultural College, Tompi Seleka Agricultural College and Weston Agricultural College. There are also institutes: Tsolo Agriculture and Rural Development Institute, Grootfontein Agricultural Development Institute and Fort Cox College of Agriculture and Forestry Training Institute.
- There are also Agriculture High Schools: Weston Agriculture High School, Settlers Agriculture High School, Harry Oppenheimer Agricultural High School, Hoer Landbouskool Marslow School of Agriculture, Okdale Agricultural High School, Hoer Landbouskool Winterberg School of Agriculture, Jim Mvabaza School of Agriculture, Batlharo Tlhaping School of Agriculture, Phandulwazi Agriculture High School, Zwelamandlovu School of Agriculture, Unicom School of Agriculture, Seotlong School of Agriculture, Weiveld School of Agriculture, Rehauhetswe School of Agriculture, Jacobsdal Landbouskool School of Agriculture, Hendrik Potgieter School of Agriculture and Marlow Agricultural High School.
- It is important that there is a comprehensive understanding of the agricultural sector in South Africa in order that an appropriate Strategic Framework for the agriculture vocational training and education in the South African TVET colleges is designed and implemented.

# The scope of the project

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- The South African College Principals Organisation (SACPO) commissioned Amahlongwa Holdings Pty Ltd to develop a Strategic Framework for agricultural studies in South African TVET colleges.
- The agriculture sectors and agricultural studies curricula in African countries that have significant agricultural sectors in Africa as well as the BRICS countries were studied because of the lessons that can be drawn for the Strategic Framework for the agriculture vocational training and education in the South African TVET colleges.
- The African countries that the project focused on are: Zimbabwe, Malawi, Kenya, Ethiopia and Nigeria. It was useful to draw lessons for agriculture vocational training and education in the South African TVET colleges from these countries' agricultural studies in institutions that are comparable to South African TVET colleges.
- Nigeria was included because it is the biggest economy in Africa. Agriculture as a sector is significant in Zimbabwe, Malawi, Kenya and Ethiopia.
- We examined the curricula/syllabi of Agricultural Colleges in South Africa, Agricultural TVET Colleges in South Africa and universities that offer agricultural studies in South Africa as well as the curricula/syllabi of Agricultural TVET Colleges in selected African and in BRICS countries.
- We also considered the South African National Qualifications Framework.

