



Western Cape
Government

Agriculture

BETTER TOGETHER.

DIAGNOSTIC AND DESIGN EVALUATION OF THE WESTERN CAPE DEPARTMENT OF AGRICULTURE'S PROGRAMME 6 – “AGRICULTURAL ECONOMICS SERVICES”

Final report

24 February 2017



TABLE OF CONTENTS

LIST OF FIGURES	iv
LIST OF TABLES.....	viii
LIST OF ACRONYMS.....	x
ACKNOWLEDGEMENTS.....	xii
FORMAT OF THE REPORT.....	xiii
ONE PAGE POLICY SUMMARY	xv
EXECUTIVE SUMMARY	xvi
1 INTRODUCTION.....	1
1.1 Report and evaluation purpose	1
1.2 Evaluation questions	1
1.3 Methodology.....	1
2 OVERVIEW OF AE SERVICES	2
2.1 Introduction	2
2.2 Definitions of AE	2
2.3 Brief historical overview of AE in South Africa.....	3
2.4 The legislative and policy mandate for AE services, including effectiveness and inconsistencies.....	3
2.5 Conclusions	4
3 THE AE FUNCTION IN THE PUBLIC SECTOR	4
3.1 Introduction	4
3.2 AE roles, services and users	5
3.3 Agricultural Economist' duties, tasks, activities.....	6
3.4 Skills and knowledge requirements of Agricultural Economists	6
3.4.1 Skills required by Agricultural Economists	6
3.4.2 Practical knowledge requirements for Agricultural Economists	7
3.5 Qualifications provided and training requirements.....	7
3.6 Conclusions	8
4 ROLE AND STRUCTURE OF WCD_oA'S PROGRAMME 6	8
4.1 Introduction	8
4.2 WCD _o A Programme 6: Service usage satisfaction and impacts, programme structure, processes, and capacity.....	8
4.2.1 Programme 6 service usage	8
4.2.2 Programme 6 user service satisfaction and service impacts	10

4.3	Structure of WCDoA AE Services Programme 6	11
4.3.1	Programme 6 organisational structure	11
4.3.2	Programme 6 staff job descriptions	12
4.3.3	Programme 6 performance management	12
4.3.4	Programme recruitment processes	13
4.3.5	Programme staff career paths and salary dynamics.....	14
4.3.6	Programme 6 staff skills, knowledge, training and capacity building	15
4.4	Conclusions	16
5	COMPARISON AND BENCHMARKING OF THE WCDoA AE SERVICES PROGRAMME 6.....	18
5.1	Introduction	18
5.2	International comparisons: resources, services and performance	19
5.3	Provincial Programme 6 comparisons: Resources, services and performance	20
5.3.1	Provincial Programme 6 AE services offered	20
5.3.2	Main types of clients served by Provincial Programme 6s.....	20
5.3.3	Provincial Programme 6 organograms and staffing levels and trends	20
5.3.4	Provincial DoA Programme 6 Directors' perceptions of their Programme's strengths.....	21
5.3.5	Provincial Programme 6 budget trends	22
5.3.6	Provincial AE Services outputs and targets.....	22
5.4	Key trends and factors which could influence the sustainability of the WCDoA's Programme 6.....	23
5.5	Conclusions	24
6.	RECOMMENDATIONS	25
7	References	29
8	Annexure 1: Detailed evaluation methodology.....	32
9	Annexure 2: Detailed evaluation data and survey results	36
10	Annexure 3: Extended overview of AE Services.....	111
11	Annexure 4: Journal of Economic Literature detailed classification of AE.....	117
11	Annexure 5: Summary of emerging farmer focus group held with representatives of the African Farmer Association of South Africa (AFASA).....	123
12	Annexure 6: Summary of commercial banks focus group	126
13	Annexure 7: Allocation of agriculturally related functional areas between the three spheres of government	129
14	Annexure 8: Summary of roles played and services provided by Agricultural Economists in different types of organisations in South Africa.....	132
15	Annexure 9: Desired Agricultural Economist skills in South Africa	134

16 Annexure 10: Summary of research findings from ka Makhaya (2014) regarding university AE training gaps.....	150
17 Annexure 11: Detailed overview of WCDoA Programme 6 including services provided 154	
18 Annexure 12: Organograms of selected Provincial DoA Programme 6s.....	163
19 Annexure 13: Brief overview of Combud (computerised budgets).....	176

LIST OF FIGURES

Figure 8-1 WC Programme 6 design and diagnostic evaluation methodology summary ...	32
Figure 9-1 Trends in AE degrees awarded in South Africa: 2003 - 2012	37
Figure 9-2 2016 User survey: Respondent profile by age group	39
Figure 9-3 2016 User survey: Respondent profile by type of organisation	39
Figure 9-4 2016 User survey: Farmer respondent profile by districts	40
Figure 9-5 2016 User survey: Farmer respondent profile by main commodities produced...	40
Figure 9-6 2016 User survey: Respondent profile, organisation provides AE services or not .	41
Figure 9-7 2016 User survey: Respondent use of respondent organisation's own AE Services	41
Figure 9-8 2016 User survey: Are the majority of AE Services used by you/your organisation provided by the public or private sector?	42
Figure 9-9 2016 User survey: Are the majority of AE Services used by you/your organisation provided by the public or private sector?	42
Figure 9-10 2016 User survey: Respondent usage of WCDoA AE services	43
Figure 9-11 2016 User survey: Main user group types and use of WCDoA AE services	44
Figure 9-12 2016 User survey: Main reason your organisation has not used any AE services from the WCDoA?	48
Figure 9-13 2016 User survey: Main reason your organisation has not used any AE services from the WCDoA by user types?	49
Figure 9-14 2016 User survey: Do you think you/ your organisation would have used AE services from the WCDoA if you were aware that they provided these?	49
Figure 9-15 2016 User survey: Do you think you/your organisation would have used AE services from the WCDoA if you were aware that they provided these (by user type)?	50
Figure 9-16 2016 User survey: Do you think you/your organisation would have used AE services from the WCDoA if you were aware that they provided these (by user type)?	51
Figure 9-17 2016 User survey: Are there any specific AE services that you/your organisation needs but which are not currently offered by the WCDoA?	51
Figure 9-18 2016 User survey: We require specific AE services but which are or may not currently offered by the WCDoA (by user type)?	52
Figure 9-19 2016 User survey: Average level of importance of, and satisfaction with, WCDoA Programme 6 AE services.....	55
Figure 9-20 2016 User survey: Average level of satisfaction for WCDoA AE services for all users	58
Figure 9-21 2016 User survey: Average level of satisfaction for WCDoA AE services for commercial farmers	59
Figure 9-22 2016 User survey: Average level of satisfaction for WCDoA Service for non-farmer users	60
Figure 9-23 2016 User survey: Average time taken to receive WCDoA AE services after requesting the service.....	61
Figure 9-24 2016 User survey: Willingness to use WCDoA AE services in future by type of user	61
Figure 9-25 2016 User survey: Not willing to use WCDoA AE services in future by user type .	62
Figure 9-26 2016 User survey: Did you/your organisation experience any benefits as a direct result of receiving AE services from the WCDoA in the past?	62

Figure 9-27 2016 User survey: What benefits did your organisation experience as a direct result of receiving AE Services from the WCDoA in the past?	63
Figure 9-28 2016 User survey: Benefits organisations experienced as a direct result of receiving AE Services from the WCDoA in the past by type of user	64
Figure 9-29 2016 User survey: Did you/your organisation experience any negative impacts as a direct result of receiving AE services from the WCDoA in the past?	65
Figure 9-30 2016 User survey: Types of negative impacts experienced as a direct result of receiving WCDoA AE services	65
Figure 9-31 2016 User survey: Organisations experiencing any negative impacts as a direct result of receiving AE services from the WCDoA in the past by type of user.....	66
Figure 9-32 2016 Staff survey: Age profile of respondents	67
Figure 9-33 2016 Staff survey: Programme 6 current or last job titles of respondents	67
Figure 9-34 2016 Staff survey: Years of total work experience	68
Figure 9-35 2016 Staff survey: Are you still currently employed by the WCDoA: Programme 6?	68
Figure 9-36 2016 Staff survey: Are there sufficient numbers of the following staff in your sub programme component to meet the work load demand and expectations of your clients?	70
Figure 9-37 2016 Staff survey: Are there sufficient numbers of the following staff in your sub-Programme component to meet the work load demand and expectations of your clients?	71
Figure 9-38 2016 Staff survey: Are there sufficient numbers of the following staff in your sub programme component to meet the work load demand and expectations of your clients: Agri-business Support: Production Economics?	72
Figure 9-39 2016 Staff survey: Are there sufficient numbers of the following staff in your sub programme component to meet the work load demand and expectations of your clients: Agri-business Support: Marketing?	73
Figure 9-40 2016 Staff survey: Are there sufficient numbers of the following staff in your sub programme component to meet the work load demand and expectations of your clients: Macro-Economics Support: Macro and Resource Economics.....	74
Figure 9-41 2016 Staff survey: Are there sufficient numbers of the following staff in your sub programme component to meet the work load demand and expectations of your clients: Macro-Economics Support: Statistics.....	75
Figure 9-42 2016 Staff survey: Which of the following fields best describes the work that you currently do (or did when employed) at the WCDoA?	75
Figure 9-43 2016 Staff survey: Which programme component are you currently working in (or were last working in if no longer employed at the WCDoA)?	76
Figure 9-44 2016 Staff survey: Three main reasons staff originally chose to apply for a position in the WCDoA's Programme 6.....	77
Figure 9-45 2016 Staff survey: Which organisation (if any) did you work for before you joined the WCDoA Programme 6?	78
Figure 9-46 2016 Staff survey: Job title/position and level when you first joined Programme 6	79
Figure 9-47 2016 Staff survey: What is your current job title/ position and level in Programme 6 (or your last title/ position/ level if you have since left Programme 6)?.....	80
Figure 9-48 2016 Staff survey: Length of service before leaving WCDoA by year of leaving	81

Figure 9-49 2016 Staff survey: If no longer work for WC Programme 6, are you currently working in the public or private sector?	82
Figure 9-50 2016 Staff survey: Main reason for leaving the WCDoA Programme 6?	82
Figure 9-51 2016 Staff survey: How satisfied are (or were you just before you left) working in the WCDoA Programme 6?	83
Figure 9-52 2016 Staff survey: if you are currently working for WCDoA Programme 6, How likely are you to be working there in 5 years' time?	83
Figure 9-53 2016 Staff survey: If you are no longer employed under the WCDoA AE Programme (Programme 6) what year did you leave?	84
Figure 9-54 2016 Staff survey: Initial post when joining Programme 6 vs current post.....	84
Figure 9-55 2016 Staff survey: If you were employed in a full time position before you joined the WCDOA's Programme 6, what was your total gross monthly salary at you last job?	85
Figure 9-56 2016 Staff survey: Current gross monthly salary range	85
Figure 9-57 2016 Staff survey: Comparison of current staff previous gross monthly income to current gross monthly income	86
Figure 9-58 2016 Staff survey: Do you have an agricultural economics degree?.....	87
Figure 9-59 2016 Staff survey: Highest degree received/ completed from university	87
Figure 9-60 2016 Staff survey: University received an agricultural economics degree from	88
Figure 9-61 2016 Staff survey: Year graduated from university with last/ highest degree? ...	88
Figure 9-62 2016 Staff survey: Did you complete/ pass third year economics (undergraduate)?	89
Figure 9-63 2016 Staff survey: My university degree curriculum content was adequate to provide skills needed to provide AE Services	90
Figure 9-64 2016 Staff survey: My university degree curriculum content was adequate to provide me with the practical knowledge needed to successfully provide AE Services.....	91
Figure 9-65 2016 Staff survey: Since being employed by the WCDoA have you received any training to improve your AE skills and/or knowledge?.....	92
Figure 9-66 2016 Staff survey: Are you currently studying towards a university degree?	92
Figure 9-67 2016 Staff survey: Do you plan on studying further in future?	93
Figure 9-68 2016 Staff survey: Which 1. Duties/ task/ activities do you perform in your current position and for those duties/ tasks/ activities currently performed, 2. Do you believe you have the required knowledge and 3. Skills to adequately perform these?.....	94
Figure 9-69 2016 Staff survey: Which 1. Duties/ task/ activities do you perform in your current position and for those duties/ tasks/ activities currently performed, do you believe you have the required 2. Knowledge and 3. Skills to adequately perform these?	95
Figure 9-70 2016 Staff survey: What are the skills that you need to be effective at providing expected or requested services to your clients and do you currently have the required level of skill which you need to successfully deliver the expected services?	96
Figure 9-71 2016 Staff survey: Which areas of practical knowledge and understanding do you need to have to be effective at providing expected or requested services? If this knowledge area is needed, do you have the required knowledge?	97
Figure 9-72 AE Services provided by each Province under Programme 6	98
Figure 9-73 Main clients served by Provincial DoA Programme 6	99
Figure 9-74 AE Programme total staff employment trends: 2012 - 2018	100
Figure 9-75 Provincial DoA Programme 6 Director's plans to expand, reduce or maintain total Programme 6 posts in the next 3 years	102

Figure 9-76 Provincial DoA Programme 6 Directors' perception on whether university training provide Agricultural Economists with the relevant skills and knowledge to provide AE Services that meet the needs of clients?	103
Figure 9-77 Provincial AE Services Programme total nominal budget trends: 2012/13 - 2018/19	105
Figure 9-78 Provincial AE Services Programme 6 total real budget trends: 2012/13 - 2018/19	106
Figure 9-79 Agribusiness support: Number of agribusinesses supported to access markets: 2011/12 - 2018/19	107
Figure 9-80 A support: Number of clients benefitting from agricultural economic advice provided: 2011/12 - 2018/19	108
Figure 9-81 Macroeconomic support: Number of agricultural economic information responses provided 2011/12 - 2018/19	109
Figure 9-82 Macroeconomic support: Number of economic reports compiled: 2011/12 - 2018/19	110
Figure 18-1 WCDoA Programme 6 organogram.....	163
Figure 18-2 Gauteng Province: Programme 6 organogram	167
Figure 18-3 Kwazulu-Natal Province: Programme 6 Organogram	168
Figure 18-4 Limpopo Province: Programme 6 organogram.....	171
Figure 18-5 Limpopo Province: Programme 6 Organogram: Directorate: Agricultural Enterprise Development	172
Figure 18-6 Limpopo Province: Programme 6 Organogram: district Structure	173
Figure 18-7 Eastern Cape Province: Departmental macro-structure	174

LIST OF TABLES

Table 4-1 Different fields of Agricultural Economists	6
Table 8-1 Evaluation methodology: summary of surveys conducted	33
Table 9-1 Supply trends: Graduates from AE degrees in South Africa between 2003 and 2012.....	38
Table 9-2 User survey: AE Services needed but not (understood to be) offered by WCDoA	45
Table 9-3 User survey: Proposals for innovative AE Services delivery approaches to be considered by WCDoA.....	46
Table 9-4 User survey: Average level of satisfaction for all users with WCDoA AE Services ..	53
Table 9-5 User survey: average level of importance given by all users with WCDoA AE Services	53
Table 9-6 2016 User survey of Commercial farmers 6 most important AE Services and their average level of satisfaction	56
Table 9-7 User survey of Emerging farmers: 13 most important AE Services and their average level of satisfaction	56
Table 9-8 User survey: Most important AE Services for commercial farmers and emerging and subsistence farmers	57
Table 9-9 Selected Programme 6 organisational structure and HR capacity issues raised by WCDoA staff.....	69
Table 9-10 Programme 6.1 Provincial Programme 6 staffing comparison: Agribusiness support sub-programme	101
Table 9-11 Programme 6.1 Provincial Programme 6 staffing comparison: Macro-economics support sub-programme	101
Table 9-12 Provincial DoA Programme 6 Director's perceptions of up to 3 main programme strengths.....	102
Table 9-13 Provincial DoA Programme 6 Director's survey: Does the training provided by universities to Agricultural Economists provides them with the relevant skills and knowledge to provide relevant AE Services that meet the needs of clients?	103
Table 9-14 Provincial DoA Programme 6 Director's survey: Key knowledge and skills gaps that Agricultural Economist graduates have and that need to be improved/ addressed in order for them to provide effective AE Services	104
Table 11-1 Q000 Agricultural and Natural Resource Economics; Environmental and Ecological Economics: General	117
Table 11-2 Q2 Renewable Resources and Conservation	119
Table 11-3 Q3 Non-renewable Resources and Conservation.....	120
Table 11-4 Q4 Energy	121
Table 11-5 Q5 Environmental economics	121
Table 13-1 Constitutional allocation of agriculturally related functional areas between the three spheres of government:	129
Table 13-2 Division of agricultural Functions between the National and Provincial spheres of competence	131
Table 14-1 AE service providers in South Africa: Selected roles and AE Services provided	132
Table 15-1 Specific skills relevant to Agricultural Economists and university degrees in South Africa	134
Table 15-2: Skill requirements of different categories of Agricultural Economists	135
Table 15-3: Different skill levels of Agricultural Economists.	140

Table 16-1 Gaps observed by respondents within their AE training	150
Table 16-2 Modules not in university programmes and skills most applied in the workplace	150
Table 16-3 Skills that require improvement at universities	151
Table 17-1 Programme 6 sub-programmes: purpose, strategic objectives and objective statements	154
Table 17-2 Services and users of the WCDoA's Programme 6: AE Services	155
Table 17-3 Sub-programme: Macro-Economics Support; Component Macro and Resource Economics: Service descriptions	156
Table 17-4 Sub-programme: Macro-Economics Support; Component: Statistics: Service descriptions.....	157
Table 17-5 Sub-Programme: Agri-Business Support & Development; Component: Production Economics: Service descriptions	158
Table 17-6 Sub-Programme: Agri-Business Support & Development; Component: Marketing and Agri Business: Service descriptions	161

LIST OF ACRONYMS

AE	Agricultural Economics
ABARES	Australian Bureau of Agricultural and Resource Economics and Sciences
AEASA	Agricultural Economists Association of South Africa
AFASA	African Farmer's Association of South Africa
APP	Annual Performance Plan
BEE	Black Economic Empowerment
BFAP	Bureau for Food and Agricultural Policy
CASP	Comprehensive Agricultural Support Programme
Combud	Computerised budget
CPD	Continuing Professional Development
CSC	Corporate Services Centre
CPD	Continuing Professional Development
DAFF	Department of Agriculture, Forestry and Fisheries.
ERS	Economic Research Services (USA)
HR	Human Resources
ISO	International Standards Organisation
KZN	Kwazulu-Natal
MAFISA	Micro Agricultural Financial Institutions of South Africa
MEC	Member of the Executive Council
MoU	Memorandum of Understanding
MTSF	Medium Term Strategic Framework
NDP	National Development Plan
NWU	North West University
OSD	Occupational Specific Dispensation
PAY	Advancement of Youth
PDI	Previously Disadvantaged Individuals
RECAP	Recapitalisation and Development Programme
SAE	Senior Agricultural Economist
SAFEX	South African Futures Exchange
SAM	Social Accounting Matrix

UC	University of California
UFH	University of Fort Hare
UFS	University of Free State
UL	University of Limpopo
UP	University of Pretoria
US	University of Stellenbosch
UV	University of Venda
USDA	United States Department of Agriculture
UWA	University of Western Australia
WC	WC
WCDoA	WC Department of Agriculture
WAOB	World Agricultural Outlook Board
YPP	Young Professionals Program

ACKNOWLEDGEMENTS

This report has been independently prepared by Camissa. The Evaluation Steering Committee was responsible for overseeing the evaluation.

Submitted by:	Submitted to:
Rae Wolpe	Bongiswa Matoti WC Department of Agriculture Director: Agricultural Economics Services
P.O. Box 13446, Mowbray 7700 Rae@impacteconomix.com	Muldersvlei Rd, Elsenburg, Stellenbosch District BongiswaM@elsenburg.com
Tel: 021 685 9663	Tel: 021 808 5213
www.impacteconomix.com	http://www.elsenburg.com/services-and-programmes/agricultural-economics-services

This evaluation would not have been possible without the support of the following individuals and Camissa would like to thank them for participating in and contributing positively towards the evaluation process:

- a) WCDoA: Mr Louw Pienaar, Mr Andrew Partridge, Ms Bongiswa Matoti, and Mr Dirk Troskie, as well as other Programme 6 staff who participated in interviews as part of this evaluation.
- b) Agri WC: Mr Carl Opperman.
- c) AFASA: Mr Ismail Motala.
- d) Participants in the Commercial Banks Focus Group.
- e) The consulting team: Prof. Nick Vink, Prof. Johann Kirsten, and Dr Babette Rabie and her team at the University of Stellenbosch (Ashlene van der Berg-Ross, Melissa Botha, Norman Engelbrecht, and Werner Shulz).

FORMAT OF THE REPORT

This evaluation report is divided into four main sections as follows:

1. Policy summary.
2. Executive summary.
3. Main evaluation report.
4. Annexures.

The policy summary of the evaluation of the Western Cape Department of Agriculture's (WCDoA) Programme 6: Agricultural Economics (AE) Services, describes the evaluation's main findings and key policy recommendations for senior decision-makers.

The executive summary provides a snapshot of the whole evaluation. This includes the aim of the evaluation, the key findings, and the main conclusions and recommendations.

The main report provides a detailed evaluation and is structured as follows:

Section 1	Overall evaluation purpose, questions, methodology and report structure.
Section 2	Overview of agricultural economic services, including definitions, historical trends and the legislative and policy mandate in South Africa.
Section 3	The AE function in the public sector, including AE roles, services, users, Agricultural Economist duties, tasks, activities, skills and knowledge requirements, and AE qualifications.
Section 4	The role and structure of the WCDoA's Programme 6, including services provided and organisational structure, client service satisfaction issues, performance management, recruitment processes, career path dynamics, staff training and capacity building.
Section 5	Comparing the WCDoA's Programme 6 with selected international and provincial AE programmes.
Section 6	Conclusions and recommendations to improve the WCDoA's Programme 6 performance.

The following annexures are included and contain further relevant and detailed information:

Annexure 1	Detailed evaluation methodology.
Annexure 2	Detailed evaluation data and survey results.
Annexure 3	Overview of AE Services.
Annexure 4	Journal of Economic Literature detailed classification of AE.
Annexure 5	Summary of emerging farmer focus group held with representatives of African Farmer's Association of South Africa.
Annexure 6	Summary of commercial banks' focus group.
Annexure 7	Constitutional allocation of agriculture as it relates to functional areas between the three levels of Government.
Annexure 8	Summary of roles played, and services provided, by Agricultural Economists in different types of organisations in South Africa.
Annexure 9	Desired Agricultural Economist skills in South Africa.
Annexure 10	Summary of research findings from ka Makhaya (2014) regarding University AE training gaps.
Annexure 11	Detailed overview of WCDoA Programme 6, including purpose, services and service users.

A separate literature review report was also developed to inform this evaluation and is available upon request from the WCDoA.

ONE PAGE POLICY SUMMARY

The overall purpose of this evaluation is to provide feedback to the WC Department of Agriculture (WCDa), and other relevant government authorities involved in policy administration, concerning **the role and functioning of Agricultural Economists** and the **services required by their clients** in the WC Province. In addition, it aims to improve the performance of Programme 6: AE Services, so that it can continue to impact meaningfully on the growth and transformation of agriculture and agri processing in the WC Province.

Data was collected from a wide range of sources including **five different surveys**, a set of **key informant interviews, two focus groups** (one with commercial banks and another with emerging farmers), and a **literature review**.

The main findings of the evaluation are that, while Programme 6 is delivering high levels of satisfaction to service users, **potential exists to further enhance the impacts** of at least the following key services identified as being important by these service users: **Market identification; facilitating market access; empowerment advice; financial record keeping; facilitating access to finance; viability studies; and business plan development**. In addition, service users identified the crucial importance of expanding the **Combud system** (or an equivalent system) to include objective and trustworthy production cost information at both a district and commodity level. The role of the WCDa, and Programme 6, **in approving land reform business plans**, has also been raised as an issue which requires further national-level discussion. The fact that Programme 6's budget is projected to decline in real terms, places a real constraint on the extent to which it will be able to enhance its positive economic and transformation impacts.

High-level, key recommendations are as follows, with detailed recommendations contained in the main report:

1. Programme 6 to initiate an **organisational re-design process** to address identified issues to enhance service delivery;
2. The WCDa should raise the need to **review the role and mandate of provincial departments in approving land reform business plans**. Depending on the outcome of this review, the **financial implications** regarding national government funding to provinces may also need to be ascertained;
3. WCDa and DEDAT to engage in clarifying **Programme 6's role in implementing the WC provincial agri processing strategy**. This includes identifying and addressing the potential budgetary implications should an increased role for Programme 6 be agreed;
4. WCDa to identify human resource options (e.g. training and skills enhancement of existing officials located at district-level) **to enhance the district-level capacity to deliver and expand access to selected AE services** (e.g. such as financial management and record keeping for emerging farmers); and
5. WCDa to **strengthen strategic partnerships** with retailers and other role-players to **enhance local market access opportunities for emerging farmers**.

EXECUTIVE SUMMARY

Introduction: Evaluation purpose and questions

The overall purpose of this evaluation, as specified in the Terms of Reference, is as follows:

To provide feedback to the WCDoA, and relevant government authorities involved in policy administration, concerning the role and functioning of Agricultural Economists and the services required by their clients in the WC Province.

Evaluation methodology

Data was collected from a wide range of sources including: A literature review; a survey of existing and potential users of AE Services with 353 respondents (of these, 121 were farmers across the five districts, and the remainder covering internal Provincial government users, agribusiness, academia, commodity organisations, and other public and private sector organisations); a survey of current and ex WCDoA Programme 6 staff (with 36 current and 14 ex-staff responding); a survey of University Heads of AE Departments (with 8 out of 9 responding); a survey of Agricultural Economics Association of South Africa (AEASA) members; a survey of the Programme 6 Directors of provincial agriculture departments; two focus groups (one with emerging farmers and one with commercial banks); and a range of key informant interviews with WCDoA Programme 6 staff, organised agriculture, and emerging farmers.

Main evaluation findings and conclusions

The roles played by, and skills and knowledge required of, Agricultural Economists need to continually adapt in relation to the constant evolution of the AE discipline, in line with broader socio-economic challenges and opportunities, and as supported by the application of new information and communication technologies.

Overall, there are **high levels of satisfaction shown by the clients** using Programme 6's AE services. Eighty-five percent of surveyed users had received direct benefits as a direct result of using Programme 6 services, with the **vast majority of these users reporting improved knowledge, awareness and research as the main benefits**.

Key services farmers identified as being of relatively high service importance, which also received relatively low service satisfaction ratings, are: **Facilitating market access; market identification; empowerment advice; financial record keeping; facilitating access to finance; market research; viability studies; and business plan development**. It will be important for Programme 6 to strengthen these services.

Other key service improvement priorities, identified by service users, include the following:

- Improving awareness of the Programme's services and how to access them;
- Strengthening the role of Programme 6 in facilitating emerging farmer access to local retailers through developing a larger strategic and more proactive role (including partnerships);
- Greater use of information and communication technologies to collect and distribute real time agricultural information;
- The need to re-establish the Combud (or equivalent) system with objective and reliable district-level production cost information;

- Improving information and databases in a range of areas (e.g. commodity assessments and crop forecasts, market price information, smallholder data, monitoring transformation and land reform, and macro-level information on what competitor nations are planting); and
- The need for Programme 6 to play a strong role in approving land reform business plans requires further discussion with national government. Depending on the outcome, potential national government financial implications for funding the province's future role in this area may need to be identified.

Regarding the organisational structure of the WCDoA Programme 6, the following challenges constrain the performance of the programme:

- a) There are **very limited career path development opportunities** as the Occupational Specific Dispensation (OSD) system does not currently apply to Agricultural Economists. This contributes to higher staff turnover than might otherwise be the case as well as service disruptions due to the fact that it can take up to 6 months or longer to fill vacant posts;
- b) There are **key staff shortages at both managerial and professional level** (both funded, available posts, as well as unfunded posts) due to a lack of budget;
- c) The **need for more district-specific capacity to deliver services is a challenge**, especially for agribusiness support and for enhancing access, for emerging farmers, to services such as financial management training. There may be various options to address the limited capacity challenge, including better utilisation of existing staff at district-level (for example falling under WCDoA's Farmer Support and Development); and
- d) It is **unclear how support for the WC's Provincial strategic goals and objectives, related to promoting agri processing**, is reflected in Programme 6's organogram and services provided.

Regarding Agricultural Economist staff skills, knowledge, training and capacity building; there is a need for ongoing staff training and capacity development to address key soft and technical knowledge, and skills gaps reported.

Comparing the WCDoA's Programme 6 against other Provinces, it is clear that the **WC delivers more AE Services than other Provinces**. However, the **WCDoA's Programme 6 budget is projected to decline in real terms** over the next few years. This will make it especially challenging to continue to meet many of the identified client needs.

Key recommendations

The following recommendations may require organisational restructuring as well as having budgetary implications. These will need to be identified and assessed. The recommendations are presented in three broad "clusters," and are sequenced in priority order (i.e. priority cluster 1, 2, and 3). Indications of the proposed timing of each cluster is divided into short (implementation needed in the next 6-12 months), medium

(implementation needed in the next 12-24 months), and long term (implementation needed in the next 24-36 months):

1 Medium to Long Term: Improve Programme 6 overall service delivery by initiating a Programme 6 organisational re-design process which is informed by, and designed to address, at least the following:

- a) Conduct further detailed **benchmarking** on comparable **international institutions** offering AE Services to identify **service delivery good practices**;
- a) Investigation (at national-level) into whether Agricultural Economists (or Economists in general), as a profession, should become eligible for the **Occupational Special Dispensation (OSD)** in the public sector;
- b) Options to **strengthen district-level capacity** to deliver and improve selected priority AE Services (discussed in recommendation cluster 2 below);
- c) Options to **increase the number of post levels above Level 10** to enhance career advancement opportunities and staff retention (e.g. this could include establishing **Level 12 posts for AE specialists**, and not just managers);
- d) Clarify the **role of the WCDoA and Programme 6 in supporting the WC's agri processing strategy** and objectives, as well as in approving land reform business plans; and
- e) The need for **increased commodity-specific focus** (which includes a focus on market access requirements and an understanding of value chains), and the continued re-establishment of the equivalent of a Combud system (to provide objective and credible production information at a commodity and district-level). There may be a need to create two or three additional commodity-specific posts for this purpose (short to medium term). Recruitment of a Production Economist may also be required.

2 Strengthen service design and delivery (e.g. using information technologies) of the following to enhance client satisfaction and service impacts on the growth and transformation of agriculture amongst both commercial and emerging farmers:

- a) Medium to Long Term: Possible **Programme 6's role in developing and approving land reform business plans** to enhance the sustainability and success prospects of emerging farmers;
- b) Short to Medium Term: **Increase and decentralise service delivery of basic financial management services to emerging farmers**;
- c) Medium Term: **A more strategic focus to enhancing local market access for emerging farmers** needs to be developed by Programme 6 where it's role in, for example, facilitating supplier development partnerships between retailers and emerging farmers is clarified and developed; and
- f) Short Term: Conduct consultations with both commercial and emerging farmers to identify opportunities to **further improve the following services** which are regarded as important: **Market research/trade data analysis/market identification and facilitating market access financial record keeping facilitating access to finance viability studies.**

- 3 Medium Term: **Identify and implement actions to improve internal Provincial processes to strengthen effective Programme 6 service delivery, including staff recruitment processes, staff training to address priority skills needs, and soft skills requirements to be included in AE job descriptions.**

Finally, the WCDoA should make this evaluation public and disseminate a summary to those evaluation survey respondents who requested this as part of the research.

1 INTRODUCTION

1.1 Report and evaluation purpose

The purpose of this report is to provide a design and diagnostic evaluation of the WC Department of Agriculture's (WCDoA) Programme 6: Agricultural Economics (AE) Services.

The overall purpose of this evaluation, as specified in the Terms of Reference, is:

To provide feedback to the WCDoA, and relevant government authorities involved in policy administration, concerning the role and functioning of Agricultural Economists and the services required by their clients in the WC Province.

The objectives of the evaluation are to:

1. Assess agricultural economic service needs, and how these would best be served as part of the WCDoA's Programme 6 services to the agricultural sector;
2. Develop an appreciation of needs for AE Services and strategies for supplying these; and
3. Provide guidance on the design and structuring of Programme 6 as it relates to the specific duties, activities, and tasks conducted by Agricultural Economists in the Department.

1.2 Evaluation questions

The overall evaluation has six Key Evaluation Questions (each with sub-questions), as contained in the Terms of Reference. These are:

1. What is the role of AE Services in the public, as well as the agricultural and agribusiness sectors in South Africa?
2. What is the function of an Agricultural Economist in the public, as well as the agricultural and agribusiness sectors in South Africa?
3. Considering questions one and two, what is the role of 'Programme 6: AE Services' at the WCDoA?
4. How is 'Programme 6: AE Services' structured at the WCDoA?
5. How does the AE Services Programme at the WCDoA compare to similar programmes in other institutions?
6. What does the AE Services Programme at the WCDoA need to do to improve performance in line with the identified benchmarks?

1.3 Methodology

The overall evaluation methodology is summarised as follows (please refer to Annexure 1 for the detailed methodology):

Data was collected from a wide range of sources including:

- A literature review which included two international case studies of similar programmes;

- A survey of existing and potential users of AE Services with 353 respondents (of these, 121 were farmers across the five districts, the remainder covering internal provincial government users, agribusiness, academia, commodity organisations, and other public and private sector organisations);
- A survey of current and ex-staff of the WCDoA Programme 6 (36 current and 14 ex-staff responded);
- A survey of University Heads of AE Departments (8 out of 9 responded);
- A survey of AEASA members (only 17 out of at least 400 paid up, and +/- 400 unpaid, AEASA members completed the survey);
- A survey of the Directors of the Provincial Department of Agriculture's Programme 6 (8 Provinces responded; only Mpumalanga did not respond);
- Two focus groups (emerging farmers and commercial banks); and
- A range of key informant interviews with Programme 6 staff, organised agriculture, and emerging farmers.

Evaluation limitations

The main evaluation limitation is that certain information gaps exist because of the low response rate received from the survey of members of AEASA (e.g. on salaries received by Agricultural Economists, as well as roles played, and services provided, by agribusiness). In addition, the absence of a comprehensive database of potential and actual users of AE Services in the WC makes it difficult to assess the true representational nature of the responses to the AE Services users/potential users survey. As such, the responses received for the user survey cannot necessarily be regarded as representative. A further limitation has been that the evaluation resources have not allowed for a more detailed examination of the composition of Programme 6 income and expenditure. Further analysis of Programme 6 expenditure could be conducted in future, for example, to identify the role of Programme 6 in funding infrastructure projects (e.g. Gauteng Province's Programme 6 funds infrastructure projects).

2 OVERVIEW OF AE SERVICES

2.1 Introduction

Section two contains a brief overview of AE services, including a definition, as well as a summary of, the historical context (refer to Annexures 3 and 4, and the separate literature review report for further details). This section, therefore, answers evaluation questions such as how is AE defined, what is the historical context for AE services in South Africa and the WC, and where does the legislative and policy mandate for AE services come from?

2.2 Definitions of AE

There are numerous definitions of AE, and these differ according to the range of matters which are defined as falling within the scope of AE. There is, therefore, no uniform or standard definition that is used universally to define this field of study.

We propose the use of the following definition of AE which takes into account key aspects of a number of existing definitions:

AE is a field of study that principally applies the methods and tools of analysis of the Economics and Business Management disciplines to address problems and opportunities in the agricultural sector. The focus of AE is on the microeconomic (firm) level of analysis, and on the finance and marketing disciplines. However, the remit of the discipline is wide and encompasses the role of agriculture in the macro economy, as well as allied disciplines such as logistics, human behaviour, rural sociology, migration studies, economic development, and so forth.

2.3 Brief historical overview of AE in South Africa

The origins of AE can be traced to the late 19th century. Vink writes that, “*Agricultural Economics was born of two parents: (a) The interest taken by economists in the issues of agriculture, with a focus on sector-level problems; and (b) the interest taken by agriculturalists (often horticulturalists and statisticians), and economists in the problems facing farmers.*” (Vink, 2012, p. 1).

In South Africa, Kirsten notes that the AE profession has responded in various ways to changes in, “*the macro-economy, political regimes, other legislation, opportunities in world trade, technology, climatic conditions and social conditions,*” and that, “*South African agriculture went through several phases of transition – at least one major transition every decade,*” (Kirsten. 2011, p. 29).

A few of the key milestones relevant to the South African AE profession, include the following:

- The establishment of a Division of Economics and Markets in the National Department of Agriculture in the 1920's;
- The first AE's graduate from the Departments of AE at the Universities of Stellenbosch and Pretoria in 1926. The establishment of farm financial record systems began in the 1950's;
- The establishment of AEASA and the Agricultural Economics Research, Policy and Practice in Southern Africa (Agrekon) journal in the 1960's;
- The devolution of AE roles and responsibilities from national to provincial governments after 1994; and
- National Treasury's 2003 prescription for a uniform programme structure for all Provincial Departments of Agriculture.

It is clear that the provision of AE Services has constantly adapted in relation to ongoing changes in South Africa's governmental system and policies. The above milestones were sourced from the following: AEASA (2015); Kirsten (2012); Troskie (2011); PSC (1994); National Planning Commission (2013); National Treasury (2003); and WCDoA (2016).

2.4 The legislative and policy mandate for AE services, including effectiveness and inconsistencies

The policy mandate for AE services in the WC derives from a number of sources, including the South African Constitution (Republic of South Africa, 1996); public sector legislation, including the Public Finance Management Act (No. 1 of 1999 and subsequent amendments) and the Intergovernmental Relations Act (No. 13 of 2005 and subsequent amendments); South Africa's National Development Plan (NDP) (National Planning Commission, 2013); Government's National Medium Term

Strategic Framework (MTSF): 2014-2019 (Presidency, 2014a); and the WC Provincial Government: Department of Agriculture Annual Performance Plan: 2016/17 (WCDoA, 2016). The Constitution of the WC, Act 1 of 1998, also guides the policies, strategies and activities of the WCDoA.

Section 40 of the Constitution establishes three spheres of government: National, Provincial, and Local (Government of South Africa, 1996). Each sphere has legislative (law-making) power over certain things, and executive power and responsibility for certain things. The spheres of government are distinctive (each one is clearly separate from the others), interdependent (they depend on each other), and interrelated (their functions are related to one another). The three spheres have a constitutional duty to co-operate with one another. South Africa's inter-governmental context requires high levels of collaboration and coordination in order to effectively deliver services and achieve successful development outcomes. As Troskie notes, *"No activity in one sphere can successfully be achieved without the involvement of the other spheres. However, the independence of each of these spheres is protected by the Constitution; therefore, policy decisions need to be taken at all three levels."* (Troskie, 2011, p. 27).

Grey areas exist between national and provincial spheres regarding the formulation of agricultural policy, and where national competencies end and where provincial responsibility starts. National government has the function of the, *"Determination of macro-agricultural policy,"* while the provincial governments have the capability of the, *"Determination of (Provincial) agricultural economic policy."* (Troskie, 2011, p. 8).

2.5 Conclusions

The WCDoA, and its Programme 6, have an important role to play in contributing towards the growth and transformation of the agricultural sector in both the WC and South Africa. There is a need for ongoing and close vertical coordination between the different spheres of government, and the wide range of agricultural support activities. This includes land reform programmes being implemented, as well as horizontal coordination between WCDoA and other Provincial departments. This could enhance the delivery of effective services. This, in turn, could enhance the contribution towards achieving the targets set out by the MTSF and NDP relating to job creation and transformation in the agricultural sector.

Section Two will now provide more detail on AE services in general before Section Three examines the WCDoA's Programme 6 in more detail.

3 THE AE FUNCTION IN THE PUBLIC SECTOR

3.1 Introduction

Section Three starts with an overview of various roles played by AE, as well as broad services and users. It then reviews the specific duties, tasks, and activities conducted by Agricultural Economists at different levels of experience. It then identifies the skills and knowledge requirements of Agricultural Economists. Finally, an overview of AE qualifications is provided.

For further details, please refer to the separate Literature Review report. Annexure 8 contains further details on the AE role and services provided by Agricultural Economists working in different types of organisations. Annexure 9 contains further details on the desired skills relevant to Agricultural Economists and university degrees in South Africa.

3.2 AE roles, services and users

The roles, responsibilities, duties, tasks and activities played and fulfilled by Agricultural Economists are changing over time in response to the changing profile and needs of clients and organisations employing them. In addition, people trained as Agricultural Economists are increasingly serving in roles and positions other than Agricultural Economists (AEASA, 2015).

Vink argues that Agricultural Economists, in South Africa, must address the following two key questions:

1. *“What is the influence of public policy on the structure of agriculture?”* and
2. *“What is the influence of the governance of farm businesses on their success from a financial, economic, social and environmental point of view?”* (Vink, 2012, p. 1).

As part of providing answers to question one, above, one of the important roles that Agricultural Economists perform is in the understanding and prediction about future events in agriculture. In addition, Agricultural Economists play an important role in improving the profitability of agricultural activities and agribusinesses. This contributes to improving the welfare of rural communities and farmers (Adelaja, 2003). Biere (1988) notes that the role of Agricultural Economists has shifted to include the financial side of farm management. This change has seen Agricultural Economists advising farmers on how to improve their farming activities and make them successful agribusinesses (Hudson, 2000). As a result, Agricultural Economists with business training are often better able to solve management-related problems.

There are a wide range of organisations that provide AE Services to a wide variety of different clients and users. These clients and users include: Farmers and agribusinesses, other service providers, and municipalities and other government departments such as the Department of Rural Development and Land Reform. Providers of AE Services include, but are not limited to, the following: Universities and academia; National and Provincial Departments of Agriculture; public sector agencies (e.g. National Agricultural Marketing Council (NAMC), Land Bank, and Agricultural Research Council (ARC)); commercial banks; organised agriculture (including commodity/producer associations; cooperatives); and private sector consultants.

One of the challenges facing the delivery of AE Services in South Africa over the past two decades has been the challenge of extending access to these services to emerging farmers.

The 2016 WC survey of existing and potential AE services users/potential users, showed that users of Programme 6 services were spread across the following groupings: Private sector users (including researchers, consultants, commodity and

farmer's associations, commercial banks); commercial farmers; small-holder and subsistence farmers; other public sector users (provincial and national government departments, government agencies such as the NAMC, Land Bank, and the ARC); and academia.

There is a wide range of both public and private sector providers of AE services. Sixty-five percent of the respondents to the WC user survey stated that the majority of their services are provided by public sector organisations, with the remainder stating that the majority of services were provided by the private sector (such as commodity associations, commercial banks, and agribusinesses).

The 2016 WC survey shows a clear pattern where commercial farmers mainly use AE services provided by the private sector, whereas emerging farmers mainly use AE services provided by the public sector. Private sector users use services from both the public and private sector, while public sector and academia users mainly use services provided by the public sector.

3.3 Agricultural Economist' duties, tasks, activities

A 2007 report, compiled by a Provincial representative task team, identified the main duties, activities and tasks conducted by Agricultural Economists in Provincial Departments of Agriculture (Provincial Representative Task Team, 2007). These different duties were grouped into categories, or fields of tasks, that are usually conducted in close approximation, and for which related training and skills are usually required. This grouping is provided in Table 4-1.

Table 3-1 Different fields of Agricultural Economists

Field number	Field description
1	AE Statistician
2	Quantitative Analyst/Modeller
3	Farm Management Specialist
4	Macro/Policy Economist
5	Agricultural Marketing Economist
6	Production Economist
7	Resource Economist
8	Rural Development Specialist
9	Agribusiness Specialist

Source: Provincial Representative Task Team (2007).

3.4 Skills and knowledge requirements of Agricultural Economists

3.4.1 Skills required by Agricultural Economists

Agricultural Economists are, in general, considered to be lateral thinkers with a multi-disciplinary background. This allows them to understand and work with other disciplines relevant to agriculture (ka Makhaya, 2014). The skills, both technical and theoretical, acquired by Agricultural Economists during their university qualifications, are extremely important for the success of the industry (McGraw et al., 2011). Key skills categories include soft skills, computer skills, business skills, and basic AE skills (ka Makhaya, 2014). In addition, soft skills, such as verbal communication skills and the

ability to work well in a team, are critical since most work requires consulting and engaging with other people (Van Rooyen et al., 2012; ka Makhaya, 2014).

The Provincial representative task team (2007) developed a wide-ranging set of in-depth skills requirements for different types, or fields of AE (see Annexure 9). As noted by the task team, some of the skills are needed in more than one field of AE. Some of these skill sets are also relevant to, and have implications for, the knowledge requirements of Agricultural Economists. The Provincial task team report noted that the roles and responsibilities of Agricultural Economists change and develop over time, and identified three skills levels, or grades (grades 1 – 3), of Agricultural Economists, together with relevant roles and responsibilities for these skills levels (see Annexure 9).

In summary, Agricultural Economists require a strong foundation in economic theory and quantitative methods. Ideally, the curriculum content for Agricultural Economists should include business courses to allow them to fully understand the different environments in which they will apply their theory. Agricultural Economists should have the knowledge and skills to apply their economic education and knowledge to practical firm-level problems, and to solve more traditional industry related problems (Robbins, 1988).

3.4.2 Practical knowledge requirements for Agricultural Economists

AE students are expected to work, teach, do research, and expand at the applied level, "*beyond the farm gate*". Robbins (1988) has proposed that agribusiness students should become generalists, not specialists. Their curricula should include the study and knowledge of traditional AE subjects, such as marketing, commodity price analysis, agricultural finance (e.g. cost and benefit analysis, farm-level income statements and cash flow), and farm management (which includes understanding the basics of farm operations, production, and the value chain system). As such, Agricultural Economists need to have a practical understanding of farming practices.

Secondly, Agricultural Economists need to have practical workplace knowledge regarding organisational, team, and inter-personal dynamics - the so-called soft skills discussed in the previous section.

Thirdly, mathematical knowledge and quantitative skills, combined with analytical skills, are essential.

3.5 Qualifications provided and training requirements

South Africa currently has eight universities that offer AE as a major at undergraduate degree, Master's, and PhD levels (Kirsten, 2011). These universities are the University of Pretoria (UP), the University of Stellenbosch (US), the University of KwaZulu-Natal (UKZN), the University of the Free State (UFS), North West University (NWU), the University of Fort Hare (UFH), the University of Limpopo (UL) and the University of Venda (UV). These universities have a variety of undergraduate programme offerings including BSc Agric (AE), BCom Agribusiness Management, and BAgric/BAAdmin degrees. Universities such as US, UP, UFS, and UKZN, are referred to as previously 'white,' while UL, UFH, UV, and UNW, are regarded as historically

'black' institutions (Department of Agriculture, Forestry and Fisheries, 2010). However, most of these universities have undergone transformation initiatives since 1994.

AEASA notes that universities are critical suppliers of qualified Agricultural Economists but, "Synergy with industry is required to achieve a demand driven process." (AEASA, 2015, p. 15). AEASA (2015) has also found that further training (with on-the-job mentoring by senior staff being one approach followed) is required once AE graduates join the work force.

3.6 Conclusions

The roles played by, and skills and knowledge required of, Agricultural Economists need to continually evolve in relation to the constant evolution in broader socio-economic challenges and opportunities. For example, Kirsten (2010) has argued that Agricultural Economists need to contribute to broader empowerment processes in South African agriculture. As a result, the need exists for university training provided to Agricultural Economists, to constantly adapt. In addition, the multi-disciplinary nature of AE requires the use of both qualitative and quantitative data to enable a holistic approach. Agricultural Economists also need to acquire skills from the other social sciences, over and above economics.

Section Four will now examine and assess the WCDoA's Programme 6 in more detail.

4 ROLE AND STRUCTURE OF WCDoA'S PROGRAMME 6

4.1 Introduction

Section Four contains an analysis of the WCDoA Programme 6 service users' satisfaction with, and reported impacts of, the services provided. In addition, issues are identified relating to: Organisational structure; staff job descriptions; performance management and recruitment processes; and training and capacity building provided. Annexure 11 contains details on the purpose of Programme 6, as well as the services provided to different users. Annexure two contains detailed data from the various evaluation surveys.

4.2 WCDoA Programme 6: Service usage satisfaction and impacts, programme structure, processes, and capacity

The purpose of Programme 6: AE Services, is to provide timely and relevant agricultural economic services to the sector in support of sustainable agricultural and agri business development in order to increase economic growth in the sector.

4.2.1 Programme 6 service usage

The user profile responding to this evaluation's AE Services user/non-user survey, was as follows: Private sector (just over 50% of users, which comprises consultants and commodity organisations), followed by commercial farmers (about 25% of users), other public sector users (about 10% of users), smallholder/subsistence farmers (about 5% of users), and academia and WCDoA internal users.

The main **reported reason why WCDoA AE services have not been used** are (in order of frequency):

- Lack of awareness that WCDoA offers specific services (38% of respondents);
- Lack of awareness regarding how to request/access the services (30% of respondents);
- The respondent does not have a reason for not using AE services (20% of respondents); and
- Services are not meeting potential client needs (12% of respondents).

Fifty-six percent of respondents stated that they would use WCDoA AE Services if they were aware of the services provided (with 50% of these respondents being commercial farmers and 40% other private sector users).

Twenty-one percent of users surveyed, stated that there are AE services needed which are not currently offered by the WCDoA. Of these respondents, private sector users were the most frequent, followed by smallholder and subsistence farmers, who were followed by commercial farmers.

The main AE services users reported needing, but which are not currently offered (or are perceived incorrectly as not currently being offered) by the WCDoA, include various trade analysis data, conducting different kinds of economic impact assessments, production cost data at district and commodity-level, and assistance to access local markets. Table 9-2 in Annexure 1 contains further detailed feedback on AE services needed from the user survey conducted for this evaluation.

In addition, users/potential users made a number **of proposals to strengthen the WCDoA's innovative service delivery** approaches. These have been clustered into the following five themes:

- **Stronger coordination and partnerships** with other role-players externally as well as internally (within WCDoA);
- **Decentralisation of AE services** to the district-level;
- **Greater use of information and communication technologies** to collect information and enhance service access in a more real-time or automated manner;
- **Improved research and/or information;** and
- **Other additional or improved services and products** (some of which may already be offered by other WCDoA programmes and/or other organisations).

Key informant interviews identified the following **service areas and needs requiring further attention** from Programme 6:

- **Exporting needs** and the need for market researchers to specialise more on specific market segments;
- **Farm-level business plans for land reform** needing greater input, and possibly approval as well;
- **Market access compliance requirements** and understanding value chains (social, food safety etc.) and the need for standards; and
- **Expanding access to financial management training** for emerging farmers.

4.2.2 Programme 6 user service satisfaction and service impacts

Users of the WCDoA's AE Services were asked to rate both the importance of, and their satisfaction with, specific services offered (measured using a Likert-scale from 1-5 where satisfaction ranged from 'very unsatisfied' to 'very satisfied' and importance ranged from 'not at all important' to 'very important'). Respondents stated that the **overall average level of importance across all AE Services was "important"** and the **overall level of satisfaction was "satisfied"**.

The five AE services with the **overall lowest level of satisfaction across all users/clients** are (in order from lowest level of satisfaction):

- Empowerment/transformation advice;
- Facilitating market access;
- Market identification;
- Facilitating access to finance; and,
- Financial record keeping/statements or business compliance/legal registrations.

Feedback from commercial farmers shows that there is **scope to improve satisfaction** with the following AE services, which were given high average importance ratings: **Facilitating market access; market identification; financial record keeping; and empowerment advice.**

Feedback from emerging farmers shows that there is **a need to improve satisfaction** with the following AE services, which were given high average importance ratings: **Facilitating access to finance; market research; viability studies; facilitating market access; market identification; and business plan development.**

The main services that received comparatively **high ratings for both level of importance and level of satisfaction** are:

- Farm budgeting;
- Agriculture trends information;
- Other macro agriculture information and statistics; and
- Resource economics research.