# Timeline of the project



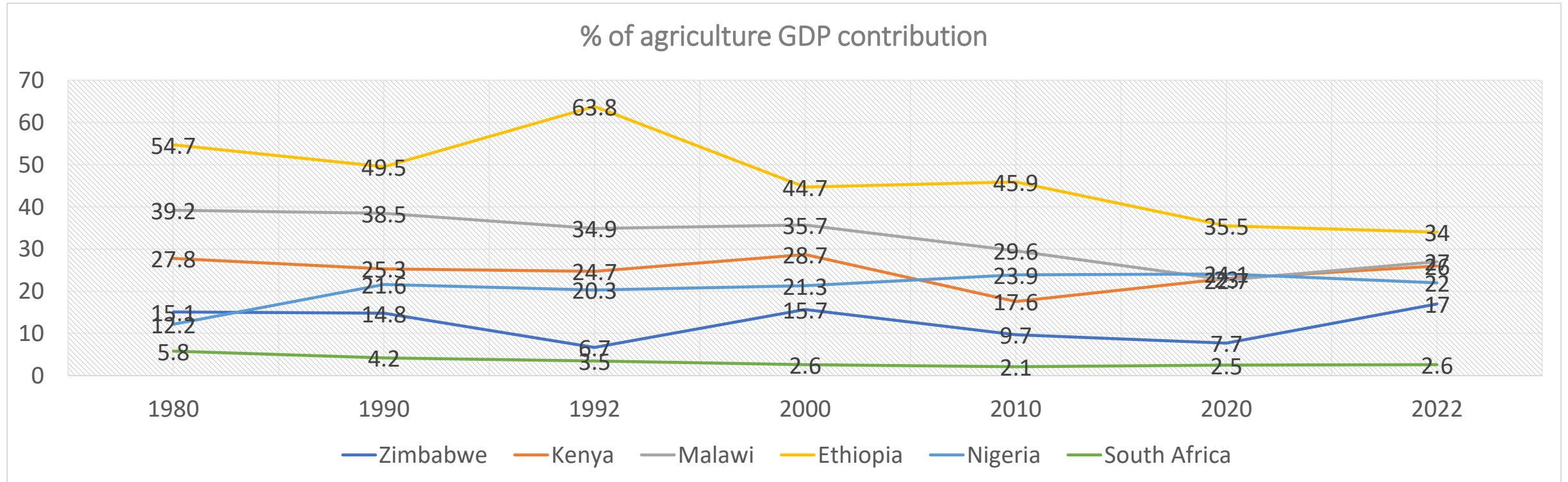
Activity	Deliverable	Submission date
1.Start the project	Inception report	18 March 2022
2. Analysis of the agricultural sector in South Africa	Sections in the Report on agricultural sector in South Africa, agriculture in selected African countries and key trends in agriculture globally	04 March 2022
3.Analysis of agriculture in selected African countries and key trends in agriculture globally	Sections in the Report on agricultural sector in South Africa, agriculture in selected African countries and key trends in agriculture globally	11 March 2022
4.Writing a draft Report	Draft Report on agricultural sector in South Africa, agriculture in selected African countries and key trends in agriculture globally	01 April 2022
5.Revise the Report	Final Report on agricultural sector in South Africa, agriculture in selected African countries and key trends in agriculture globally	22 April 2022
6.Review of agricultural curricula in in TVET colleges in South Africa (if any) and in other countries for comparable educational institutions (equivalent of TVET colleges)	Sections in the Strategic Framework for the agriculture vocational training and education in the TVET colleges in South Africa	13 May 2022
7.Review of agricultural curricula in other institutions of higher learning	Sections in the Strategic Framework for the agriculture vocational training and education in the TVET colleges in South Africa	31 May 2022
8.Writing of the Strategic Framework for the agriculture vocational training and education in the TVET colleges in South Africa	Draft Strategic Framework for the agriculture vocational training and education in the TVET colleges in South Africa	30 June 2022
9.Revision of the Strategic Framework for the agriculture vocational training and education in the TVET colleges in South Africa	Final Strategic Framework for the agriculture vocational training and education in the TVET colleges in South Africa	15 July 2022
10 Presenting the Strategic Framework	PowerPoint Presentation	22 July 2022