Additional findings relevant to service usage, and service importance and satisfaction, are contained in Table 4-1. Other key findings regarding Programme 6 AE Service usage, importance and satisfaction, are as follows:

- **Fifty-seven percent** of respondents reported **receiving services in four or less days after requesting such services**, with only 15% of respondents reporting five days or more to receive such services;
- **Eighty-five percent of surveyed users experienced direct benefits as a direct result of using WCDoA's AE services.** The three most frequently experienced benefits are: **Improved knowledge** (reported by 88% of respondents reporting benefits); **improved awareness** (reported by 64% of respondents reporting benefits); **increased research and development** (reported by 34% of respondents reporting benefits);

- **Less than 10% of respondents reporting benefits had experienced direct business benefits**, such as increased financial turnover, profits, employment, funding, and exports;
- **Seventeen percent of respondents reported experiencing negative impacts** as a direct result of using WCDoA's AE services. These impacts included: **Reduced business investment; reduced business turnover, reduced business profit, and reduced exports;**
- **Ninety-two percent of respondents/users**, overall, reported that they would be **willing to use WCDoA AE services in future**. Of these, 85% of the commercial farmer respondents, and 87% of the emerging/subsistence farmer respondents, reported that they would be willing to use WCDoA AE services in future; and
- Of the 14 respondents who indicated they would not use WCDoA's AE services in future: 43% of these were commercial farmers, 22% smallholder and subsistence farmers, and 21% other private sector users.

4.3 Structure of WCDoA AE services Programme 6

4.3.1 Programme 6 organisational structure

The WCDoA Programme 6 organogram is contained in Annexure 12, together with available organograms from four other provincial departments. Feedback from WC Programme 6 staff surveyed and interviewed, highlights some key issues relating to the current organisational structure:

- a) **Key management vacancies exist**, and these hamper inter-service coordination (They also take a long time to fill - at least 6-12 months - see section 4.3.2);
- b) **Limited career path advancement positions are available to Senior Agricultural Economists (SAE)** (Salary Level 10) as there are only four level 12 positions in the Programme, and these are all linked to management responsibilities. Thus, there is no natural progression for those Agricultural Economists beyond Level 10 if they are not inclined to become part of management at the Department. There is a need to recognise that level 12 management positions are also needed for specialists;
- c) There are mixed staff views on whether there are sufficient numbers of staff appointed at management posts at Levels 11 and above, as well as at professional Levels 8 -10; and
- d) Most staff believe there are sufficient staff appointed to administrative level posts.

It is unclear how the organisational structure, and staff job descriptions and focus, is aligned with key provincial commodities, and this needs further discussion and clarity.

It is also unclear how support for the **Provincial Strategic Goal of promoting agri processing** is reflected in the Programme 6 organogram and services provided, and this needs further discussion and clarity. This involves addressing role clarification and coordination between WCDoA and the WC Department of Economic Development and Tourism.

4.3.2 Programme 6 staff job descriptions

Staff job descriptions are standardised across the nine Provinces for post Levels 8, 10, 12 and 13. Each job description notes that, *“The Head of Department, or his/her nominee, reserves the right to make changes and alterations to this job description as he/she may deem reasonable after due consultation with the post holder.”* (WCDōA, 2016b, p. 1).

Each job description contains a similar set of key performance areas, with Level 8 and 9 posts responsible for providing AE Services, Level 10 (SAE) responsible for, *“overseeing the tendering of”* AE services, and Level 12 responsible for, *“managing the rendering of services.”*

A wide range of Key Performance Areas (KPA's) are contained in the standard job descriptions with some small variations in the contents under some of the KPA's (see Annexure 12 for the job description of a Level 8 Agricultural Economist), as well as some variations in the HR responsibilities across post levels. SAE's are expected to play a key role regarding both performance management and human resources development.

The minimum appointment requirements differ according to each post level.

The main differences in minimum post level requirements are that six years' work experience is required for Director-level (compared to three for a SAE), and advanced skills are needed for SAE and Director-levels (as well as a Master's Degree for both levels).

Regarding skills requirements, only the AE job description contained a “Skills” section with the following skills requirements being listed: Skills in executing scientific funded research; communication skills in two official languages; applicable computer skills; interpretational skills; networking skills; and skills to move in sometimes unstructured academic surroundings. Other skills requirements are absent, for example, leadership, strategy, team-work, research, monitoring and evaluation.

4.3.3 Programme 6 performance management

At the level of individual staff members, performance management is conducted following DPSA prescribed processes. These include the use of a Performance Agreement, which is referred to in individual job descriptions as follows: *“The Performance Agreement of the Incumbent, which contains a work plan and specific target dates, should be read as an extension of this job description. The performance agreement may also contain an annexure outlining any standard operating procedures that the incumbent should adhere to during the execution of his/her key performance areas.”* (WCDōA, 2016b, p. 1).

Staff members sign these Performance Agreements, which are reviewed every six months. Scores are then internally moderated by the management team, which can ask questions about these if necessary. The top 20% of staff are regarded as “performers.” To be regarded as “performing well,” a staff member must perform well against all their KPA's and not only a portion of them. Performance bonuses are paid on the basis of the annual assessment of performance in relation to the Performance Agreement.

Other performance incentives provided, include funding for attendance at international conferences/workshops, and funding local conference attendance. Feedback received indicates that staff do not always regard these as performance incentives, instead see these as “business as usual.” Therefore, there is a need for management to clarify and explain how these are to serve as performance incentives.

Within WCDoA Programme 6, performance is managed in relation to annual and quarterly targets for a range of outputs as contained in the WCDoA Annual Performance Plan (APP). Programme performance is monitored and reported on both quarterly and annually. Monitoring largely focuses on the number of information queries dealt with and different types of reports produced. There is currently no monitoring of client satisfaction levels with services or products provided. Such monitoring would provide an indication of the quality of outputs (other than this evaluation's collection of user/client satisfaction data). Such data could be a future enhancement for Programme 6 to consider collecting and adding to its APP.

4.3.4 Programme recruitment processes

The legal framework for recruitment and selection is provided by the Constitution of the Republic of South Africa (1996), the Labour Relations Act (1995), the Employment Equity Act (1998), and the Public Service Act, read in conjunction with the Public Service Regulations (2001).

Staff recruitment is managed by the WCDoA's centralised Human Resources section. When a post becomes vacant, a job advertisement is compiled and sent to the WC government's Corporate Services Centre (CSC). The position is then advertised, using Provincial-wide newspapers and the WC government web-site, (as well as being circulated to government departments). Recruitment agencies are not used to assist the recruitment process. These adverts contain a summary of the post which is drawn from the job descriptions discussed in the previous section. Some staff members have noted that recruitment processes can take up to six months for the post to be advertised as responsibilities straddle between CSC and the Programme. Applications are then received, reviewed, and CSC produces a long list of candidates. Programme 6 management then produces a short-list of candidates. Shortlisted candidates are invited for interviews. Reference checks are conducted. It then takes approximately six months to fill a position once it has been advertised (it is not clear why this process takes so long). Once interviews are complete, a recommendation is made regarding the preferred candidate. If the post is a level 12 or higher, a Member of the Executive Council (MEC) needs to approve the appointment, and, if lower than level 12, the Head of Department approves the appointment. Once candidates are appointed, they undergo compulsory induction training.

There is also a Young Professionals Programme (YPP) which focuses on scarce skills. The YPP recruitment process differs from the above process. The YPP focuses on Previously Disadvantaged Individual (PDI) graduates with a three year qualification or Honours degree. Candidates receive funding for their studies up to, and including, Master's level. In return, these individuals need to work for the WCDoA Programme 6

for the same period as they receive funding towards their studies. Careful planning is done to try and predict possible positions opening in various units of the department, and to train people who can be hired to fill those positions.

The main challenges which key informants have identified with the recruitment processes are as follows:

- a) There is generally **no shortage of AE applicants** (who require no previous work experience), with the exception of certain posts which require strong numerical skills (e.g. econometrics and modelling, and production economics). As a result, the WCDoA may accept applicants for these posts who have general economics degrees but no specialisation in AE. Such applicants may have limited agricultural knowledge and/or practical agricultural experience, and this may limit the value of their work; and,
- b) **Recruitment processes can be lengthy** - especially where the post involves scarce skills and needs to be re-advertised. As a result, applicants may no longer be available by the time they are invited for interviews. These delays also create a negative perception of the WCDoA's administrative (in)efficiency amongst applicants, which can further exacerbate its ability to fill vacant positions.

4.3.5 Programme staff career paths and salary dynamics

The four **main reasons why people apply to work at WCDoA Programme 6** are (in order from the largest number of responses):

1. The opportunity to **work on issues the applicant believes are important**;
2. The opportunity to **work on issues the applicant enjoys working on**;
3. The **advertised post was the best available position in the WC** given the applicant's level of experience; and
4. The **advertised post was the best available position in terms of salary level** and the applicant's level of experience.

The vast majority of staff working for Programme 6 increased their salaries considerably by joining Programme 6.

WCDoA Programme 6 applicants have previously worked for the private sector (18% of respondents), as well as the public sector (36% of respondents), or are newly graduated with no previous work experience (13% of respondents).

Regarding professional staff qualifications: 75% have an AE degree, and almost 50% have a Master's degree (3 MCom, 8 with MAgric, 2 with MAgricAdmin, and one Doctorate).

With regards to **staff changing post levels, there has been very little movement with only four staff, who started as AE's, being promoted to higher post levels**, and only one SAE has been promoted to a higher post level. This lack of career progression is a challenge to retaining staff.

At least 14 staff have left Programme 6 since 2005. Of these, eight staff members worked for one year or less at Programme 6, four worked for two to four years, and two worked for four to five years. In 2014, six staff members left the Programme. Staff

turnover continues to be a major challenge with another two staff members leaving the Programme in 2016.

Of the 11 respondents who are ex-staff, 64% of these now work for the private sector and 36% for the public sector. The two main reasons cited for leaving the Programme are; a desire to have more responsibility; and a desire to earn a higher salary. Only one respondent stated that they no longer wanted to work in the public sector.

The self-reported level of satisfaction for current staff members is as follows: 55% of staff are satisfied. Twenty Eight percent of staff are neither satisfied nor dissatisfied.

In terms of current staff and their future plans to stay with or leave their employment at Programme 6, 75% state that they are very likely or likely to leave Programme 6 in the next two years. This potential loss of staff should be a cause for concern.

4.3.6 Programme 6 staff skills, knowledge, training and capacity building

Key findings from the survey of current and past Programme 6 staff (a total of 40 current and ex-staff completed the survey, with 14 of these being ex-staff) regarding staff skills, knowledge, training, and capacity building include the following:

Nineteen percent of respondents believe that their university degree(s) curriculum content was not adequate to provide them with the following skills necessary to deliver AE services (in order of the most frequently reported): Government systems (e.g. incl. procurement); negotiating; monitoring; quantitative modelling; stakeholder consultation; evaluation; networking; forecasting; and economic modelling. Further on-the-job training may therefore be required where relevant to job responsibilities

The eight most **frequently mentioned knowledge gaps**, which staff respondents believe that their university degree(s) curriculum content was not adequate in addressing are: **Sociology; behavioural economics; government systems; political science (incl. political economy); human resource development; micro-economic theory; change management; agricultural black economic empowerment opportunities**. These and other identified gaps should be taken into account by Programme 6 management in identifying training needs and personal development plans.

Many staff members have received exposure to a wide range of formal training opportunities. These include support for post-graduate diplomas as well as Master's studies, a range of public administration and management courses, provided by the Kromme Rhee Provincial Training Institute (PTI), and other short courses in topics such as South African Futures Exchange (SAFEX), export management development, project management, and GIS training.

Regarding professional staff perceptions of the **skills they need** to effectively provide AE services, but which they do not feel they possess, **more than 20% of staff respondents reported that they lacked the following skills (in order from largest number of respondents): Forecasting; economic modelling; risk analysis; quantitative modelling; and farm planning.**

Regarding professional staff perceptions of the **knowledge they need** to effectively provide AE services, but which they do not feel they possess, 17% of staff respondents reported that they lacked sufficient knowledge in these areas: **Supply chain management; political science; change management; water economics; sector and multi-sector analysis; macro policy economics or modelling; strategic management; and land economics.**

Additional and/or new staff skills needs that have been raised by interviewed staff include: GIS; Microsoft Excel; communication and marketing; research; change management; project management; and communication skills.

The YPP used to be managed by Programme 6, however, it is now managed by Human Resources. One key informant expressed the view that the YPP is not as effective as it used to be since HR took over responsibility for its implementation, and that there may be a need for the YPP to be managed by Programme 6: AE Services.

In addition, the Premier's Advancement of Youth (PAY) Intern Programme recruits interns with a matric pass, and these are hosted in different provincial programmes. Programme 6 reportedly does not find that it can productively utilise many of these interns as they lack basic numerical skills, and do not all have an interest in economics. As a result, professional staff time spent supervising these interns, can detract from the Programme's service delivery demands and performance.

The commercial banks appear to follow a more rigorous and structured approach to coaching and mentoring which is linked to the development of individual staff development plans and intended career paths, and which are monitored and discussed at least twice a year. There are far more opportunities to earn promotion to more senior management positions for Agricultural Economists within the organisational structure of commercial banks.

Continuing Professional Development (CPD) training, within Programme 6, also includes attendance at conferences and symposia. As part of AEASA's Agricultural Economics Professional Fellowship, training, support and networking opportunities are provided for young agricultural professionals. This was implemented in Programme 6 from 2014 for middle managers and young professional employees (six WCDoA employees were on the programme in 2016). This comprises four modules (personal competencies: Emotional intelligence, networking, and communication). It includes a visit to the USA (Cornell University) as well as the World Bank, the United States Department of Agriculture (USDA), and attending a conference and seminars.

4.4 Conclusions

Programme 6 provides a wide range of AE services to various clients, including emerging and commercial farmers, academia, a range of private sector organisations, as well as national and provincial government institutions. Overall, there are high levels of satisfaction from the clients using these services. Of the total surveyed users, 85% had received direct benefits as a direct result of using the Programme's services, with the vast majority of these users reporting improved knowledge, awareness, and research as the main benefits. A small number of users

reported receiving negative impacts (such as reduced business investment, turnover, profits and exports) as a direct result of using the Programme's services. Over 85% of respondents indicated that they are willing to use the Programme's services in future.

There is a need to continue serving both commercial and emerging farmers. In particular, continuously identifying ways to strengthen the following AE services to commercial farmers is important: Facilitating market access; market identification; financial record keeping; and empowerment advice. Continuously identifying ways to strengthen the following AE services to emerging farmers is important: Facilitating access to finance; market research; viability studies; facilitating market access; market identification; and business plan development.

Some of the constraints restricting the broadening of access to, and enhancing the impacts of, the WCDoA's Programme 6, include lack of awareness of the Programme's services (as well as how to access these), lack of staff capacity (including staff vacancies) at both district and provincial level to make information more accessible using information and communication technologies, and the need to enhance the range of services.

Users have also identified the need to re-establish the Combud (computerised budgets at farm-level) or an equivalent, system (refer to Annexure 13 for a brief overview of Combud), the need to make greater and more innovative use of information and communication technologies, the need to improve information and databases in a range of areas (e.g. commodity assessments and crop forecasts, market price information, smallholder data, monitoring transformation and land reform and macro-level information on what competitor nations are planting)¹, and the need for Programme 6 to play a strong role in approving land reform business plans.

Regarding the structure of Programme 6, the following challenges constrain the performance of the programme and require discussion regarding possible solutions:

- **The limited numbers of post levels above Level 10 SAE** has had a negative impact on career advancement opportunities and positions and the retention of staff with experience;
- There are **key shortages at both managerial (available posts that are not filled) and professional level** (both funded available posts as well as unfunded posts due to a lack of budget);
- The **need for more district-specific capacity to deliver services is a challenge**, especially for agribusiness support and enhancing access for emerging farmers to services such as financial management training;
- It is unclear how the organisational structure, and staff job descriptions and focus, is aligned with key provincial commodities;
- Job descriptions for SAE's and Directors specify certain advanced skills, however, it is not clear how these advanced skills levels are assessed in the recruitment

¹ Note that users may not necessarily be aware that some of this information required is already provided by other organisations.

process. In addition, there may be a need to add additional skills categories to the job descriptions; and

- There is a need to clarify how support for the Provincial Strategic Goals and objectives related to promoting agri processing is reflected in the Programme 6 organogram and services provided.

Regarding staff skills, knowledge, training and capacity building, the following conclusions can be made:

- There is a strong emphasis placed on staff training with both financial support for further training, sending staff on a range of courses and staff attendance, and making presentations at events and conferences. However, there is potential to do more in this regard. This could help to reduce staff leaving Programme 6 due to a lack of personal growth. On the other hand, capacity building may contribute towards enhancing the employability of these candidates outside the programme; and
- There appears to be a need for ongoing staff training and capacity development to address a wide range of knowledge and skills gaps. It will be important for Programme 6 management to review these with staff as part of the staff assessment process, and to ensure that priority gaps are addressed in career staff training and development plans.

5 COMPARISON AND BENCHMARKING OF THE WCDoA AE SERVICES PROGRAMME 6

5.1 Introduction

The purpose of benchmarking other AE programmes is to compare other similar sub-national programmes with the WCDoA's Programme 6, and to identify any issues that could inform possible improvements to the AE services it provides to the public.

Two international comparisons, with sub-national organisations providing AE Services, were identified and conducted as part of the literature review:

1. Australia, including ABARES and the State of Victoria.
2. United States of America, Including the Economic Research Services and State of California.

The above case studies were selected using the following criteria. It was not possible to identify a case study, at a similar level of development to that of South Africa, that met these criteria within the available evaluation resources:

- Existence of sub-national AE Services programmes which offer similar services to the WC Programme 6;
- The strong economic importance of agriculture to the regional economy.
- Similarities in the regional agricultural production profile (e.g. importance of fruit as well as exports); and
- The rapid availability of unpublished information based on the existence of personal and knowledgeable contacts in these regions.

5.2 International comparisons: resources, services and performance

The international comparisons have highlighted the importance of AE services which focus on:

- Commodity supply, demand, and price projections;
- Food safety;
- Global markets;
- Trade, resource and environmental economics; and
- The development of rural economies.

A key objective of sub-national organisations providing AE services is to contribute towards the improved profitability and cash flow of farm businesses (for example, through farm management).

A focus on farming sustainability issues (including productivity and efficiency analysis) is critical, with the State of California boasting a dedicated research institute (the Agricultural Sustainability Institute at the University of California Davis), which focuses on these issues, and the University of Western Australia's School of Agricultural and Resource Economics, which hosts the Centre for Environmental Economics and Policy.

According to feedback received from key experts located in these regions, who were contacted for the purpose of this research, the provision of localised extension support by Agricultural Economists has been a strong feature of the California model. In Australia, a key priority is the strengthening of exports of meat to its key trading partners.

Both international case studies feature strong national agricultural research institutions which the sub-national organisations rely on for a wide range of agricultural statistical information derived from a range of surveys, and other sources, which are analysed and made accessible to clients at the regional level. Of critical importance is the ability of public sector providers of AE services to provide objective and reliable data, in particular, on production costs and commodity prices. Such data is of crucial importance to both producers as well as governments when engaging in business planning decisions, as well as policy and support discussions and processes. The current relative lack of such objective data in the WC is a priority issue that needs to be addressed through reviving and strengthening the commodity focused Combud system.

In the WC's case, the absence of certain national surveys and data may either require further lobbying at a national level to address these, and/or additional provincial-level funding, to address priority information gaps through provincial surveys. In terms of performance management, payment of bonuses, based on the timeliness and perceived quality of work produced in relation to matching organisational objectives, is the main mechanism used in Australia. In addition, top management maintaining long term development plans for staff plays a critical role in retaining and motivating staff. Finally, submitting and presenting papers at conferences, including the national AE Association, are given a heavy emphasis as part of staff development.

5.3 Provincial Programme 6 comparisons: Resources, services and performance²

This evaluation includes a broader survey of the Directors of the Provincial Departments of Agriculture's (DoA) AE Services Programmes in order to assist with comparing and benchmarking the WCDoA programme. In addition, data on programme outputs was obtained from Provincial Annual Performance Plans (APPs) 2015/16 or 2016/17, where available, and on programme expenditure trends from National Treasury's provincial expenditure review database.

5.3.1 Provincial Programme 6 AE services offered

Programme 6's Provincial Directors were asked what services they provide that are also offered by the WC's Programme 6. The main AE Services which are not offered by most of the other provinces are economic modelling and authoring journal and other articles. Less than half the provinces provide resource economics, trade analysis, and/or labour and demographic analysis. The WCDoA's Programme 6 appears to offer the widest range of AE services.

5.3.2 Main types of clients served by Provincial Programme 6s

Provincial Directors were also asked what the main client groupings are that their Programme 6 provides services to. The two categories of farmers are the main client groupings (with smallholder farmers served by five of the eight provinces, and commercial farmers by three of the eight provinces), followed by agricultural cooperatives, national government departments, and farmer/producer associations.

5.3.3 Provincial Programme 6 organograms and staffing levels and trends

Organograms were requested from all provinces but were only received, reviewed from, and compared with, Kwazulu-Natal (KZN), Gauteng (GA), Eastern Cape (EC) and the Limpopo (LM) Province.

Some of the key features and differences of these organograms, as compared to the WCDoA Programme 6 organogram, include the following:

- Three of the four Provinces reviewed have structures at the district-level which fall under Programme 6. These structures are designed in different ways. For example, LM has a Directorate for District Services, and a sub-Directorate for

² The information in this section is sourced from the latest available Provincial Department of Agriculture's Annual Performance Plans (for outputs of the Programme 6: AE Services); data contained in Eastern Cape Provincial Government: Department of Rural Development and Agrarian Reform. (2016); Free State Provincial Government: Department of Agriculture and Rural Development. (2014); Gauteng Provincial Government: Department of Agriculture and Rural Development. (2016); Kwazulu-Natal Provincial Government: Department of Agriculture and Rural Development. (2016); Limpopo Provincial Government: Department of Agriculture and Rural Development. (2016); Mpumalanga Provincial Government: Office of the Premier. (n.d.); Northern Cape Provincial Government: Department of Agriculture, Land Reform and Rural Development. (2016); WCDoA (2016); and from National Treasury's Provincial Expenditure data accessed in August 2016 online at <http://www.treasury.gov.za/documents/provincial%20budget/2016/4.%20Estimates%20of%20Pr ov%20Rev%20and%20Exp/Default.aspx> (for Programme staff totals and budgets).

Agri-business Development (managed by a Deputy Director at post Level 12), and which has three Senior Agricultural Economists (post Level 10), as well as a Municipal Area Office Senior Agricultural Economist, and an Agricultural Economist post. AE services are thus also delivered at a municipal-level in Limpopo, and not only at provincial level. The EC Programme 6 has a Deputy Director in each of the six districts, and about 40 Agricultural Economists (under sub-Programme 6.2: Macro-economics and Statistics) spread throughout the Province at these six districts. The WC has Agricultural Economists employed under a separate Farmer Support Programme. The need to clarify how Programme 6 services can be delivered at a district-level, and identify the organisational design (and possibly restructuring) implications of this, appears to exist in the WC; and

- KZN Province has an Enterprise Development sub-Programme, which includes the function of, *“Developing and implementing an agri processing strategy,”* as well as, *“Disseminate and implement technology transfer on agri processing facilities,”* and, *“Build capacity for logistics and market access for agri processed products.”* LM Province’s sub-Programme for *“Agricultural Enterprise Development,”* has a sub-Directorate called, *“Agro-processing and Value Addition,”* which is managed by a Deputy Director. The sub-Programme for *“Agricultural Enterprise Development,”* also has another sub-directorate called, *“Agricultural Development Finance.”* The focus on agri processing appears to be clearer, and more explicit, than the WCDoA’s Programme 6.

The staff totals from the APP’s show that the WC Programme 6 for 2015/16 staffing is the second highest in the country (although GA and KZN staffing is not clear from the APP’s), however, the Programme 6 Director’s survey responses show that the WC has the fourth highest number of filled posts at, 25 posts (same as LM). There are currently a total of 33 vacant posts across the nine provinces, as reported by the Programme 6 Directors. Overall, staff numbers have largely remained stagnant and are expected to remain so, with the exception of the WC which shows a planned increase of three staff members in the 2017/18 financial year (however, it is not clear if the government-wide spending cuts will make this planned increase possible). The WC is the only province that has reported a larger number of approved (as opposed to funded) posts in their Programme 6 of the DoA.

5.3.4 Provincial DoA Programme 6 Directors’ perceptions of their Programme’s strengths

The Directors of each provincial DoA Programme 6 were asked to list the three main strengths of their Programme. The answers provided reveal interesting differences in emphasis. Some responses are internally focused (e.g. staff development, building experience for staff, departmental strategic direction, more capacity at local offices), whereas others focus on training provided (e.g. financial management, food safety), and other services provided (e.g. farm assessments, market access, AE statistics, updating of enterprise budgets).

Programme 6 Directors were asked whether they believed that the training provided by universities to Agricultural Economists, provides them with the relevant skills and

knowledge to provide relevant AE services that meet the needs of clients. Fifty-seven percent responded, "Yes." Part of the differences in opinion on this issue may be related to the fact that different provinces recruit the majority of their staff from different universities in South Africa, and views on the effectiveness of each university will differ. Most Directors stated that newly recruited staff require much further training in the practical application of skills once they join Programme 6.

Programme 6 Directors were also asked to identify skills gaps that Agricultural Economist graduates have, and that needs to be improved/addressed in order for them to provide effective AE services. A large number of gaps were mentioned, including quantitative analysis, financial management (budgeting), research and analytical skills, and report-writing, amongst others.

5.3.5 Provincial Programme 6 budget trends

The WC Programme 6 had the third largest budget in 2015/16 at R22.8 million. Projections for 2018/19 show the WC with the fourth largest budget at R25.4 million, behind the EC (R40.1 million), GA (R33.5 million), and LM (R28.3 million). However, when the projected budgets are deflated, using Statistics SA's CPI index (with 2012 as the base year) to account for the effects of inflation, the WC Programme 6's budget actually decreases in real terms to about R18.9 million for 2016/17, and to R18.2 million in 2017/18. This is a cause for concern and could undermine the ability to meet client needs effectively in the future.

Only one other province's budget decreases in real terms over the same period (NW) with the other provincial budgets increasing slightly or staying the same. The scope of, and resources available for, this evaluation does not allow for a more detailed analysis of income and expenditure of each programme. Further analysis of Programme 6 expenditure could be conducted, for example, to identify the role of Programme 6 in funding infrastructure projects such as GA Province's Programme 6 funds infrastructure projects.