# Agriculture in African & BRICS countries

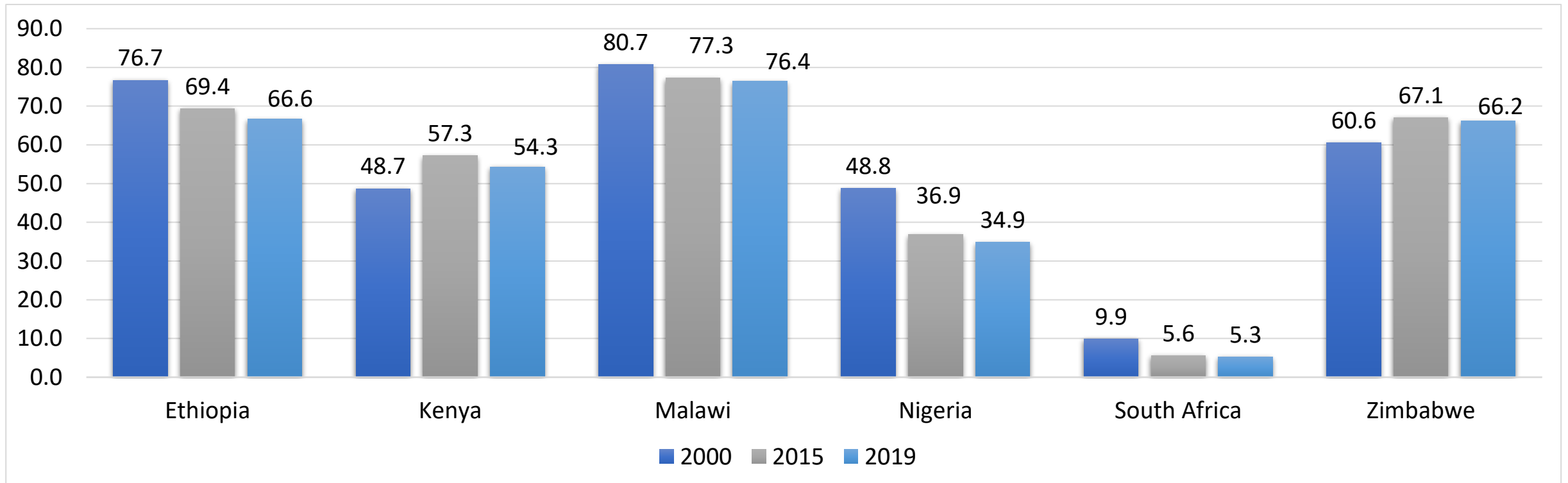
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- The agrarian economy in South Africa is highly diversified, producing varied grains, oilseeds, fruits, citrus, wines, vegetables and sugar. The country also produces livestock, including cattle, sheep, dairy and poultry. All these commodities are supported by highly developed value-chain industries.
- The proportion of those employed in agriculture is generally on the decrease except for Zimbabwe and Malawi (among the selected African countries)
- Agriculture makes significant contributions to the economy for all selected African & BRICS countries, although its contribution to GDP & employment has been declining for some countries.
- The BRICS agricultural sector accounts for about 50% of the world's total agricultural production, while accounting for about 42% of the world population.
- Food security, however, remains unstable among BRICS countries and the level of agricultural development differs across member countries.

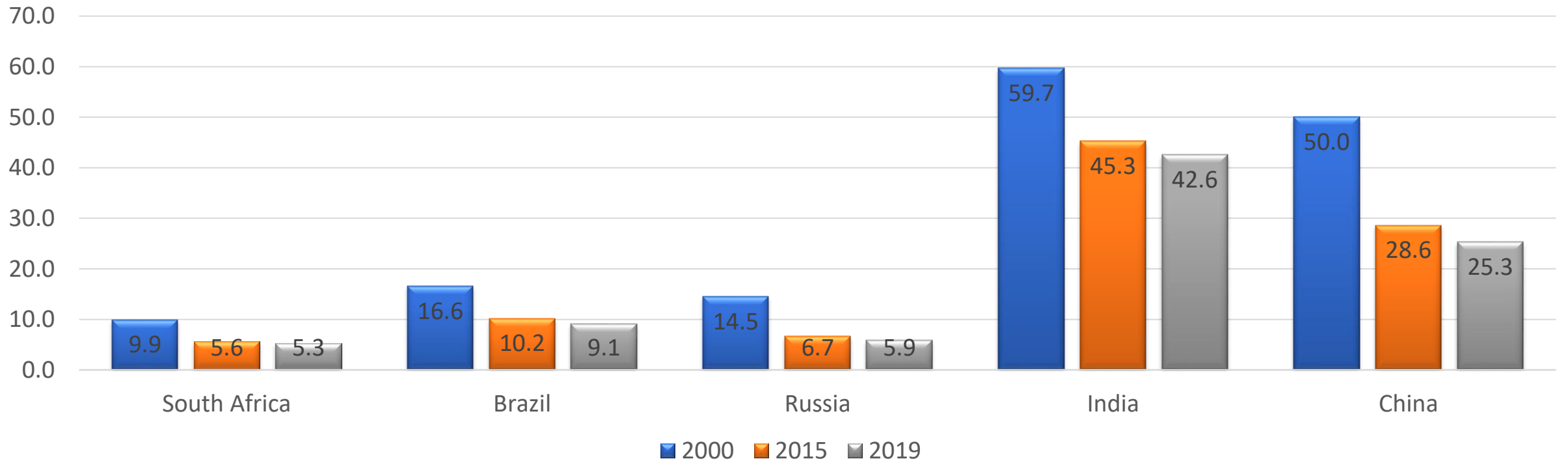
# Agriculture in selected African countries