5.3.6 Provincial AE Services outputs and targets

Each of the Provincial Departments report on their AE service outputs and targets in their APP's in slightly different ways, making comparisons problematic. The reasons for these reporting differences include differences in provincial strategies and priorities, as well as other inconsistencies in reporting formats. There seem to be four core indicators for the two sub-Programmes which are mostly reported consistently (although some provinces have made important changes to the wording of these four indicators, and, as a result, it is probable that the same types of services are not necessarily being reported under each of these indicators). In addition, indicators to capture or represent the quality of these services are absent. Thus, indicators which are able to capture the outcomes and impacts are largely missing (with one or two exceptions which list enterprise job creation as an indicator, for example). The four core indicators are:

- Agribusiness Support sub-Programme (marketing and agribusiness): Number of agribusinesses supported with AE services towards accessing markets;
- Agribusiness Support sub-Programme (production economics): Number of clients who have benefitted from AE advice provided;

- Macro-economics Support sub-Programme (statistics): AE information responses provided; and
- Macro-economics Support sub-Programme (macro and resource economics): Economic reports compiled.

GA, KZN, and the WC, appear to be similar in their reporting consistency and output numbers, while the other provinces show much larger variations. The EC and WC Programme 6's have served the largest number of clients with agribusiness economic services (the Mpumalanga totals do not appear to be reliable, or are measured differently, as the totals differ significantly from the other provinces), however both provinces project a decline in the number of clients served from 2015/16 onwards. There are large variations in the number of clients provided with macro-economic information. Presumably, this is related to the wide range in the extent of information provided, which can range from providing one statistic to more detailed information. The reported output trends for macro-economic reports provided, are more consistent, and across a similar magnitude range across the provinces, than for other outputs. Both the WC and EC provided the largest number of clients with this service.

5.4 Key trends and factors which could influence the sustainability of the WCDoA's Programme 6

The following factors were identified as likely to influence WCDoA AE Programme 6:

1. Changes in the National Department of Agriculture, Forestry and Fisheries' (DAFF) funding approach, formulas, and amounts paid to the Provincial Departments of Agriculture;
2. The extent to which the value of gross agricultural output increases or decreases in South Africa in the future. This is linked to the overall competitiveness and profitability of farming in South Africa;
3. Structural shifts in the agricultural sector such as the proportion of agricultural output produced by commercial farmers, as well as the empowerment profile of agricultural production, and the extent to which marginalisation and exclusion are addressed (which is, for example, linked to how successful the land reform programme will be, and the extent to which emerging farmers will be able to successfully access markets);
4. Structural shifts in the overall South African economy;
5. Youth perceptions of the relative attractiveness of a future career in the agriculture sector, as well as the affordability of higher education studies (and whether government will subsidise this to a greater extent in future, which will influence how many applicants there are at South African universities studying AE courses). In addition, if graduates of AE programmes are able to find employment, this will encourage new applicants (and vice-versa);
6. The changing nature of AE needs and skills requirements of employers;
7. The extent to which AE programmes and Agricultural Economists are able to play a meaningful role in addressing the agricultural challenges of emerging and smallholder farmer exclusion and marginalisation (which includes market access and financial access challenges amongst others).

This is linked to whether ongoing improvements to university AE programmes can equip students with the skills now being demanded in the work place;

8. The extent to which the WCDoA refines the role and service delivery approach, and associated budget availability for Programme 6 to strengthen the delivery of AE services at the district-level (for example, to enhance financial management training access to emerging farmers), as well as to enhance the Programme's role in supporting agri processing in the Province; and
9. The extent to which rewarding career paths exist or can be created in the public sector, and which promote the retention of Agricultural Economists in the public sector.

5.5 Conclusions

The need to ensure WCDoA Programme 6 staff members have long term career development opportunities, and that these are informed by identifying actions to address key skills and knowledge gaps, is an important issue that requires ongoing management attention.

In addition, there is a need to review the organisational structure of Programme 6 to meet the following needs: Strengthening of district-level AE capacity; clarification of the Programme's role in supporting agri processing; clarification of the Programme's commodity-specific focus; where feasible, the introduction of more posts at level 12 as well as specialist Level 12 positions (as opposed to management).

The key conclusions from the Provincial DoA Programme 6 comparisons are as follows:

- The main clients/users focused on by most of the other provincial Programme 6's, are emerging farmers (six out of eight provinces), and only three out of eight provinces focus on commercial farmers;
- The WC Programme 6 offers the largest number of AE services when compared to the other Provinces;
- The WC Province had the third largest Programme 6 budget in 2015/16 at R22.8 million. However, when the projected budgets are deflated to account for the effects of inflation, the WC budget actually decreases in real terms to about R18.9 million for 2016/17, and to R18.2 million for 2018/19. This is a serious cause for concern and could impact on the ability of the Programme to respond to client needs and the overall growth and transformation of the agricultural sector;
- The Programme 6 Director's survey responses show that the WC has the fourth highest number of filled posts at 25 posts (same as LM Province). There are currently a total of 33 vacant posts reported by the Programme 6 Directors across the eight provinces. Programme 6 staff numbers have largely remained stagnant, and are expected to remain so, with the exception of the WC which shows a planned increase of three staff members in the 2017/18 financial year (however, it is not clear if the government-wide

spending cuts will make this planned increase possible). The WC Province is the only province that has reported a larger number of approved (as opposed to funded) posts; and,

- In terms of programme structure, most other provinces have clear district-level structures to enhance the delivery of, and access to, AE services. In addition, some of the provincial organograms reflect clear provision for a focus on supporting agri processing. The WC Programme 6 organisational structure needs to be reviewed to address both these issues; and
- In terms of programme performance, in relation to outputs delivered, the main reporting is on outputs for number of clients assisted with support, and numbers of queries and reports provided. Indicators to capture or reflect the quality of these services are absent. Indicators to capture the outcomes and impacts are also largely missing (with one or two exceptions which list enterprise job creation as an indicator for example). GA, KZN, and the WC, appear to be similar in their output reporting consistency and numbers, while the other provinces show large variations in output numbers reported, and the credibility of this information requires more detailed investigation.

6. RECOMMENDATIONS

The following Programme 6 areas require improvement. Some of these may require organisational restructuring as well as budgetary reallocation. The recommendations are presented in three broad “clusters” which are sequenced in priority order (i.e. priority cluster 1, 2, and 3) together with an indication of their proposed timing into short (implementation needed in the next 6-12 months), medium (implementation needed in the next 12-24 months), and long term (implementation needed in the next 24-36 months) recommendations:

2. Improve Programme 6 overall service delivery by initiating an organisational re-design process which is informed by, and addresses at least, the following:

- a) Short term: Conduct further detailed benchmarking on comparable international institutions offering AE services to identify service delivery good practices;
- b) Medium to Long Term: Initiate an investigation (at national level) into whether Agricultural Economists (or Economists in general), as a profession, should become eligible for the Occupational Special Dispensation (OSD) in the public sector;
- c) Medium to Long Term: Identification of organisational design and capacity requirement options to strengthen District-level capacity to deliver and improve selected priority AE services (discussed in cluster 2 below);
- d) Medium to Long Term: Options to increase the number of post levels above Level 10, to enhance career advancement opportunities and staff retention (for example, investigating the feasibility of establishing Level 12 posts for specialists, and not just managers);
- e) Short to Medium Term: Clarify the role of Programme 6 in supporting the Province's agri processing strategy and objectives. This to take place in collaboration with the WC Department of Economic Development and

Tourism, so that the respective departmental roles are synergistic and complementary in terms of implementing the Province's agri processing strategy;

- f) Short to Medium Term: Develop an organisational re-design proposal which addresses the need for a clearer commodity-specific focus, and which includes a focus on market access requirements and understanding value chains, as well as the continued re-establishment of the equivalent of a Combud system (see Annexure 13 for an overview of the Combud) to provide objective and credible production information at a commodity and district-level. There may be a need to create two or three additional commodity-specific posts for this purpose (short to medium term). Recruitment of a Production Economist may also be required;
- g) Short to Medium Term: Sufficient management and professional time and focus must be spent on ensuring that WC Programme 6 staff have long term career development plans, and that staff take advantage of training opportunities to address skills gaps; and
- h) Medium Term: The Programme's output indicators and targets should be refined to reflect agreed Programme 6 roles in relation to agri processing and possibly facilitating local market access.

2. Strengthen the detailed design, service delivery partnership and coordination approach, as well as innovative use of technologies where feasible, to enhance client satisfaction and service impacts on the growth and transformation of agriculture amongst both commercial and emerging farmers in at least the following service areas:

- a) Medium to Long Term: Programme 6 needs to consider playing a central role in developing and approving land reform business plans to enhance the sustainability and success prospects of emerging farmers. This is a complex government mandate and coordination issue, and requires further discussion at national government level as there may also be a need to review and increase national government funding allocations to provinces so that they can play a more meaningful role in this regard;
- b) Short to Medium Term: Increased and more decentralised service delivery of basic financial management services (financial record keeping and basic financial management training) to emerging farmers is needed. Expanding access to this service may not necessarily require the use of additional Agricultural Economists. Options to use existing staff at district-level need to be explored, and a specific communications plan to enhance awareness of this service, and its benefits, needs to be developed and implemented as part of enhancing access to, and use of, this service;
- c) Medium Term: A more strategic focus to enhance local market access for emerging farmers needs to be developed by Programme 6. The Programme needs to conduct consultations with both national retailers and emerging farmer stakeholders, to explore strategic approaches and options to advance this need. Various examples and options exist in this

regard and have been raised by stakeholders. For example, Programme 6 could play a strong role in facilitating supplier development partnerships between retailers and emerging farmers. These partnerships could be formalised by way of MOU's. In addition, to overcome challenges with consistency of supply and sufficient volumes from smaller producers, WCDoA could play a valuable facilitation role through supporting aggregation centres. Another option would be to explore producer certification processes and stamps of approval for emerging farmers who are capable of supplying retailers. This could provide retailers with better confidence and trust in smaller suppliers, and also help to address issues of information market failure;

- d) Short Term: Conduct consultations with both commercial and emerging farmers to identify opportunities to further improve the following services which are regarded as relatively more important than other AE services: Market research; trade data analysis; market identification; facilitation of market access; financial record keeping; facilitating access to finance; viability studies (it is also proposed that WCDoA conduct informal learning sessions with commercial banks to share each other's frameworks and approaches to conducting viability studies, including how various risks are assessed); business plan development; and empowerment advice;
- e) Short-Medium Term: Investigate opportunities to use information and communications technologies to enable real time collection and dissemination of key data; and
- f) Short Term: Provide more detailed and specific information on all Programme 6 AE services on the departmental website, and consider developing a user-friendly brochure in the Province's main languages. The information provided on services by WCDoA staff, and contained in Annexure 11, could provide a starting point for this content.

3. Identify and implement actions to improve internal Provincial processes which are undermining effective Programme 6 service delivery:

- a) Medium Term: Improve the efficiency and turn-around times for the advertising and recruitment processes to fill vacant posts (especially current managerial level vacancies). The possibility of HR establishing and monitoring key performance indicators for key sub-processes to assist, as part of an overall process improvement initiative, should be investigated;
- b) Short Term: When Programme 6 jobs are advertised, the job adverts should include the subjects and degree requirements expected of applicants. Applicants must also be expected/requested to provide proof of completion of studies in the required subjects and degrees;
- c) Short Term and Ongoing: The need exists for more, and ongoing, staff training in government systems, including supply chain management, as well as developing and maintaining computerised databases, resource and environmental economics, forecasting, modelling, risk analysis, farm planning, and computer skills such as Excel and other quantitative models; and

- d) Short to Medium Term: Explore the value in adding additional and specific technical and “softer” skills requirements in Agricultural Economist job descriptions, and which are important in the delivery of AE Services such as: Partnership skills, leadership skills, negotiation skills, communication skills, research skills, monitoring and evaluation skills etc.

Finally, the WCDoA has committed to making a short summary of this evaluation available to the public, as well as participants in the evaluation surveys who requested a copy of this publication summary. They are to be notified via email when this public version is available by using the email addresses contained in the survey respondent databases.

7 References

- Adelaja, A. O. (2003). The 21st Century Land Grant Economist. *Agricultural and Resource Economics Review*, 32(02), 159-170. doi:10.1017/s1068280500005943
- AEASA. (2011). *Fifty years of achievement*. Pretoria: Agricultural Economics Association of South Africa.
- AEASA. (2015). *The role of practicing Agricultural Economists in South Africa*. Pretoria: Agricultural Economics Association of South Africa.
- Biere, A. W. (1988). Involvement of Agricultural Economics in Graduate Agribusiness Programs: An Uncomfortable Linkage. *Western Journal of Agricultural Economics*, 13(1), 128-133.
- Conner, J. R. (1985). Observations on Changes in Factors Influencing Agricultural Economics and Some Implications for the Profession. *Southern Journal of Agricultural Economics*, 17(01), 1-6. doi:10.1017/s0081305200016964
- Debertin, D. L. (2012). *Agricultural Production Economics*. Amazon createspace. Available from: http://uknowledge.uky.edu/agecon_textbooks/1 [Accessed 2016-08].
- Eastern Cape Provincial Government: Department of Rural Development and Agrarian Reform. (2016). *Annual Performance Plan: 2016/17*. Bhisho: Eastern Cape Provincial Government: Department of Rural Development and Agrarian Reform.
- Free State Provincial Government: Department of Agriculture and Rural Development. (2014). *Strategic Plan For the fiscal years 2015 – 2020*. Bloemfontein: Free State Provincial Government: Department of Agriculture and Rural Development.
- Gauteng Provincial Government: Department of Agriculture and Rural Development. (2016). *Annual Performance Plan: 2016/17*. Johannesburg: Gauteng Provincial Government: Department of Agriculture and Rural Development.
- Hall, R. (ed.). (April 2009). *Another Countryside? Policy options for land and agrarian reform in South Africa*. Bellville, Institute for Poverty, Land and Agrarian Studies, School of Government.
- Hudson, R. (2000). The Role of Agricultural Economics in Agribusiness Management, *Agrekon* 39(1), 1-9.
- Harriss, J. (2002). The Case for Cross-Disciplinary Approaches in International Development. *World Development*, 30(3), 487-496. doi:10.1016/s0305-750x(01)00115-2
- Ka Makhaya, S.C. (2014). *A review of agricultural economics training at South African universities*. Unpublished master's thesis), University of Pretoria, South Africa.
- Kanbur, R. (2002). Economics, Social Science and Development. *World Development* 30(3), 477-486.

Kirsten, J.F. (2010). Forty years of Agricultural Economics Scholarship and Practice in South Africa: A Time to Challenge the Consensus and Refocus Our Intellectual Work. *Agrekon*, 41(4), 251-284.

Kirsten, J.F. (2011). Agricultural Economics Scholarship in South Africa at the Crossroads: Is it Time for a National Institute of Food, Agricultural and Resource Economics? *Agrekon*, 50(3), 124-144.

Kwazulu-Natal Provincial Government: Department of Agriculture and Rural Development. (2016). *Annual Performance Plan: 2015/16*. Pietermaritzburg: Kwazulu-Natal Provincial Government: Department of Agriculture and Rural Development.

Limpopo Provincial Government: Department of Agriculture and Rural Development. (2016). *Annual Performance Plan: 2016/17*. Polokwane: Limpopo Provincial Government: Department of Agriculture and Rural Development.

Martin, J. E. (1978). Agricultural Economics: A Critical Review of the State of the Science. *Southern Journal of Agricultural Economics*, 10(1), 39-42.

McGraw, K.; Popp, J. S.; Dixon, B. L.; and Doris J. Newton, D. J. (2011). Factors Influencing Job Choice among Agricultural Economics Professionals. *Journal of Agricultural and Applied Economics*, 44(2), 251–265.

Mpumalanga Provincial Government: Office of the Premier. (n.d.). *Non-financial preliminary (performance) information for Provincial departments –first quarter 2015/16*. Nelspruit: Mpumalanga Provincial Government: Office of the Premier.

National Treasury. (2003). *Customised Framework and Format for Strategic Plans for the Provincial Departments for Agriculture*. Pretoria: National Treasury.

Northern Cape Provincial Government: Department of Agriculture, Land Reform and Rural Development. (2016). *Annual Performance Plan: 2015/16*. : Kimberley: Northern Cape Provincial Government: Department of Agriculture, Land Reform and Rural Development.

NPC. (15 August 2012). *National Development Plan 2030*. Pretoria: National Planning Commission.

Ngqangweni, S. D du Toit, B.J. van Wyk, S. Modiselle, M Mokoena. 2015. Chapter Four: Agricultural Economists in national government, in AEASA. *The role of practicing Agricultural Economists in South Africa*. Pretoria: Agricultural Economics Association of South Africa.

Presidency. (2014a). *Medium-Term Strategic Framework (MTSF) 2014-2019: Appendix 7: Outcome 7: Comprehensive rural development and land reform*. Pretoria: Presidency.

Presidency. (2014b). *Medium-Term Strategic Framework (MTSF) 2014-2019*. Pretoria: Presidency.

Provincial Representative Task Team. (15 May 2007). *Functions and skills of Agricultural Economists in provincial departments of agriculture: final draft*.

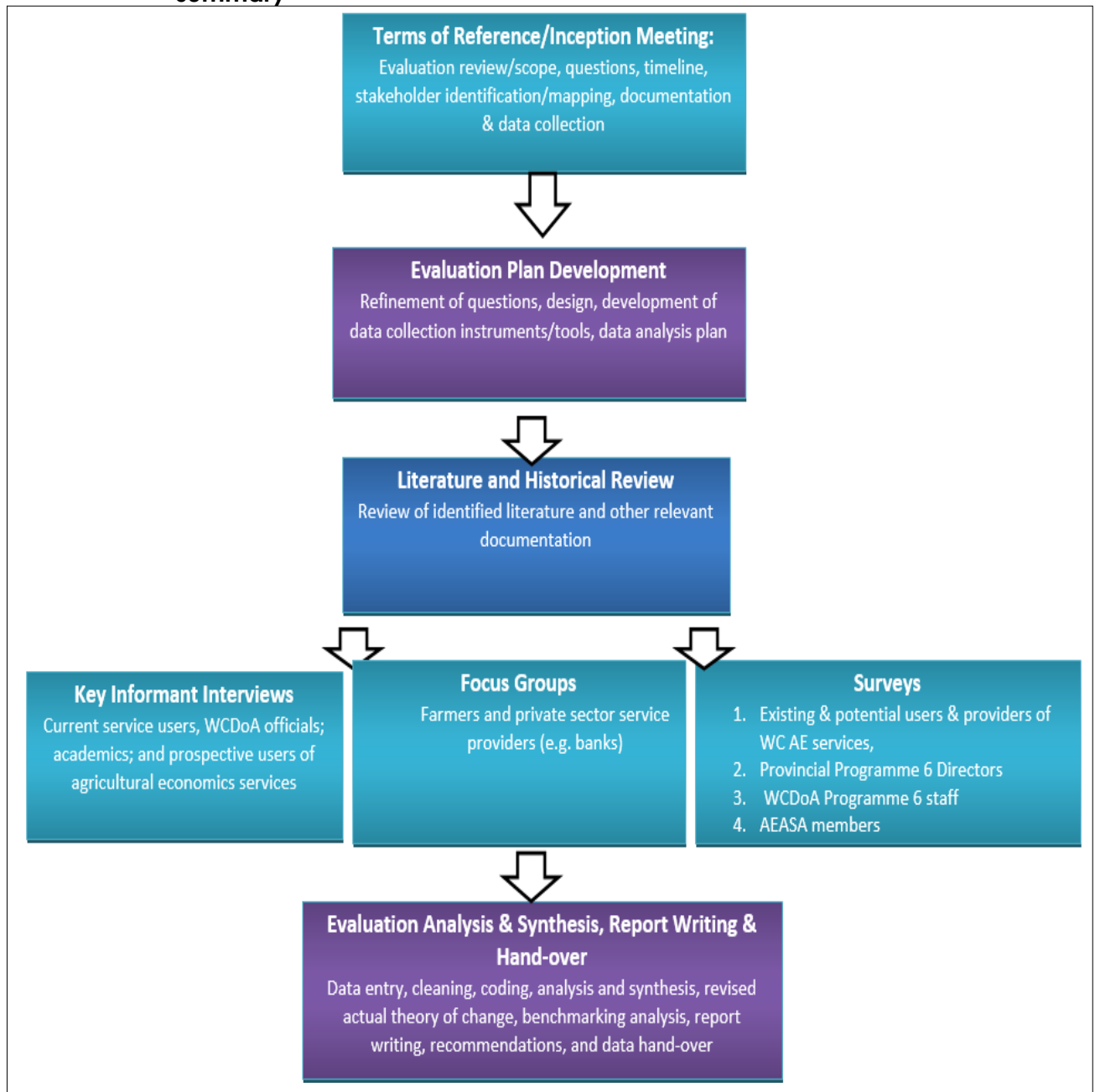
Public Service Commission. (1994). *Proposals for the Restructuring and Departmentalisation of the Public Service*. Pretoria: Public Service Commission.

- Republic of South Africa. *Constitution of the Republic of South Africa (Act 108 of 1996)*. (1996). Pretoria: Government Printer.
- Robbins, L. W. (1988). A Positive Role for Graduate Agribusiness Programs in Agricultural Economics, *Western Journal of Agricultural Economics*, 13(1), 121-127.
- Runge, C.F. (2008). *Agricultural Economics*. In Durlauf (Ed.). *New Palgrave Dictionary of Economics*, pp. 78-84.
- Troskie, D. (May 2011). *The role of the state at sub-national level*. Paper presented at seminar on Transformation of the role of the State and New Instruments of Public Action. Pretoria: University of Pretoria.
- Van Rooyen, J. C. (1986). The Role of the Agricultural Economist in Agricultural Development, *Agrekon*, 25:2, 7-15.
- Vink, N.; Hendriks, S. L. and Kirsten, J. F. (2011). *50 Years of Achievements of the Agricultural Economics Association of South Africa*.
- Vink, N. (2012). Agricultural Economics: an Exoteric or Esoteric Science? *Agrekon*, 51 (2), 1 – 21.
- Vink, N. 2017. Correspondence. 13 January, Stellenbosch.
- WCDoA. (2016). *2016/2017 Annual Performance Plan*. Elsenburg: WCDoA.
- WCDoA. (2016b). Job Description: Agricultural Economist. Elsenburg: WCDoA.
- WCDoA. (2016c). Agricultural Economic Services. Elsenburg: WCDoA. Retrieved from: <http://www.elsenburg.com/services-and-programmes/agricultural-economics-services> [Accessed August 2016].

8 Annexure 1: Detailed evaluation methodology

The overall evaluation methodology is summarised below:

Figure 8-1 WC Programme 6 design and diagnostic evaluation methodology summary



Literature Review:

The literature review focused on the following:

- Clarification of universal definitions of Agricultural Economists and the services they provide.
- Historic overview of AE services in the public sector in South Africa and the WC.
- Policy and legislative mandate for AE services in South Africa and the WC.
- The efficacy and effectiveness of policies and legislation in the Sector.

- e) The inconsistencies of policy/legislation and implementation in an intergovernmental context.
- f) Key trends and factors in the WC which could influence the sustainability of AE programmes.

An electronic literature search was conducted to identify relevant international and local literature using various key search terms aligned with the literature review questions. This included academic literature, journal articles, general information found via internet searches and other similar enterprise development and incubation specific projects/evaluations that may inform this evaluation.

The literature was then electronically analysed using qualitative data analysis software called Atlas.ti. A set of thematic analysis codes relevant to the above literature review themes and questions was developed and the literature was coded using these to extract relevant information. This information was then analysed as part of writing the literature review.

The literature review informed the design of key informant interview frameworks as well as data collection instruments for the evaluation surveys.

Surveys:

Five online evaluation surveys were conducted. Wherever possible, draft survey instruments were piloted and refined (this was not always possible due to the very constrained evaluation time-frames). Table 8-1 contains a summary of each of the 5 survey processes, responses received and related issues. Data from the surveys was cleaned to delete duplicate responses as well as to check the accuracy of data provided wherever possible.

Table 8-1 Evaluation methodology: Summary of surveys conducted

Type of survey	Summary re process, responses received and related issues
User Survey:	<p>A comprehensive potential respondent data-base of over 3000 existing and potential users of WCDoA AE services was built using client databases from the WCDoA, the WCDoA's database of black farmers, and the Bureau for Food and Agricultural Policy's (BFAP) stakeholder database. Emails and SMSs were distributed to potential respondents in this database where contact information existed. A team of 5 researchers also conducted an extensive survey effort to gather responses. This included a team of six researchers working over a 4-week period and making phone calls to contact (or making two phone calls to attempt contacting) the 545 potential survey respondents that had phone numbers in the database.</p> <p>This survey questionnaire was made available in both English and Afrikaans. A total of 353 responses were received (including both existing and potential users of AE Services). Not all of these respondents answered all of the survey questions, however. Annexure 2 contains the detailed survey analysis and indicates how many</p>

	<p>respondents answered the respective survey questions. One hundred and twenty one of the respondents were farmers across the five Districts, and the remainder were internal Provincial government users, agribusiness, academia, commodity organisations, and other public and private sector organisations.</p> <p>One hundred and fifty nine of the responses were received in Afrikaans and this data had to be translated into English so that it could be analysed as one master data-set.</p> <p>50 hard copy survey responses were received from Agri WC members and their responses were entered into the database.</p> <p>AFASA also requested WC members to complete the survey.</p>
WCDoA Programme 6 current and past staff survey	A total of 40 current and ex-staff completed the survey, with 14 of these being ex-staff. In some cases not all questions were completed, as not all questions were made compulsory for completing the survey (e.g. sensitive questions on salary).
University survey	<p>South Africa currently has eight universities that offer AE as a major at undergraduate degree, Master's, and PhD levels (Kirsten, 2011). These universities are the University of Pretoria (UP), the University of Stellenbosch (US), the University of KwaZulu-Natal (UKZN), the University of the Free State (UFS), North West University (NWU), the University of Fort Hare (UFH), the University of Limpopo (UL) and the University of Venda (UV).</p> <p>These universities have a variety of undergraduate programme offerings including BSc Agric (AE), BCom Agribusiness Management, and BAgric/BAdmin degrees. Seven out of eight University Heads of AE Departments completed the survey and provided the requested data (the University of Limpopo did not complete the survey despite extensive telephone calls and emails requesting completion over a 2-3 week period).</p>
AEASA survey	A disappointing 17 (out of at least 400 paid up and +-400 unpaid) AEASA members completed the survey. The results are therefore not representative and there is little or no value in using these responses for this evaluation unless the survey deadline can be extended and an effort made to obtain further responses. This lack of responses has contributed to selected evaluation data gaps (e.g. regarding salary levels for Agricultural Economists).
Provincial Programme 6 comparison Survey	The Directors of Programme 6 in 8 Provinces completed the survey with only Mpumalanga outstanding. The final survey response to this survey was only received on 30 th August and the required analysis of this data therefore delayed this draft report.

Focus groups and key informant interviews:

Two focus groups took place. The first with emerging farmers included the WC chair and deputy chairperson of the African Farmers Association of South Africa. The second Commercial Bank focus group included two representatives from two commercial banks in South Africa.

Finally, key informant interviews took place and included various staff from the WCDoA's Programme 6, WCDoA Human Resources branch, and Agri WC.

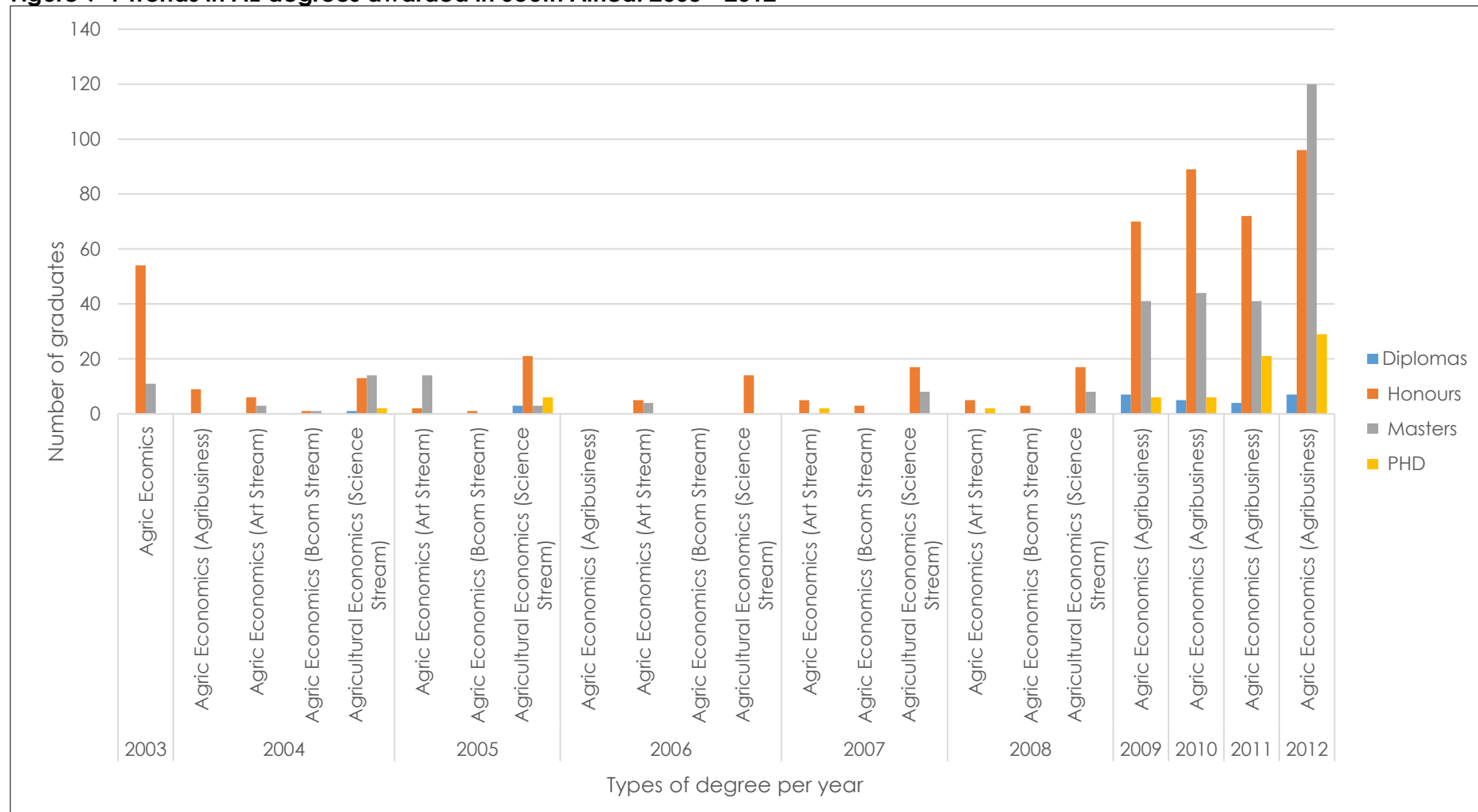
9 Annexure 2: Detailed evaluation data and survey results

This annexure contains data from the following sources and in this order:

1. Trends in AE degrees awarded (data supplied by DAFF);
2. Survey of (potential) users of AE services;
3. Survey of (current and selected past) WCDoA Programme 6 professional staff;
4. Data summary tables from interviews with WCDoA staff; and
5. Provincial Programme 6 comparison data from the survey of Programme 6 Directors as well as the departmental APPs and National Treasury's provincial expenditure trends database.

Trends in the supply of Agricultural Economists and AE degrees awarded in South Africa

Figure 9-1 Trends in AE degrees awarded in South Africa: 2003 - 2012



Source: Own analysis of data supplied by the national Department of Agriculture, Forestry and Fisheries (August 2016).

Table 9-1 Supply trends: Graduates from AE degrees in South Africa between 2003 and 2012

Year	Qualification	Diploma	Honours	Master's	PHD	Total
2003	Agric Economics	0	54	11	0	65
2004	Agric Economics (Science Stream)	1	13	14	2	30
2004	Agric Economics (Art Stream)	0	6	3	0	9
2004	Agric Economics (Bcom Stream)	0	1	1	0	2
2004	Agric Economics (Agribusiness)	0	9	0	0	9
2005	AE (Science Stream)	3	21	3	6	33
2005	AE (Art Stream)	0	2	14	0	16
2005	AE (Bcom Stream)	0	1	0	0	1
2006	Agric Economics (Science Stream)	0	14	0	0	14
2006	Agric Economics (Art Stream)	0	5	4	0	9
2006	Agric Economics (Bcom Stream)	0	0	0	0	0
2006	Agric Economics (Agribusiness)	0	0	0	0	0
2007	Agric Economics (Science Stream)	0	17	8	0	25
2007	Agric Economics (Art Stream)	0	5	0	2	7
2007	Agric Economics (Bcom Stream)	0	3	0	0	3
2008	AE (Science Stream)	0	17	8	0	25
2008	AE (Art Stream)	0	5	0	2	7
2008	AE (Bcom Stream)	0	3	0	0	3
2009	AE (Agribusinesses)	7	70	41	6	124
2010	AE (Agribusinesses)	5	89	44	6	144
2011	AE (Agribusinesses)	4	72	41	21	138
2012	AE (Agribusinesses)	7	96	120	29	252
Total						916

Source: Own analysis of data supplied by the national Department of Agriculture, Forestry and Fisheries (August 2016).

AE Services User Survey

Figure 9-2 2016 User survey: Respondent profile by age group

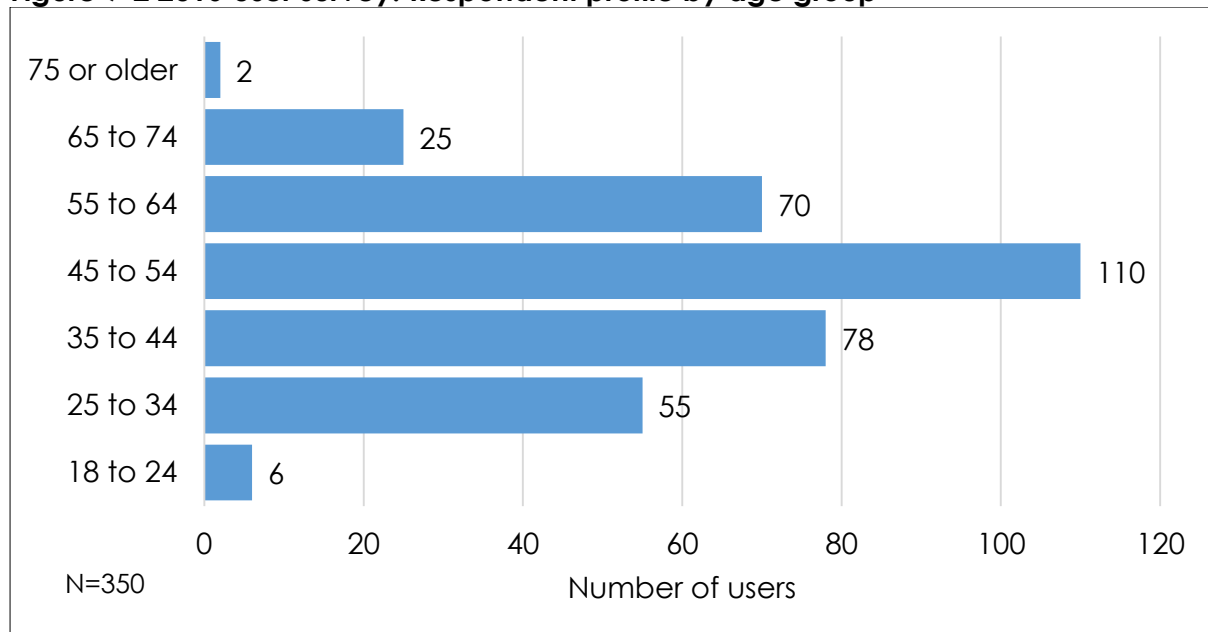


Figure 9-3 2016 User survey: Respondent profile by type of organisation

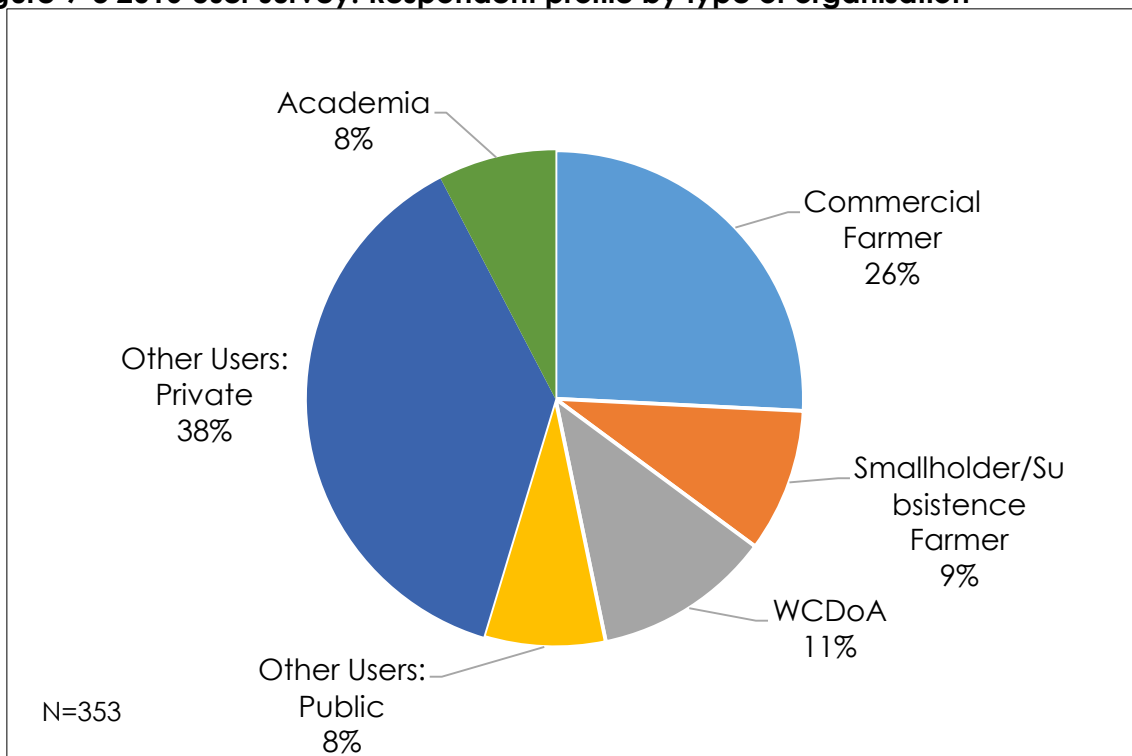


Figure 9-4 2016 User survey: Farmer respondent profile by districts

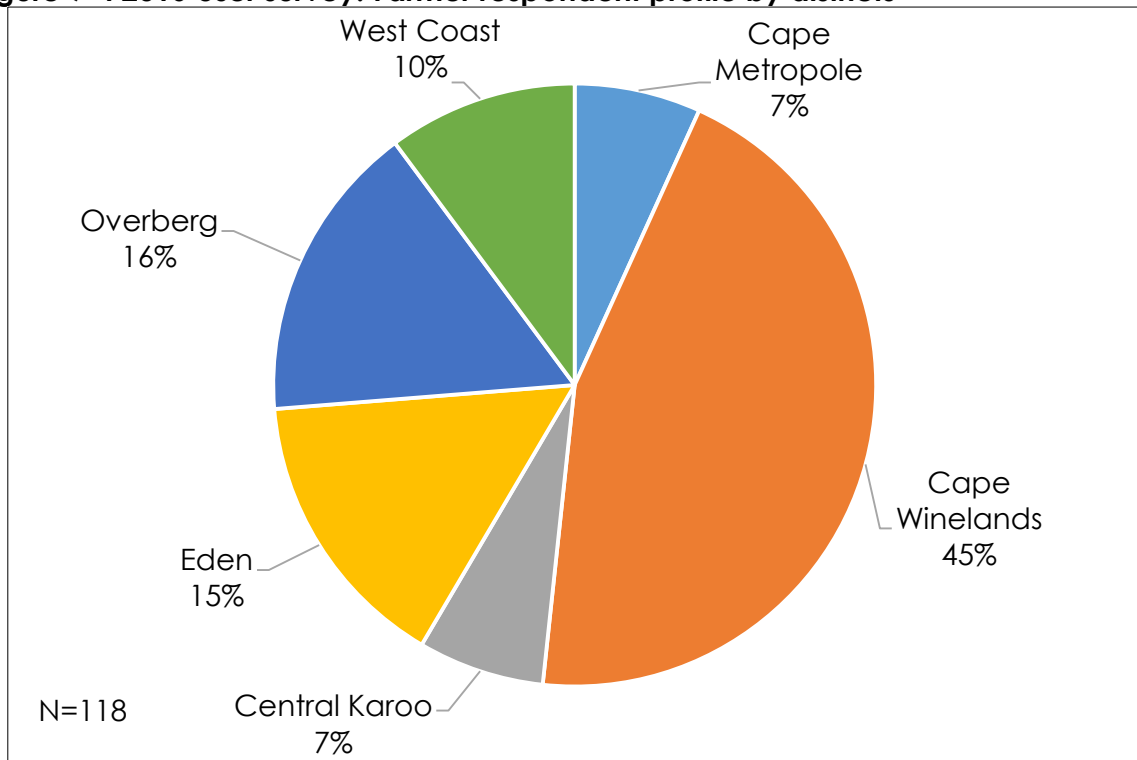
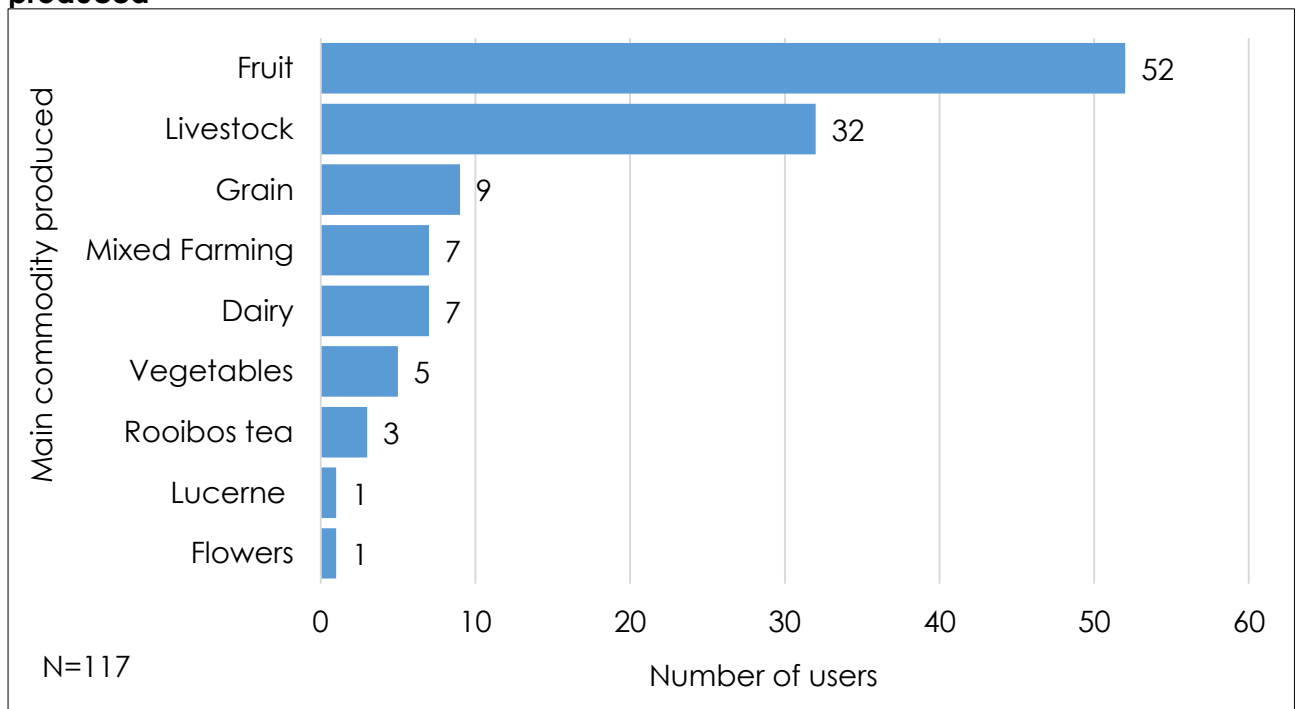


Figure 9-5 2016 User survey: Farmer respondent profile by main commodities produced



Users and providers of AE Services

Figure 9-6 2016 User survey: Respondent profile, organisation provides AE services or not

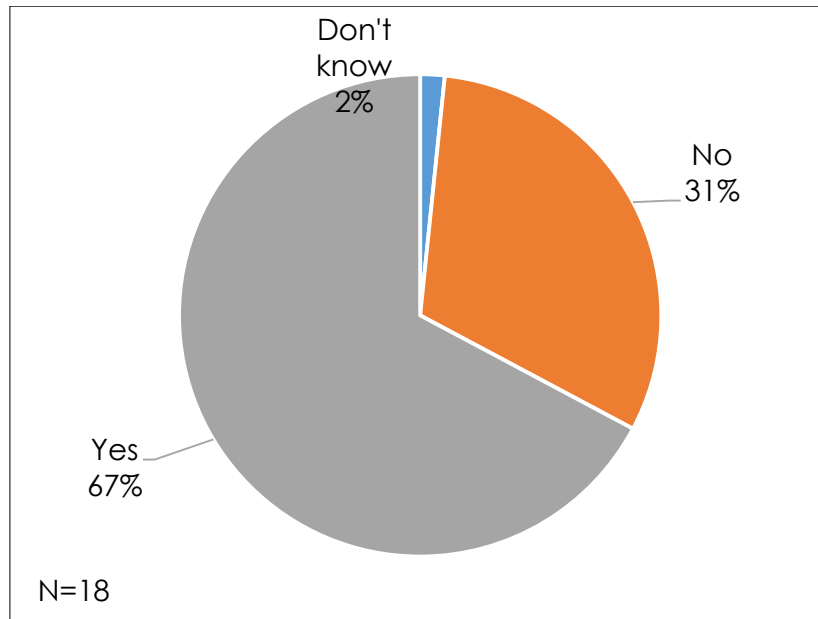


Figure 9-7 2016 User survey: Respondent use of respondent organisation's own AE Services

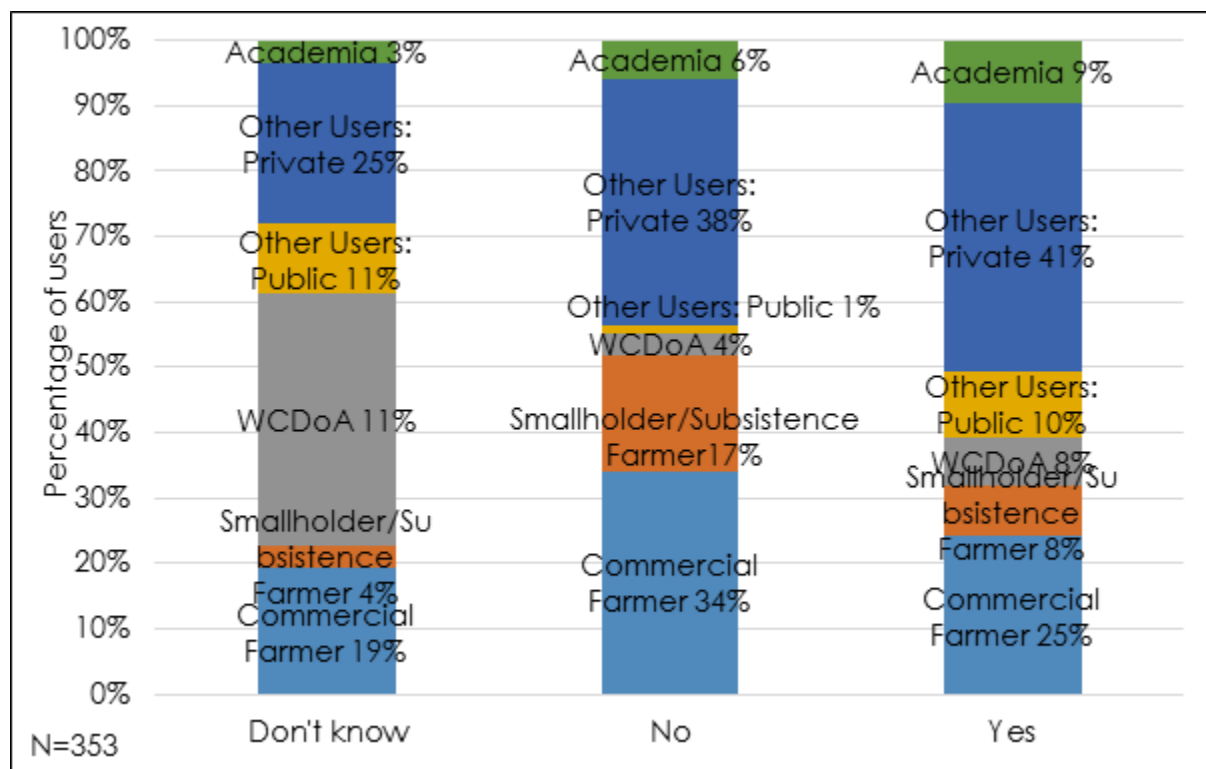


Figure 9-8 2016 User survey: Are the majority of AE Services used by you/your organisation provided by the public or private sector?

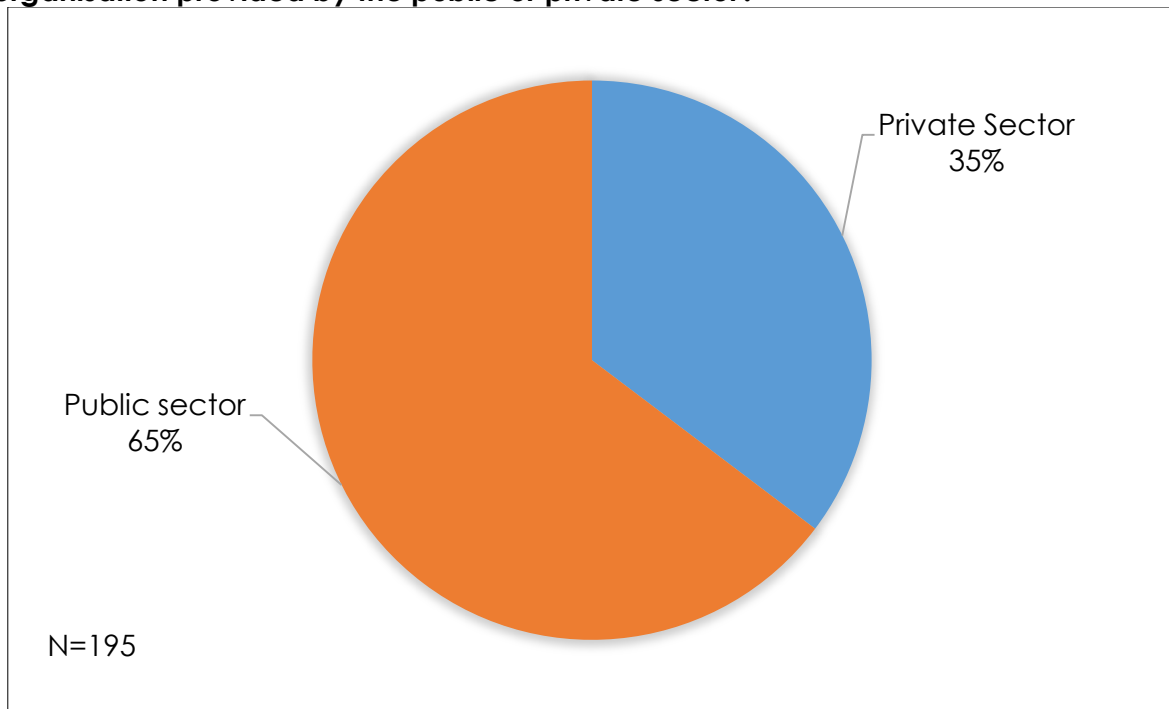


Figure 9-9 2016 User survey: Are the majority of AE Services used by you/your organisation provided by the public or private sector?