# Agriculture in selected African countries – contribution to employment



# Agriculture in selected BRICS countries – contribution to employment





# Agricultural studies/curricula/syllabi

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- Agricultural education and training is primarily based on the subject area of biological sciences which actively uses the knowledge of natural, economic, and social disciplines – it entails the practice of dealing with the systematic cultivation of certain plants and livestock breeding.
- Agricultural education and training enables students to apply the knowledge and skills learned in several different disciplines of agriculture in real life situations.
- The study of agriculture intends to implement cutting edge strategies that enhance the effectiveness of the main purpose of why agriculture exist.
- Agricultural education and training involves theory and practice – there appears to be more practice at TVET and Agriculture Colleges than at universities (although Universities of Technology seem to have a more significant component of practice/practicals).
- The focus of agricultural education and training is on but not limited to studies in horticulture, forestry, conservation, natural resources, agricultural products and processing, production of food and fiber, aquaculture and other agriculture products, mechanics, sales and services, economics, marketing, and leadership development.

# Diploma in Agriculture in the Colleges of Agriculture in South Africa

## Year 1

### Semester 1

Module (Animal Production)	NQF level	Module (Crop Production)	NQF level
Zoology	5	Botany	5
Agricultural Extension	5	Agricultural Extension	5
Wool Technology	6	Pest Management	6
Farm Technology	6	Farm Technology	6
Animal Nutrition	5	Soil Science	5
Statistics	5	Statistics	5

### Semester 2

Module (Animal Production)	NQF level	Module (Crop Production)	NQF level
Animal Health Principles	5	Horticulture	5
Mutton Production	6	Climatology and Cultural Practices	6
Dams and Pumps Technology	6	Dams and Pumps Technology	6
Veld Management	6	Veld Management	6
Farm Accounting	6	Farm Accounting	6
Animal breeding	6	Soil Science	6

## Year 2

### Semester 3

Module (Animal Production)	NQF level	Module (Crop Production)	NQF level
Ruminant Diseases	6	Irrigation	6
Sheep Breeding	6	Oil and Protein seeds	6
Beef Production	6	Seed Technology	6
Agricultural Marketing	6	Agricultural Marketing	6
Farm Management	6	Farm Management	6
Advanced Veld Management	6	Advanced Veld Management	6

## Semester 4

### Module (Animal Production)

Production Economics	6
Monogastric Diseases	6
Dairy Production	6
Farm Structures	6
Cultivated Pastures	6
Agricultural Extension	6

### NQF level

### Module (Crop Production)

Production Economics	6
Starch Crops	6
Fruit Production	6
Farm Structures	6
Cultivated Pastures	6
Agricultural Extension	6

### NQF level

## Year 3

### Semester 5

### Module (Animal Production)

Poultry Production	6
Piggery Production	6
Human Resource Management	7
Strategic Management	7
Entrepreneurship	7

### NQF level

### Module (Crop Production)

Project	6
Land Use Planning	6
Human Resource Management	7
Strategic Management	7
Entrepreneurship	7