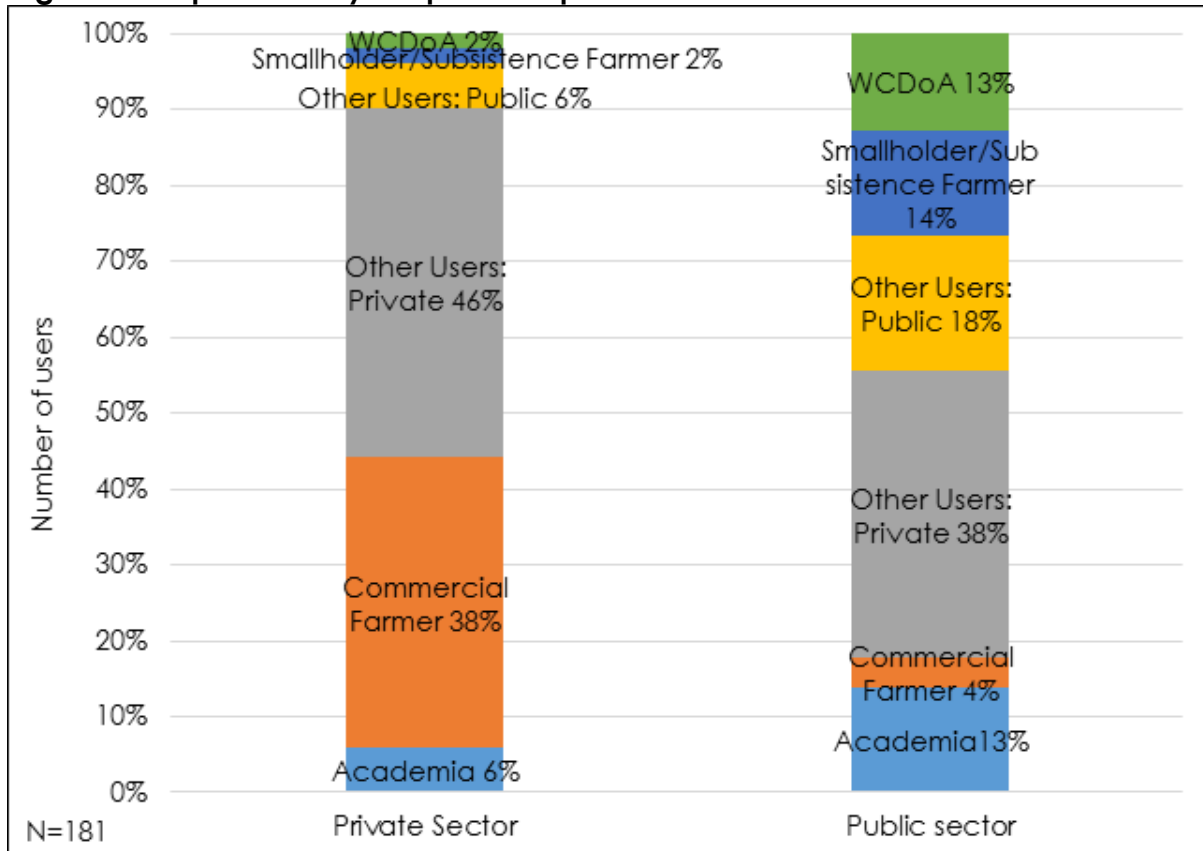


Figure 9-10 2016 User survey: Respondent usage of WCDa AE services

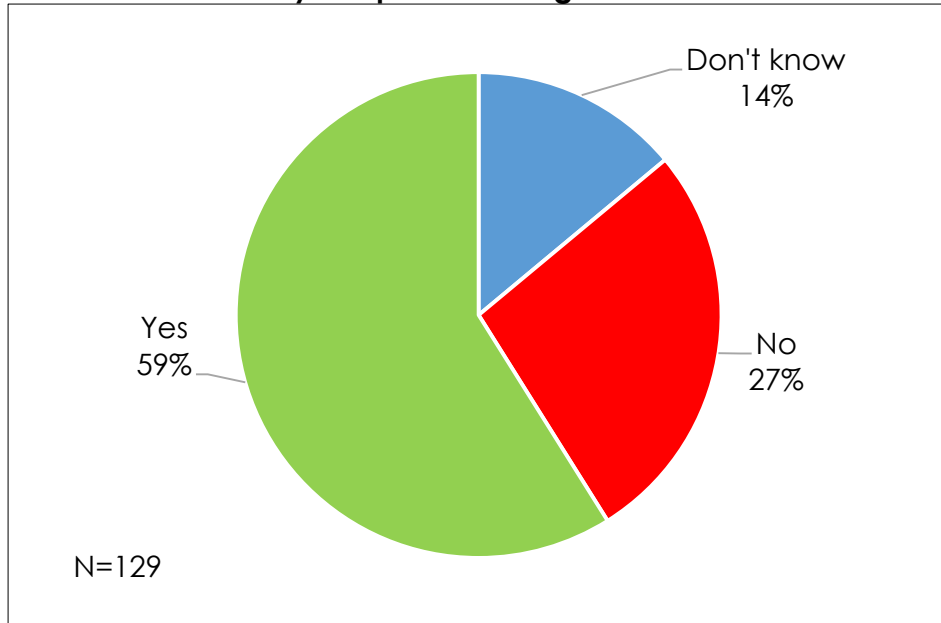


Figure 9-11 2016 User survey: Main user group types and use of WCDoA AE services

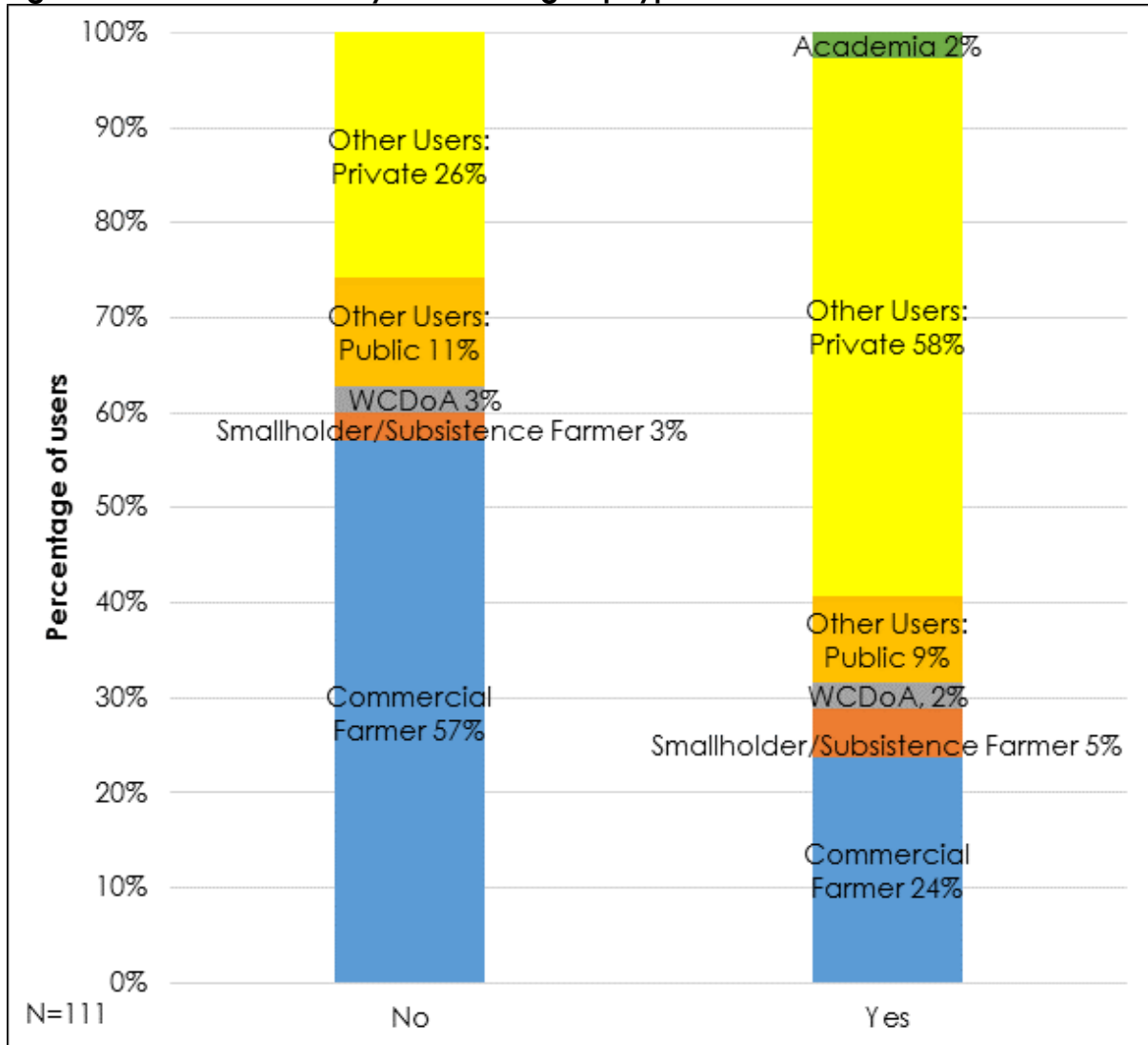


Table 9-2 User survey: AE Services needed but not (understood to be) offered by WCDoA

WC Programme 6 Sub-programme	Specific serviced needs reported/requested
Macro-economics support	<ul style="list-style-type: none"> • Assistance to analyse the trade data generated by export certification. • Assistance to look at the impact of South African certification within the WC. • Impact of compulsory community services for veterinarians in the WC. • Economic impacts of climate variability, change and disasters - more detailed analysis. • Monitoring of government spending on agriculture and agriculture-related services in the province.
Agribusiness support	<ul style="list-style-type: none"> • Return of the Combud system for all production costs including regional production area specific microeconomic information farm budgets) at a district and commodity-level. • Assistance to access local markets. • Financial support. • Benchmarking analysis. • Assistance to upcoming farmers in terms of infrastructure. • Research regarding black truffle farming. • Specific commodity and industry analysis. • How to bring a new product to market.
Other types of support requested (not necessarily AEs)	<ul style="list-style-type: none"> • Clearing of road reserves to prevent fires. • Land for livestock. • Weather data. • Drought relief including assistance with water as well as dams/irrigation. • Assistance with erosion. • Training of students. • Vouchers for pig feed. • Equipment. • Farm extension services. • Social services (education, housing). • Affordable and trust-worthy legal aid. • Development of workers.

Table 9-3 User survey: Proposals for innovative AE services delivery approaches to be considered by WCDoA

Service delivery model improvement theme	Specific user/ client proposals
<p>1. Stronger coordination and partnerships with other role-players externally as well as internally (within WCDoA),</p>	<p>a) Other government departments such as DRDLR. b) Organised agriculture. c) Municipalities e.g. advice on how to support food gardens and livestock. d) Non-profits organisations to deliver services. e) Investment facilitation to facilitate upgrading the red meat value chain using models similar to those applied in fruit value chains. f) Agri-BEE desk to form part of land reform desk. g) Macro plan for agriculture. h) Increase direct consultation with black businesses in the agriculture value chain. i) Collaborating with other government departments needed regarding the following: Information provision, product innovation, technology transfer.</p>
<p>2. Decentralisation of services to districts</p>	<p>a) Conduct site visits first. b) Placement of Agricultural Economists to the district offices. c) Services should be sent directly to organisations, associations and projects through local officials.</p>
<p>3. Greater use of information and communication technologies to collect information and enhance service access</p>	<p>a) Use of Apps (software applications design for mobile phones) to deliver AE Services including data collection and information dissemination for all services including real-time services for production information. b) Whatsapp (use this for more rapid and targeted communication). c) Online assistance with farmer forecasting and risk. d) Free online access or open access to peer reviewed journal articles in AE field. e) Easy online purchasing and selling [presumably of agricultural produce and products]. f) More GIS-based AE information. g) Use of drone technology in agriculture for rapid time information (e.g. crop forecasts). h) Send e-mails for invitations on research results. i) Improved accessibility of products via website, for example with regards to enterprise budgets (which is currently not even recognised by the search function). j) Managing a collectively driven agri-data cloud.</p>

Service delivery model improvement theme	Specific user/ client proposals
	<ul style="list-style-type: none"> k) Integrate remote sensing data with BFAP's IVIS platform to undertake integrated scenario planning and modelling. l) User friendly, dynamic, accurate, updated models which simulate the agricultural production and market environment are needed. Such models should be able to inform short-term and strategic decision-making and identify the implications of potential decisions in an understandable, obvious way.
4. Improved research and/or information	<ul style="list-style-type: none"> a) Improved contact details related to specific products on website. b) Distribution of newsletters. c) Database of basic financial information for BEE farmers. d) Data on youth involvement in agriculture. e) Improve objective access to market price information for example wine grape production (e.g. why the prices of wine export are increasing but wine grape prices remain low?). f) Identify branches suffering and support the industries with knowledge. g) Expansion of commodity assessments and budgeting. h) Expansion with regards to resource economics valuations (e.g. water). i) Expansion of decision making tools and model suppliers j) Updated enterprise budgets that account for environmental costs (e.g. water, energy, carbon, soil). k) Monitoring of transformation targets (ideally to be published monthly if this is feasible). l) Tracking progress with land reform. m) Social impact analysis of emerging farmers. n) Keep a smallholder farmer database. o) Use of big data in precision agriculture. p) More macro-level information on what competitor nations are planting and doing (e.g. what impact does Chile planting more pears have on SA planting pears).
5. Other additional or improved services/ products (some	<ul style="list-style-type: none"> a) One stop shop for production economics (regardless of whether services would be required to be outsourced/facilitated). a) One stop shop for agricultural marketing information (regardless of whether services needs to be

Service delivery model improvement theme	Specific user/ client proposals
of which may already be offered by other WCDoA programmes and/or other organisations):	<p>outsourced/facilitated).</p> <ul style="list-style-type: none"> b) Alternative/renewable energy technologies. c) Cost-benefit analysis. d) Crop forecasts. e) Multi-disciplinary policy analysis. f) International symposium. g) Evaluation of research policy. h) Environmental accounting. i) Larger start-up capital to get businesses off the ground. Potential business owners should be evaluated in depth before any service or funds are made available. j) Free training to empower farm workers (e.g. financial planning/ management). k) How can farmers farm economically sustainable in the future? In which direction should adjustments be made?

Figure 9-12 2016 User survey: Main reason your organisation has not used any AE services from the WCDoA?

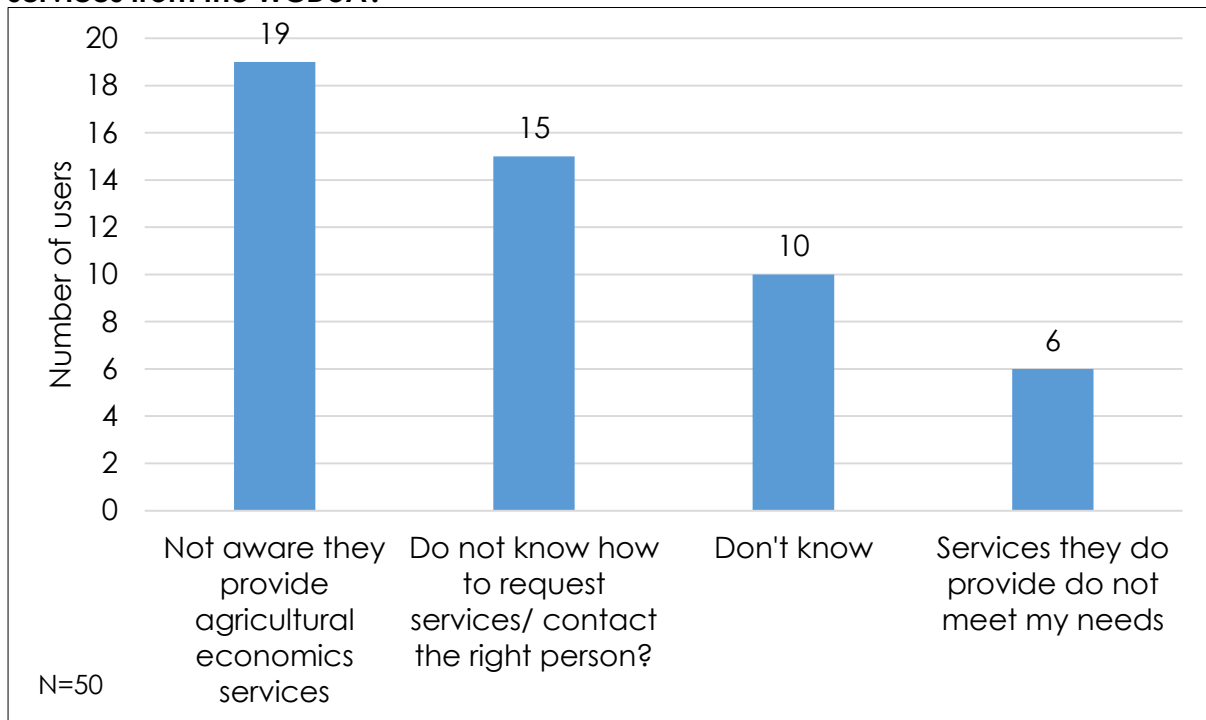


Figure 9-13 2016 User survey: Main reason your organisation has not used any AE services from the WCDoA by user types?

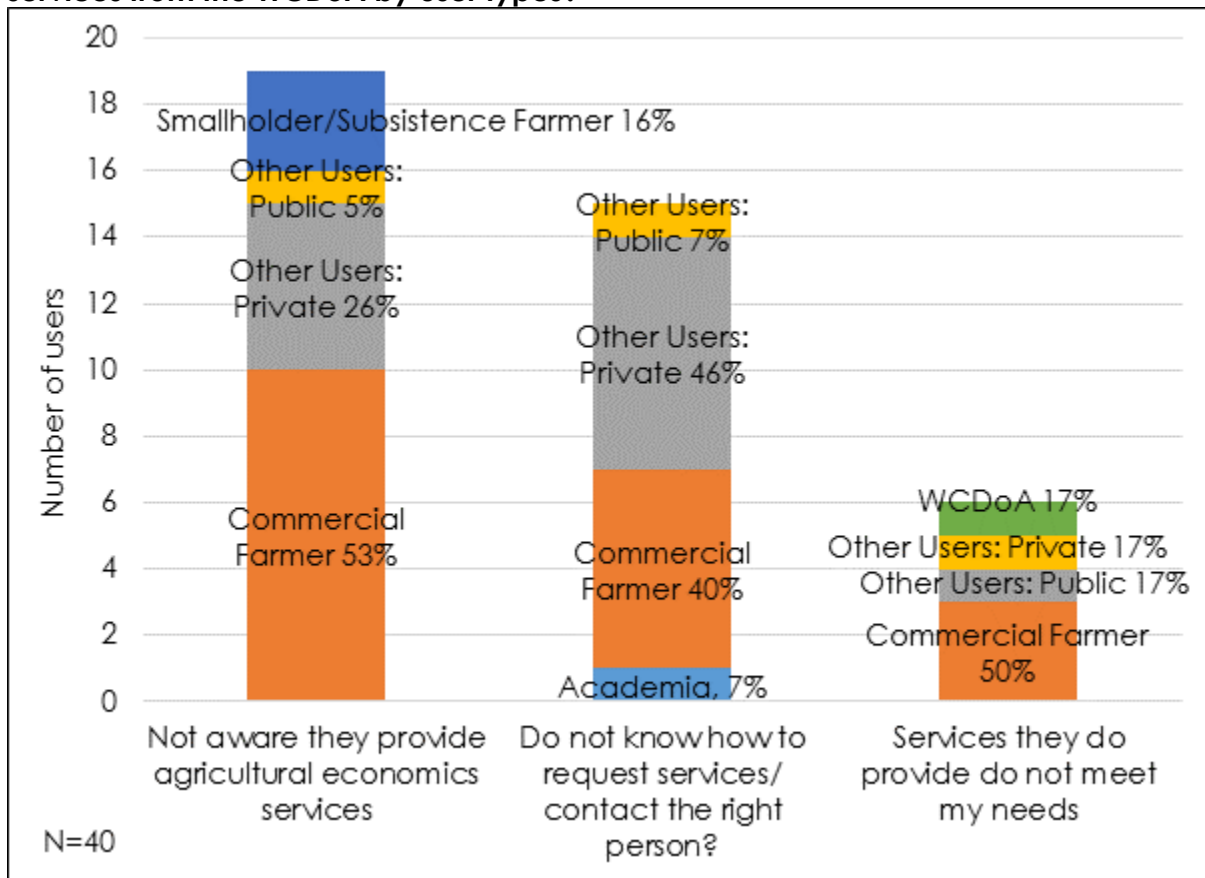


Figure 9-14 2016 User survey: Do you think you/ your organisation would have used AE services from the WCDoA if you were aware that they provided these?

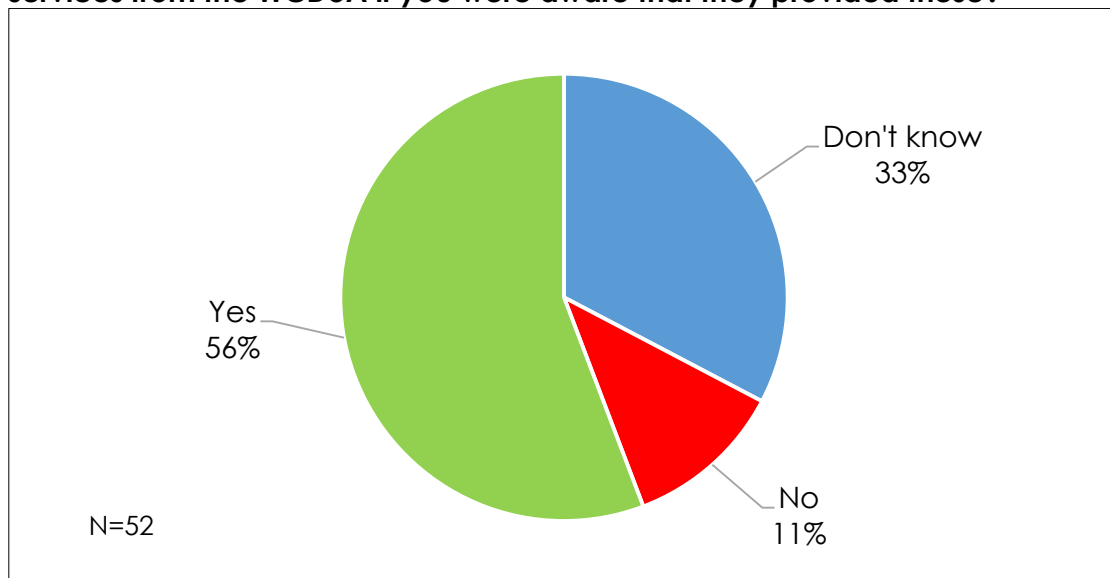


Figure 9-15 2016 User survey: Do you think you/your organisation would have used AE services from the WCDoA if you were aware that they provided these (by user type)?

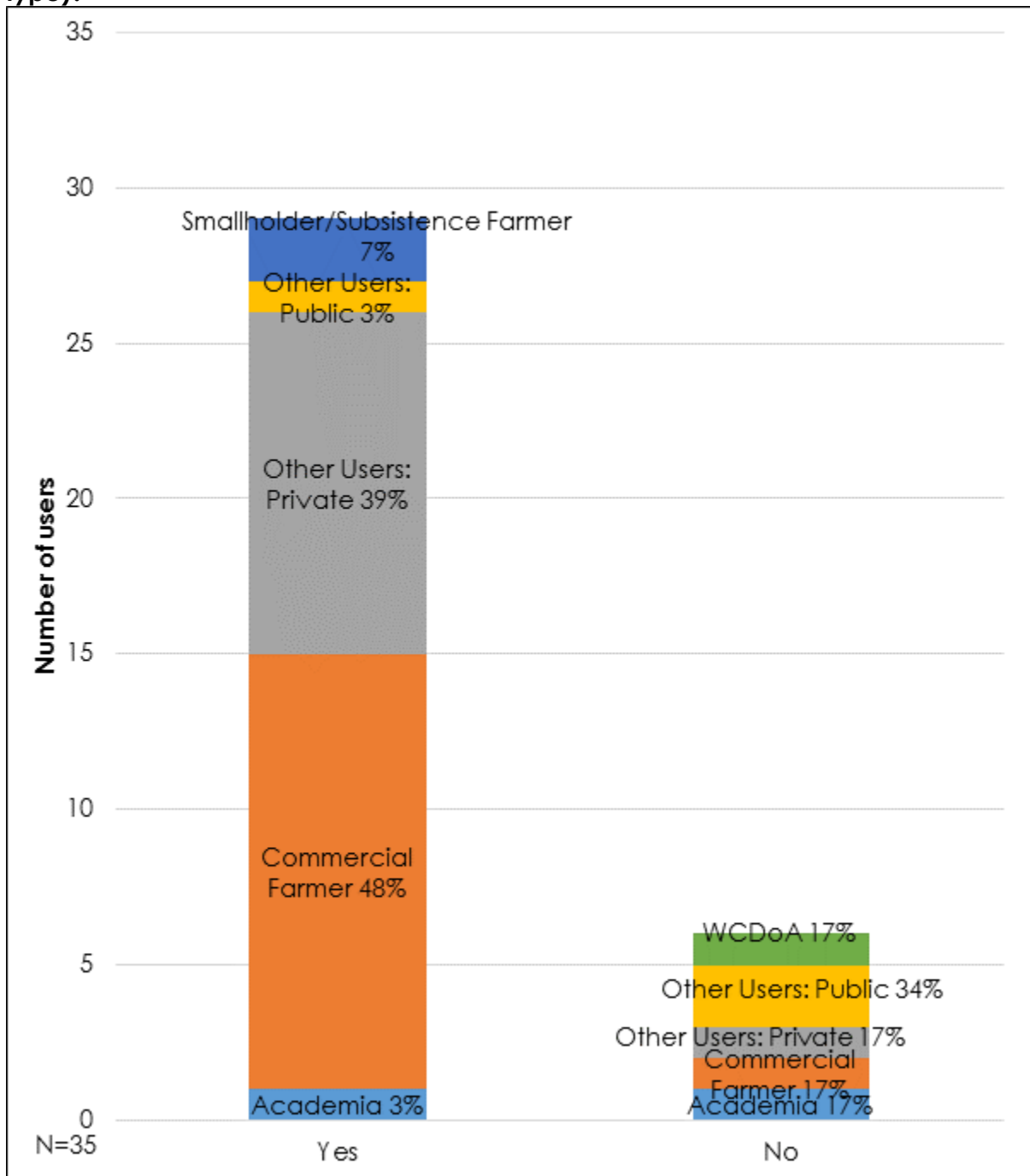


Figure 9-16 2016 User survey: Do you think you/your organisation would have used AE services from the WCDoA if you were aware that they provided these (by user type)?