### NQF level

## Semester 6

### [Module (Animal Production)

Fieldwork	7
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### NQF level

### Module (Crop Production)

Fieldwork	7
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### NQF level

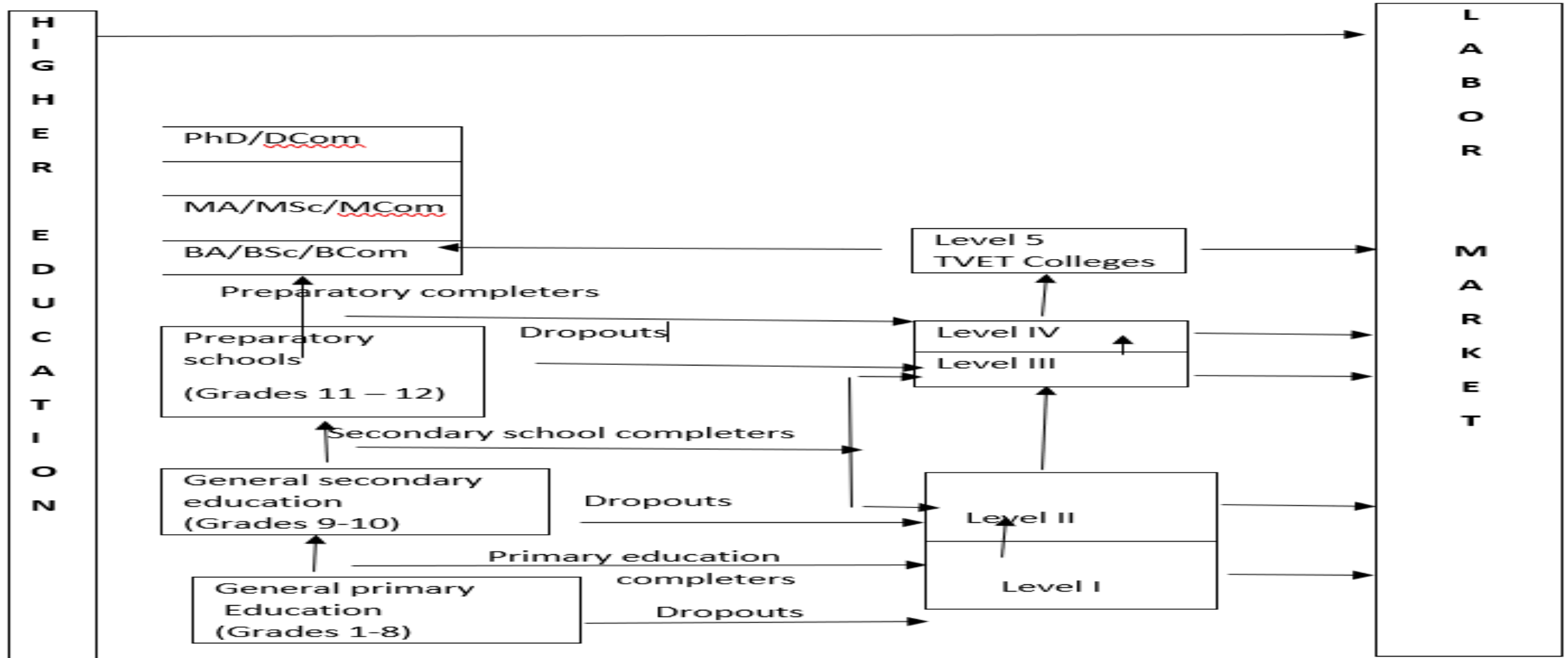
# Standard academic structure for the Diplomas in Agriculture in Universities

YEAR 1	YEAR 2	YEAR 3
Communication Skills	Basic Statistics	Crop Production
Entrepreneurship	Soil fertility	Animal Production
Basic Arithmetic	Crop Production	Agricultural Engineering
Basic Biochemistry	Animal Production	Agric. Extension and planning
Genetics introduction to organic agriculture	Entrepreneurship II	Farm management and Farm business management
Basic Physics	Agric-economics	Organic Agriculture
Basic Botany	Agric-engineering	Special project/practical
Basic Zoology and parasitology	Computer application	Environmental management
Basic Animal Anatomy and physiology	Environmental Science	Standard Organic Certification and Marketing
Basic Micro-biology	Work-Integrated Learning	Basic leadership skills
Basic Plant physiology		
Basic Crop production		
Basic Soil Science		
Basic Agricultural economics and Rural Sociology		