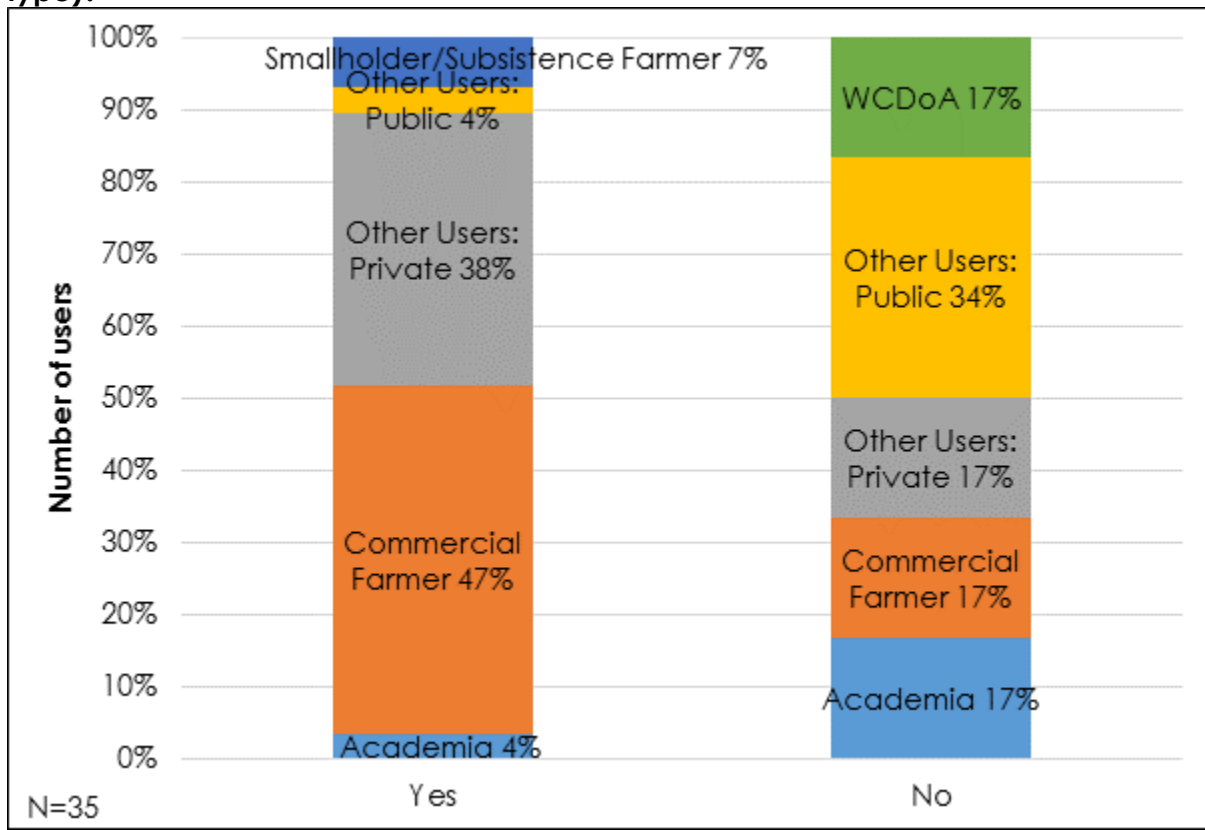


Figure 9-17 2016 User survey: Are there any specific AE services that you/your organisation needs but which are not currently offered by the WCDoA?

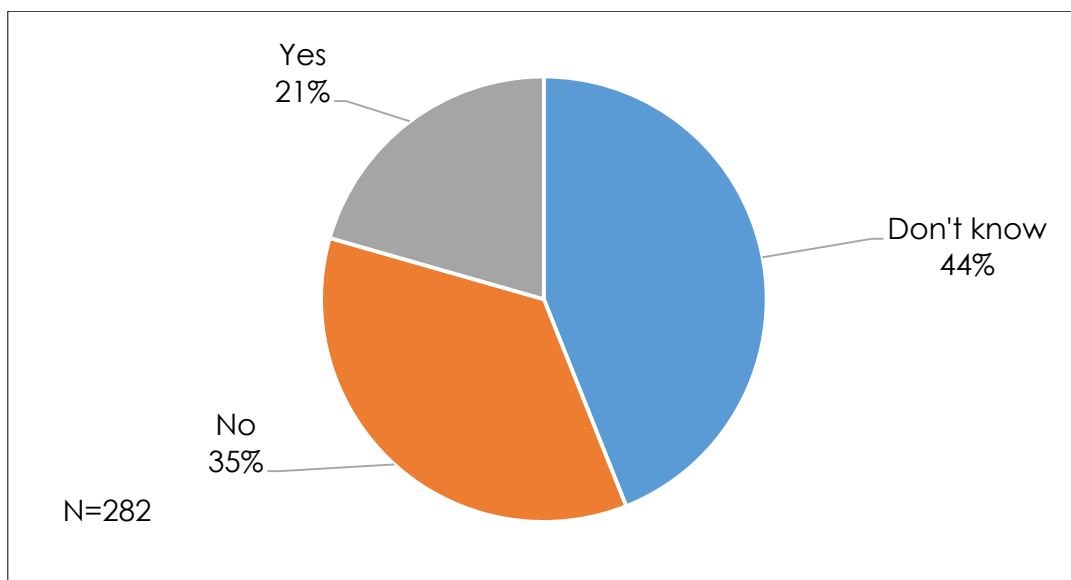
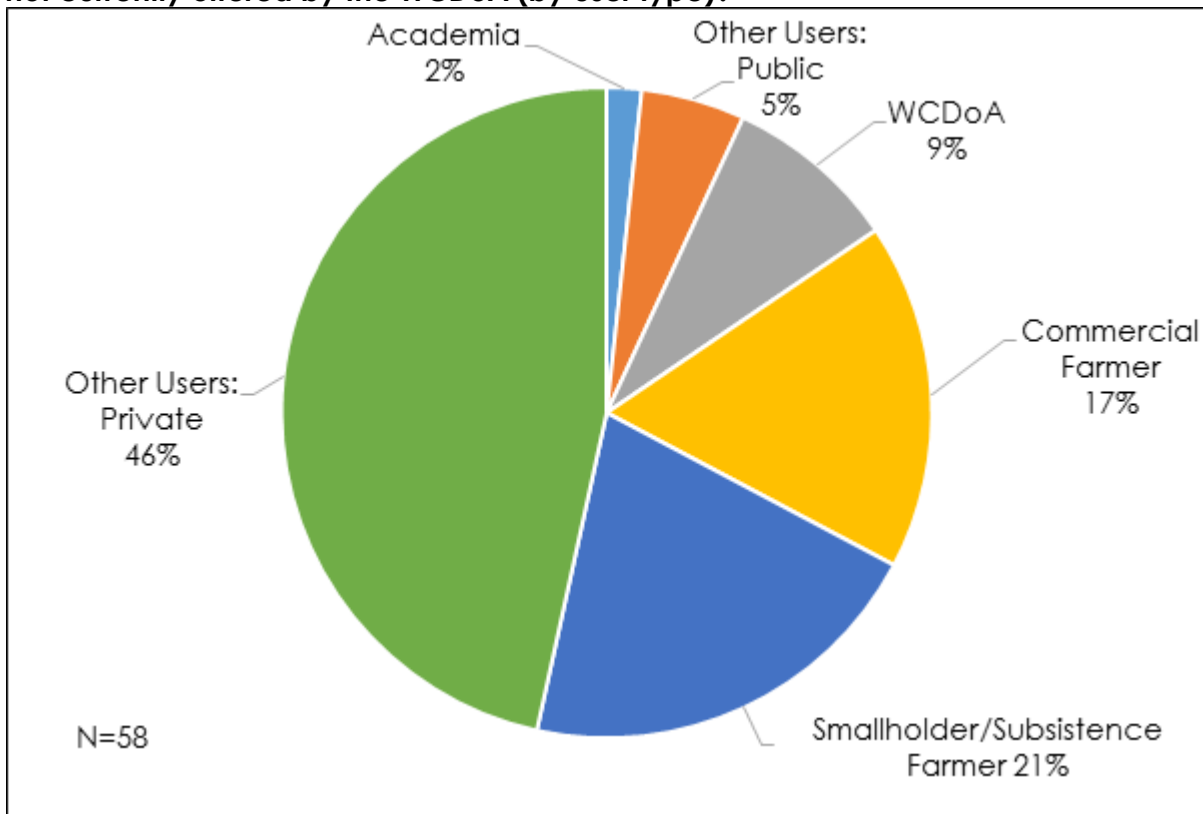


Figure 9-18 2016 User survey: We require specific AE services but which are or may not currently offered by the WCDa (by user type)?



User Service Satisfaction and Service Impacts (Positive and Negative)

Table 9-4 User survey: Average level of satisfaction for all users with WCDoA AE Services

WCDoA AE Services	Average level of satisfaction (5 = very satisfied, 4 = satisfied, 3 = neither satisfied or unsatisfied; 2 = unsatisfied)
Listened to talks by WCDoA	4.14
Farm/business budgeting	4.07
Agriculture trends	4.06
Other macro agriculture information/statistics	4.00
Read journal or newspaper/magazine articles published by WCDoA	3.97
Economic modelling and policy analysis	3.92
Resource economics	3.92
Trade analysis	3.90
Production economics research	3.86
Farm impact studies	3.67
Demographic or labour market analysis	3.64
Economic impact assessments	3.57
Market research/analysis/information	3.52
Business plan development/evaluation	3.50
Viability studies	3.48
Financial record keeping/statements or Business compliance/legal registrations	3.45
Facilitating access to finance	3.05
Market identification	2.80
Facilitating market access	2.40
Empowerment/transformation advice	2.40

Table 9-5 User survey: average level of importance given by all users with WCDoA AE services

WCDoA AE services	Average level of importance (5 = very important, 4 = important, 3 = neither important or unimportant; 2 = unimportant)
Resource economics	4.36

Agriculture trends	4.34
Other macro agriculture information/statistics	4.28
Production economics research	4.27
Market research/analysis/information	4.26
Economic impact assessments	4.25
Farm/business Budgeting	4.23
Market identification	4.22
Financial record keeping/statements or Business compliance/legal registrations	4.18
Viability studies	4.18
Facilitating market access	4.16
Farm Impact studies	4.14
Business plan development/evaluation	4.14
Trade analysis	4.10
Facilitating access to finance	4.08
Economic modelling and policy analysis	4.01
Demographic or labour market analysis	3.79
Read journal or newspaper/magazine articles published by WCDoA	3.77
Empowerment/ transformation advice	3.71
Listened to talks by WCDoA	3.69

Figure 9-19 2016 User survey: Average level of importance of, and satisfaction with, WCDoA Programme 6 AE services

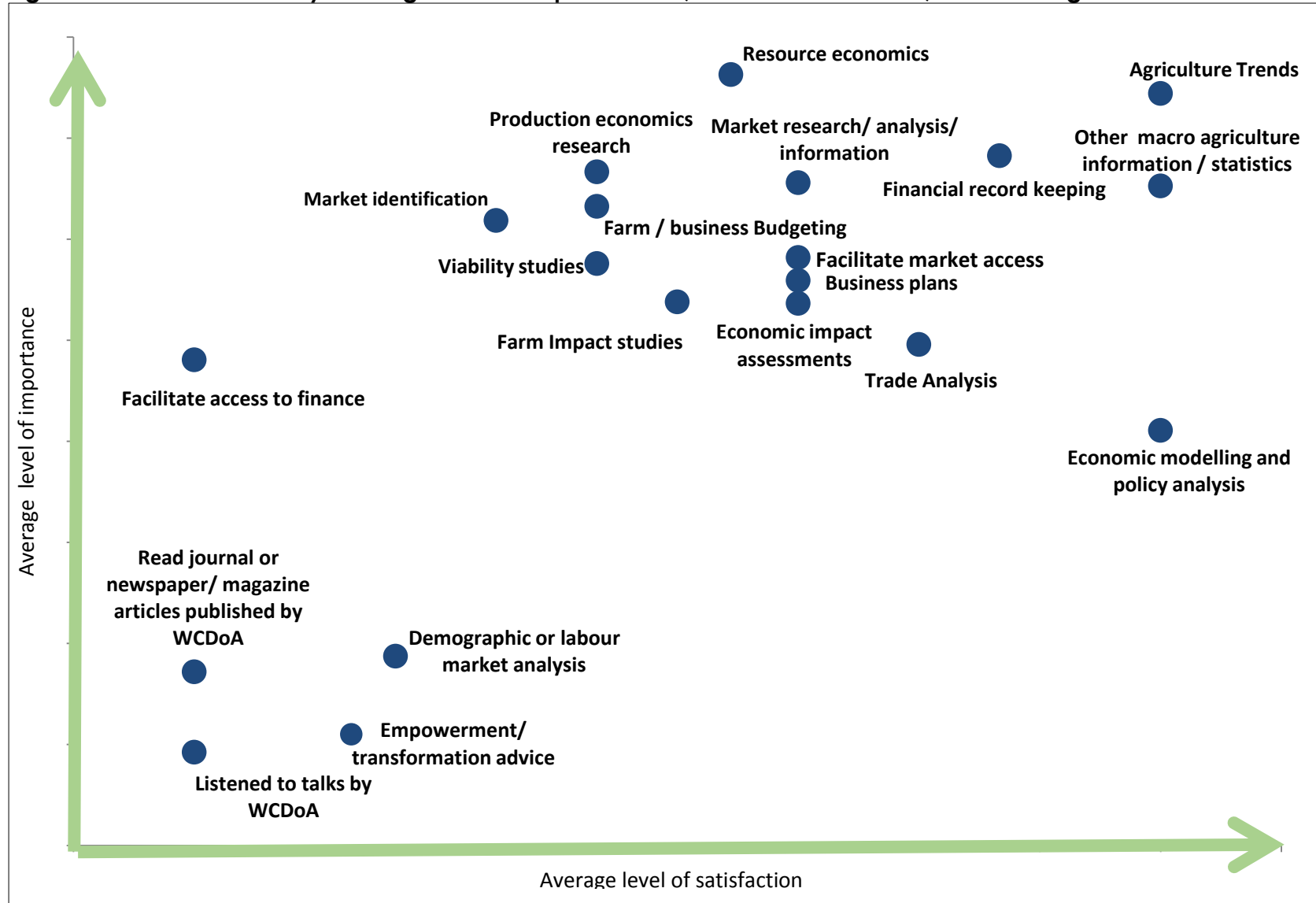


Table 9-6 2016 User survey of Commercial farmers 6 most important AE Services and their average level of satisfaction

Type of AE Service	WCDoA AE Services: Average Level of Satisfaction (5 = very satisfied, 4 = satisfied, 3 = neither satisfied or unsatisfied; 2 = unsatisfied)	WCDoA AE Services: Average Level of Importance (5 = very important, 4 = important, 3 = neither important or unimportant; 2 = unimportant)
Resource economics	4.00	4.41
Facilitating market access	2.43	4.30
Market identification	2.70	4.29
Economic impact assessments	4.00	4.23
Production economics research	3.86	4.18
Financial record keeping/statements or Business compliance/legal registrations	3.33	4.15

Table 9-7 User survey of Emerging farmers: 13 most important AE Services and their average level of satisfaction

Type of AE Service	WCDoA AE Services: Average Level of Satisfaction (5 = very satisfied, 4 = satisfied, 3 = neither satisfied or unsatisfied; 2 = unsatisfied)	WCDoA AE Services: Average Level of Importance (5 = very important, 4 = important, 3 = neither important or unimportant; 2 = unimportant)
Production economics research	4.00	4.73
Financial record keeping/statements or Business compliance/legal registrations	4.00	4.73
Economic impact assessments	4.00	4.64
Farm/business Budgeting	4.00	4.64
Agriculture trends	4.00	4.60
Other macro agriculture information/statistics	4.00	4.60
Economic modelling and policy analysis	4.00	4.56
Facilitating access to finance	1.25	4.55
Market research/analysis/information	1.00	4.50

Viability studies	2.50	4.50
Facilitating market access	1.00	4.45
Market identification	2.00	4.45
Business plan development/evaluation	2.40	4.45

Table 9-8 User survey: Most important AE Services for commercial farmers and emerging and subsistence farmers

WCDa AE Services	Commercial farmers level of importance (5 = very important, 4 = important, 3 = neither important or unimportant; 2 = unimportant)	Emerging and subsistence farmers: level of importance (5 = very important, 4 = important, 3 = neither important or unimportant; 2 = unimportant)
Resource economics	1	
Facilitating market access	2	
Market identification	3	
Economic impact assessments	4	3
Production economics research	5	1
Financial record keeping/statements or Business compliance/legal registrations		2
Farm/business budgeting		4
Agriculture trends		5

Figure 9-20 2016 User survey: Average level of satisfaction for WCDa AE services for all users

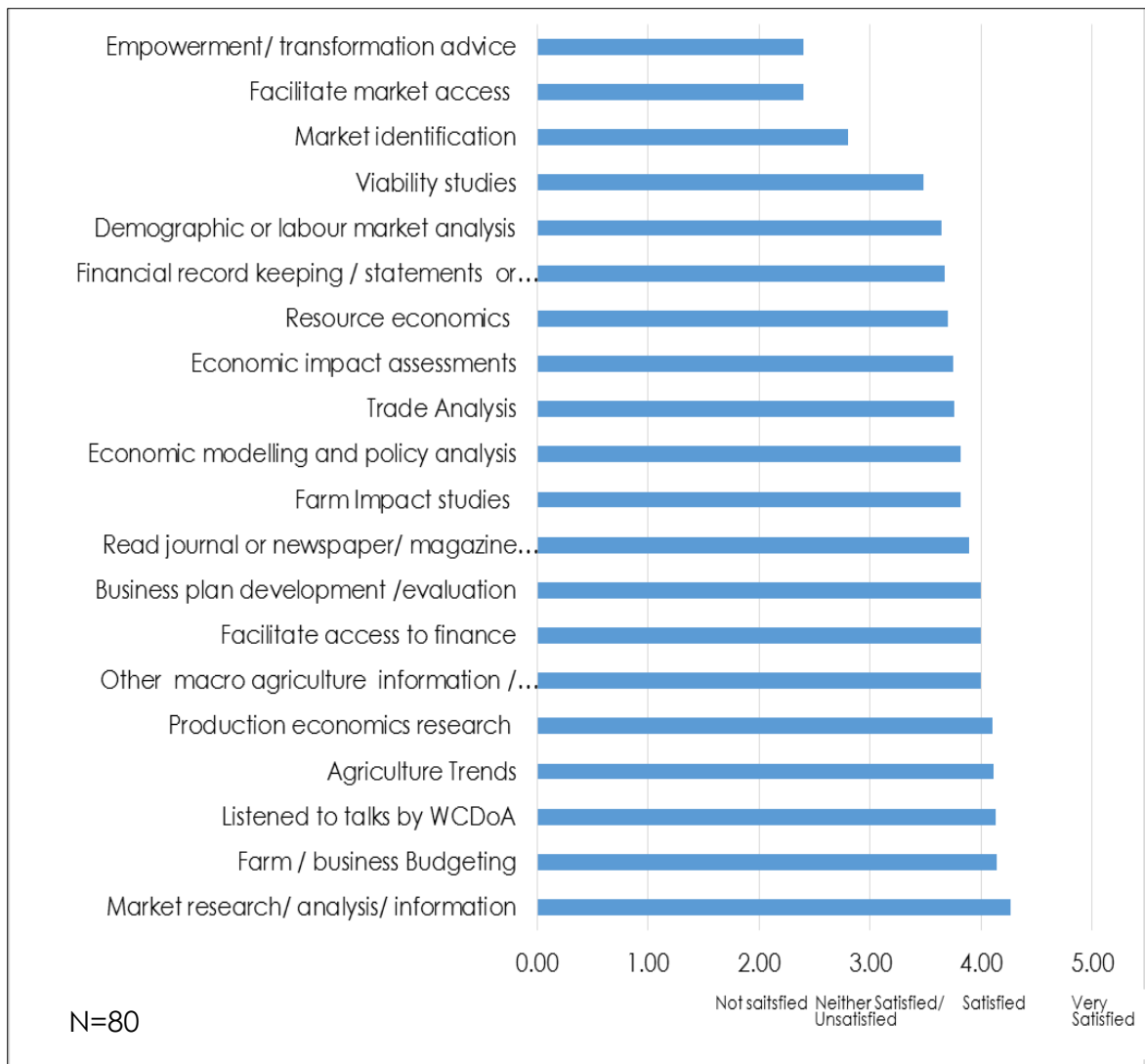


Figure 9-21 2016 User survey: Average level of satisfaction for WCDa AE services for commercial farmers

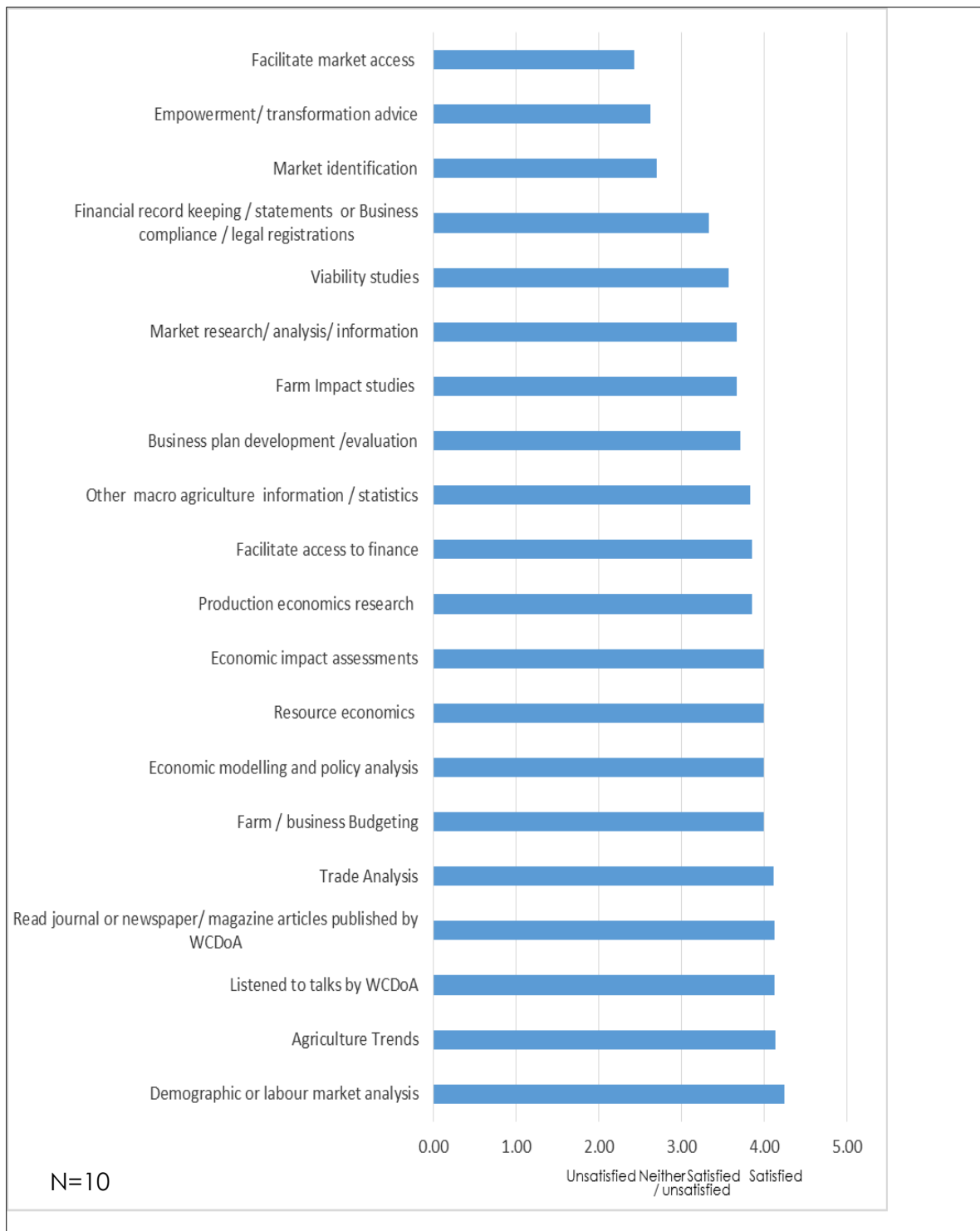


Figure 9-22 2016 User survey: Average level of satisfaction for WCDoA Service for non-farmer users