# South African National Qualifications Framework

<b>NATIONAL QUALIFICATIONS FRAMEWORK</b>				
<b>Level</b>	<b>Sub-Framework and Qualification Types</b>			
<b>10</b>	<b>Higher Education Qualifications Sub-Framework (HEQSF)</b>	<b>Doctoral Degree</b>		<b>Occupational Qualifications Sub-Framework (OQSF)</b>
<b>9</b>		<b>Doctoral Degree (Professional)</b>		
<b>8</b>		<b>Master's Degree</b> <b>Master's Degree (Professional)</b>		
<b>7</b>		<b>Bachelor Honours Degree</b> <b>Postgraduate Degree</b> <b>Bachelor's degree</b>	<b>Occupational Certificate (Level 8)</b>	
<b>6</b>		<b>Bachelor's Degree</b> <b>Advanced Diploma</b>	<b>Occupational Certificate (Level 7)</b>	
<b>5</b>		<b>Diploma</b> <b>Advance Certificate</b>	<b>Occupational Certificate (Level 6)</b>	
<b>4</b>		<b>Higher Certificate</b>	<b>Occupational Certificate (Level 5)</b>	
<b>3</b>		<b>National Certificate</b>	<b>Occupational Certificate (Level 4)</b>	
<b>2</b>		<b>Intermediate Certificate</b>	<b>Occupational Certificate (Level 3)</b>	
<b>1</b>		<b>Elementary Certificate</b>	<b>Occupational Certificate (Level 2)</b>	
	<b>General and further Education and Training Qualifications Sub-Framework (GFETQSF)</b>	<b>General Certificate</b>	<b>Occupational Certificate (Level 1)</b>	

# Proposed Framework: Agricultural studies in TVET Colleges in South Africa



# Conclusion

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- The units of competence would have to be determined and agreed upon by the TVET sector and other stakeholders.
- The levels should also be guided by what high schools offer in terms of agricultural studies. Like in some countries, the levels can range from basic, specialisation, specific commodities to advanced production and marketing so that the graduates can be suitable for differing levels of competence (e.g. certificates of competence for levels 1 and 2 can be suitable for entry into the industry, level 3 can be a trade level, while 4 and 5 can be for supervisors, middle managers and those in specialised technical skill).
- The curricula would have to consist of a higher percentage for practical instruction (e.g. 65%) and a low percentage for theory (e.g. 35%). The practice/practicals would have to be attained in collaboration with industry, just as the Colleges of Agriculture are doing.
- The introduction of agricultural studies in TVET colleges that do not (currently) offer agricultural studies would have to take into account both the standard syllabus of the Colleges of Agriculture and the academic structures of diplomas in agriculture in the universities (such as the one shown below).

# Second Phase



Activity	Deliverable	Submission date
<b>1. Further review of the curricula in Agricultural TVET colleges in South Africa and in selected African &amp; BRICS countries</b>	Document presenting syllabi of Agricultural TVET colleges in South Africa and in selected African & BRICS countries	31 July 2022
<b>2. Further review of the curricula in the Colleges of Agriculture in South Africa</b>	Document presenting syllabi of the Colleges of Agriculture in South Africa	31 July 2022
<b>3. Review of the agricultural studies subjects in high schools in South Africa</b>	Document presenting syllabus of agricultural studies subjects in high schools in South Africa	31 July 2022
<b>4. Presentation of the Strategic Framework for the agriculture vocational training and education in the TVET colleges in South Africa</b>	Power-point Presentations	During August 2022
<b>5. Interviews with selected TVET colleges in South Africa</b>	Report of the interviews and main findings	During August 2022
<b>6. Workshops with all relevant stakeholders</b>	Presentations of the draft proposed syllabi/curricula for TVET colleges in South Africa	During Sept 2022
<b>7. Drafting of syllabus and materials for the TVET colleges in South Africa</b>	Agricultural studies materials for the TVET colleges in South Africa	31 October 2022