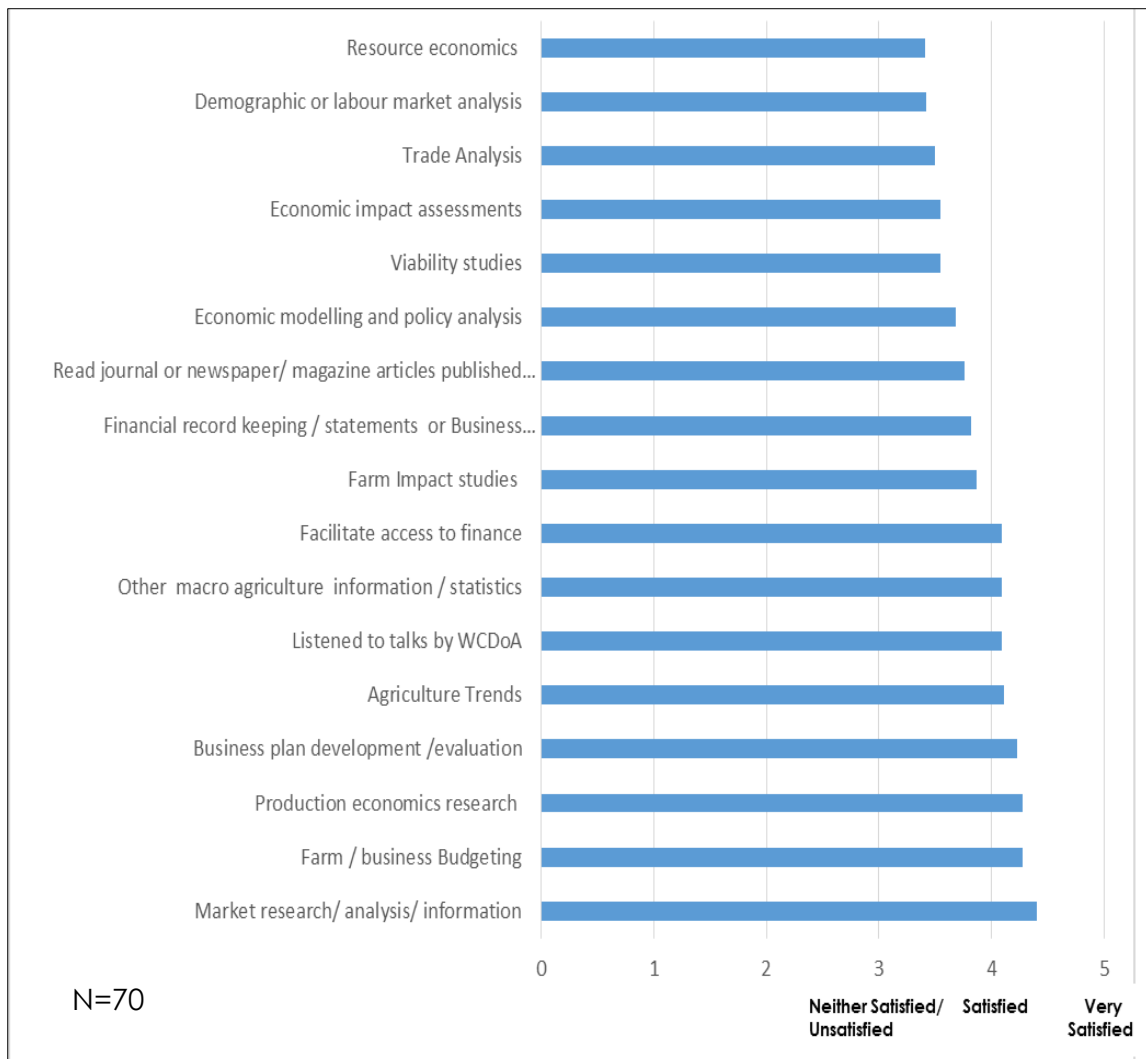


Figure 9-23 2016 User survey: Average time taken to receive WCDoA AE services after requesting the service

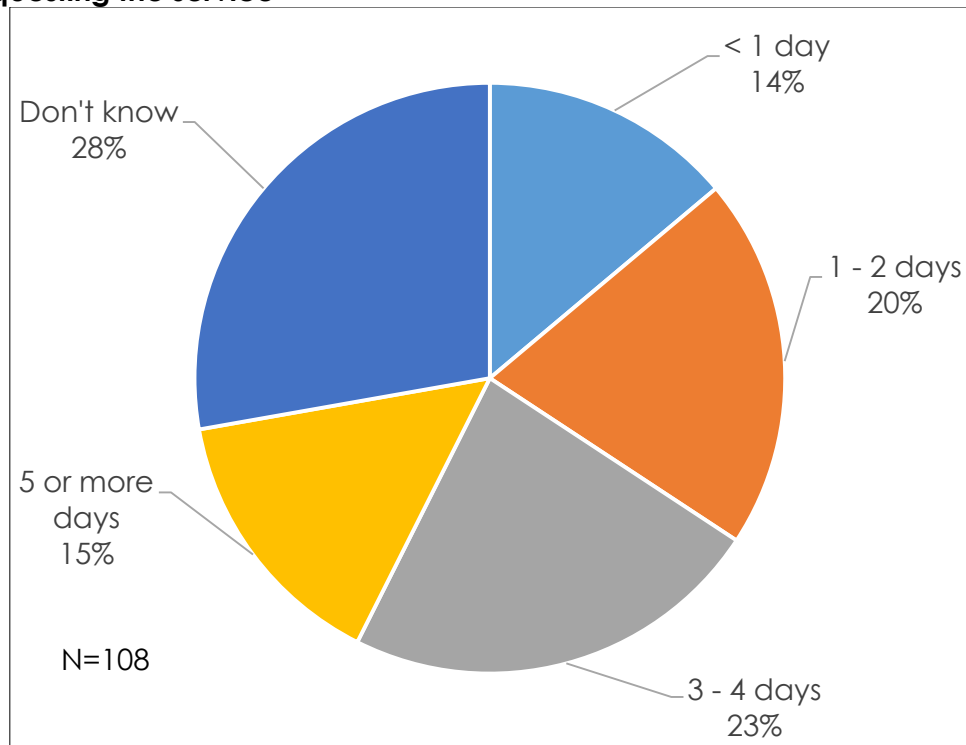


Figure 9-24 2016 User survey: Willingness to use WCDoA AE services in future by type of user

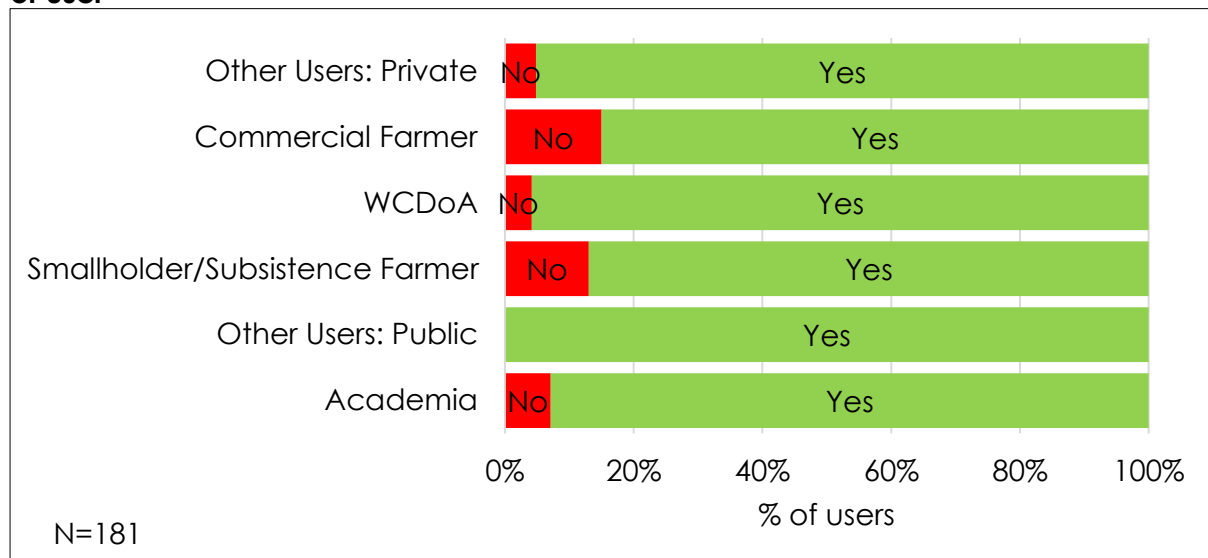


Figure 9-25 2016 User survey: Not willing to use WCDoA AE services in future by user type

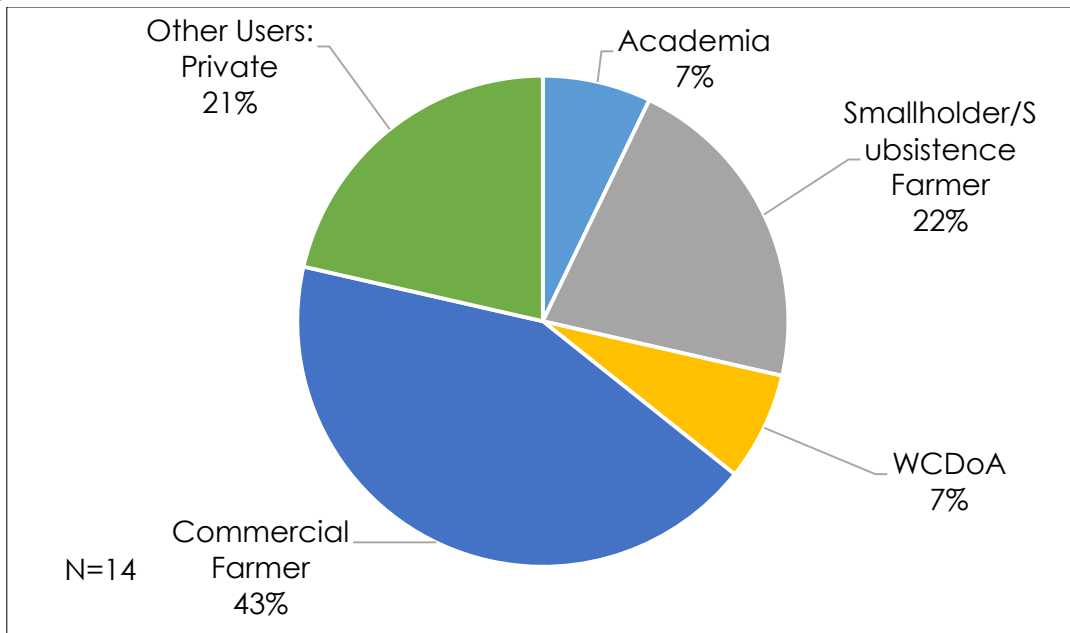


Figure 9-26 2016 User survey: Did you/your organisation experience any benefits as a direct result of receiving AE services from the WCDoA in the past?

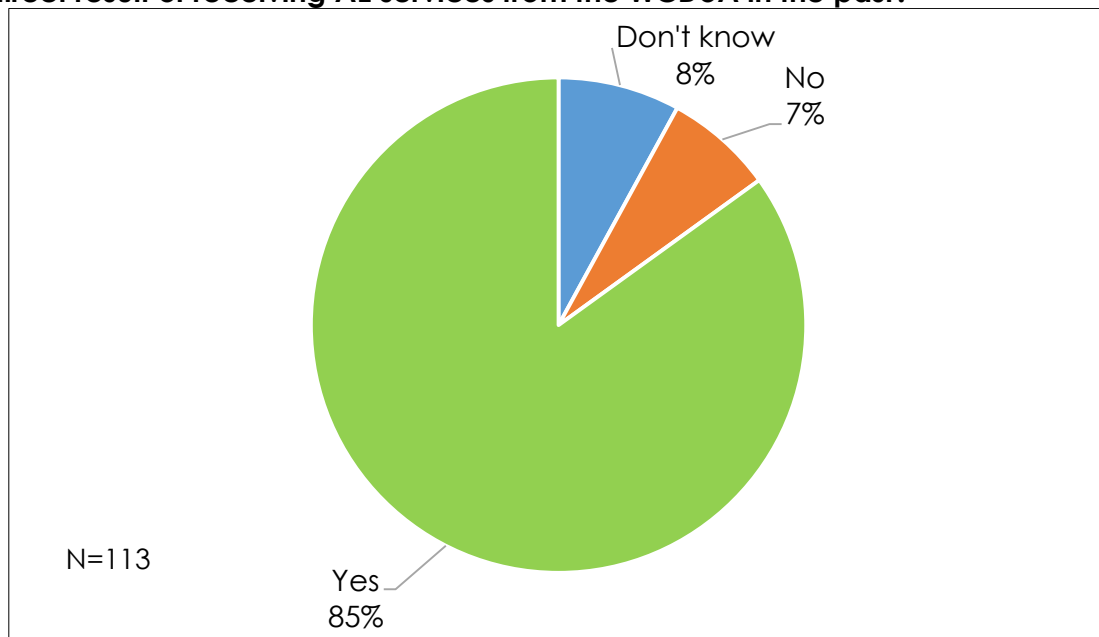


Figure 9-27 2016 User survey: What benefits did your organisation experience as a direct result of receiving AE Services from the WCDoA in the past?



Figure 9-28 2016 User survey: Benefits organisations experienced as a direct result of receiving AE Services from the WCDoA in the past by type of user

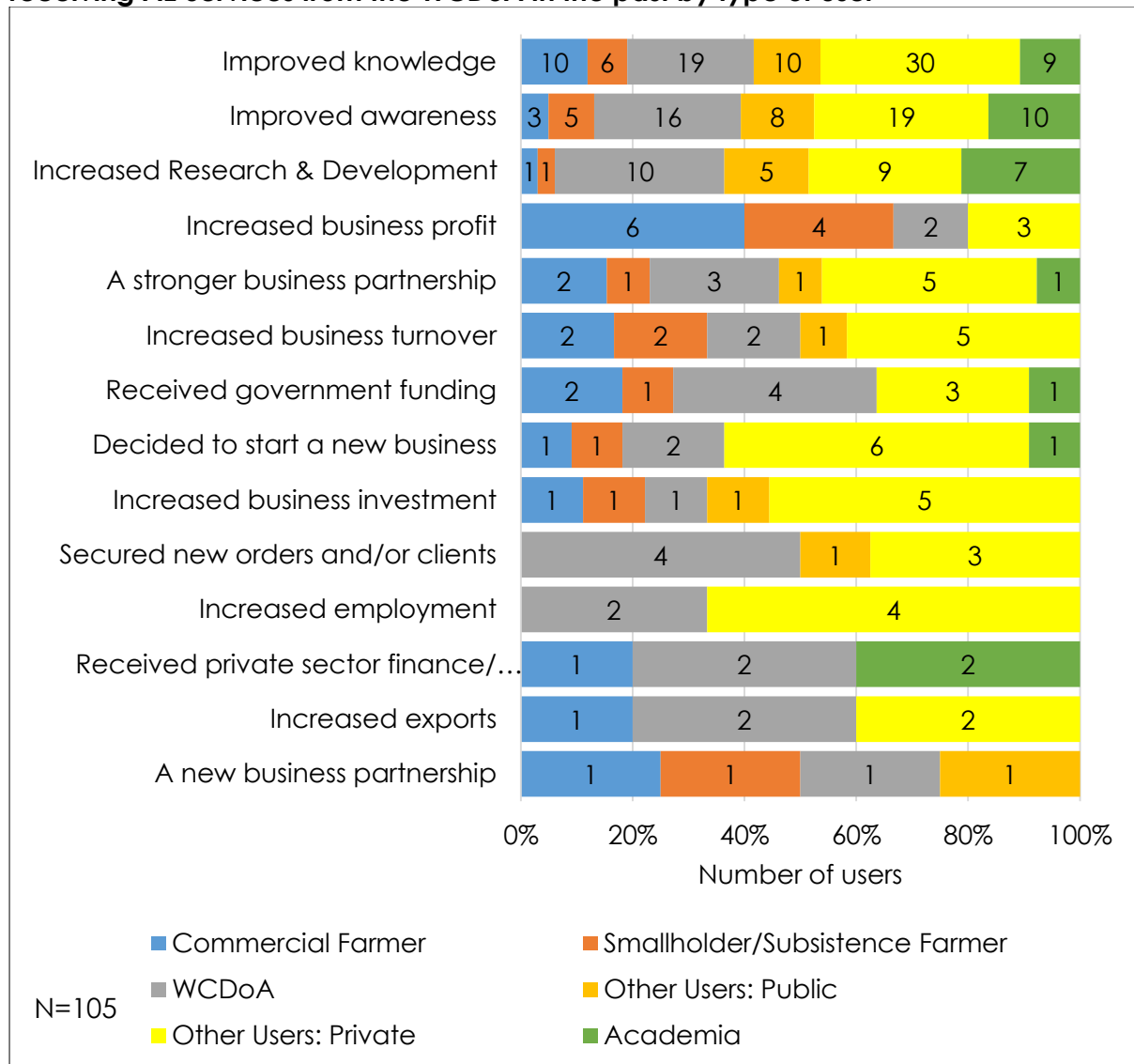


Figure 9-29 2016 User survey: Did you/your organisation experience any negative impacts as a direct result of receiving AE services from the WCDoA in the past?

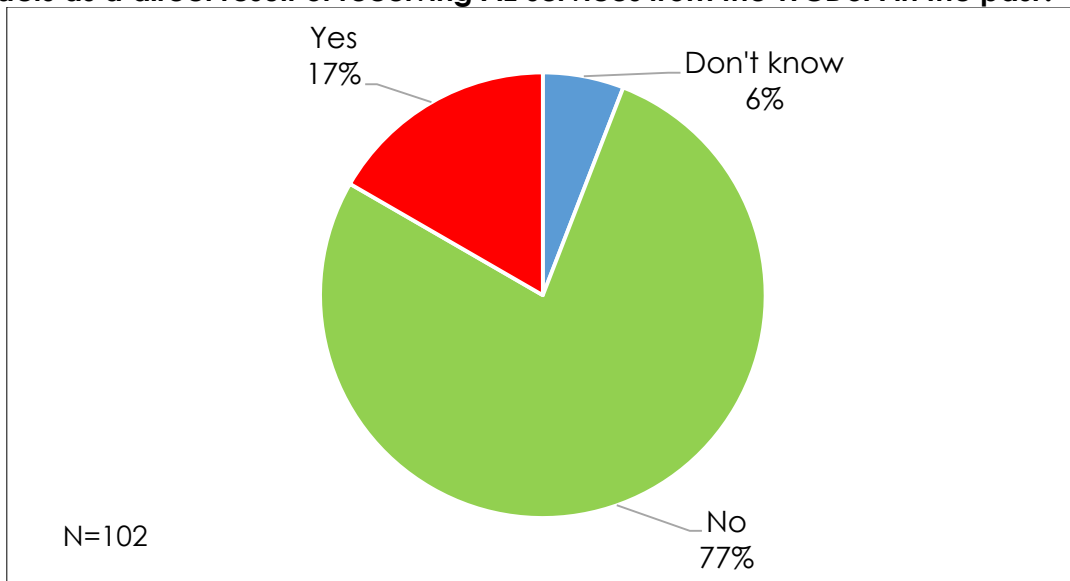


Figure 9-30 2016 User survey: Types of negative impacts experienced as a direct result of receiving WCDoA AE services

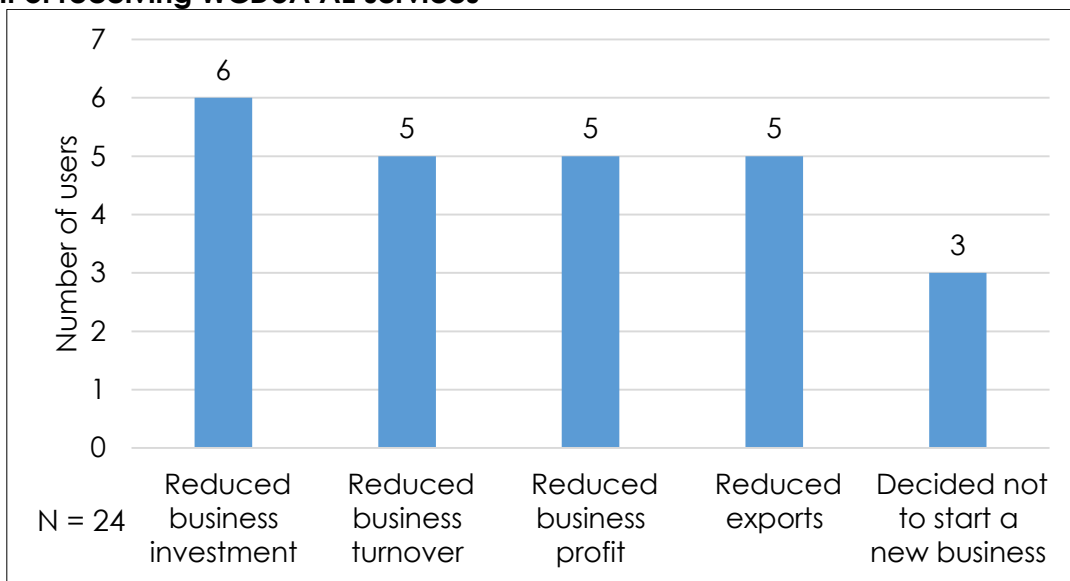
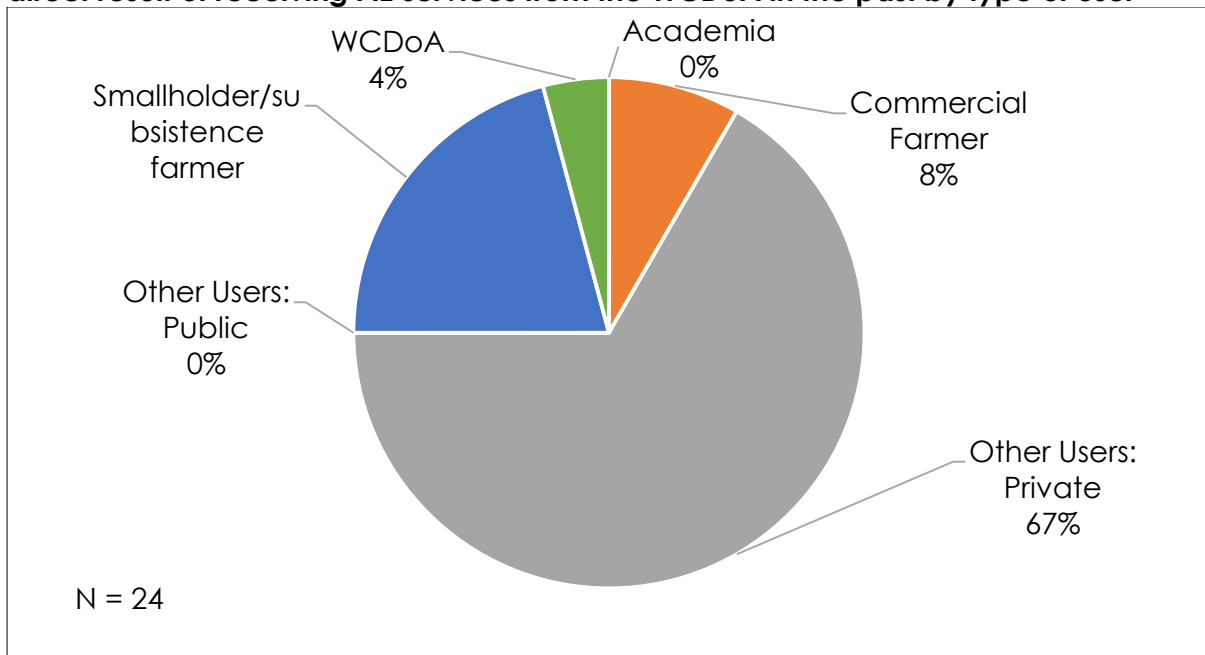


Figure 9-31 2016 User survey: Organisations experiencing any negative impacts as a direct result of receiving AE services from the WCDoA in the past by type of user



Survey of Current and Past WC AE services Programme Staff

Respondent Profile

Figure 9-32 2016 Staff survey: Age profile of respondents

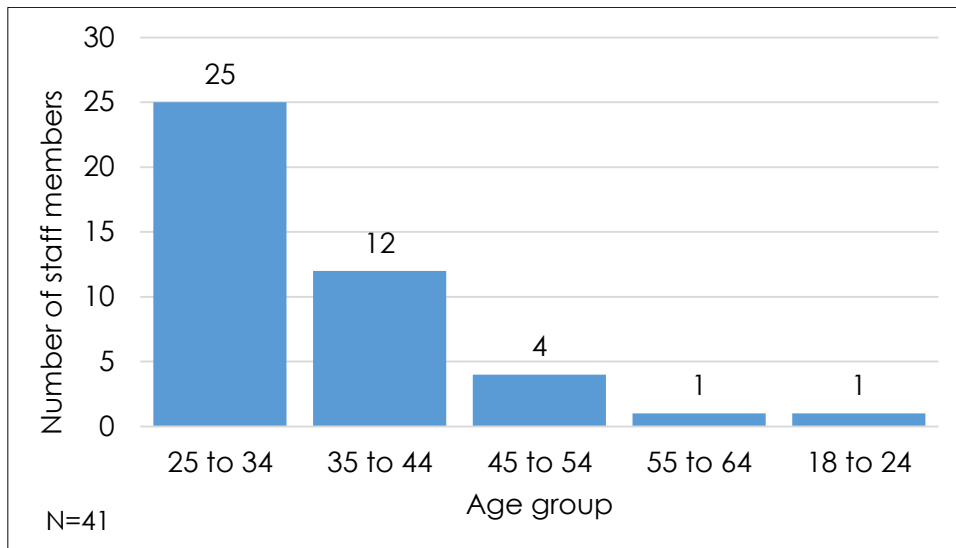


Figure 9-33 2016 Staff survey: Programme 6 current or last job titles of respondents

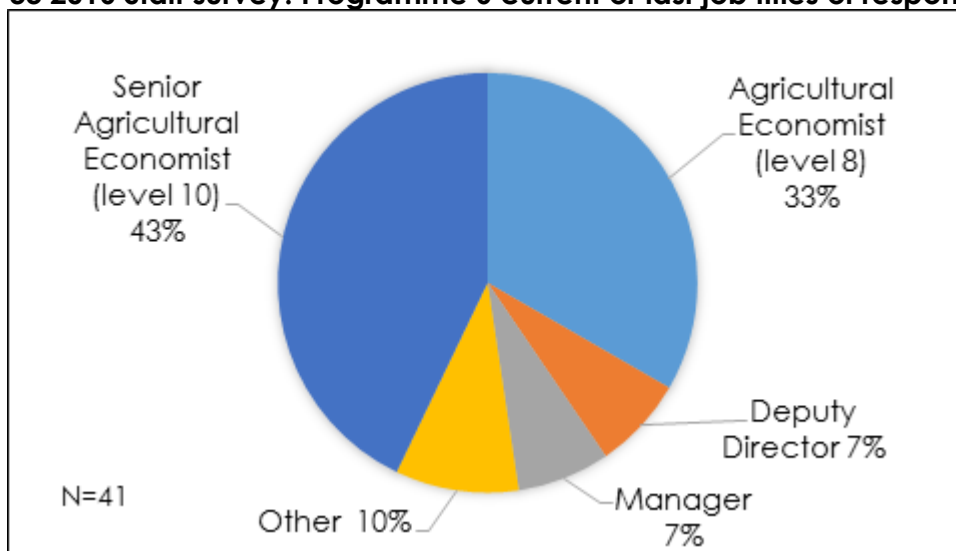


Figure 9-34 2016 Staff survey: Years of total work experience

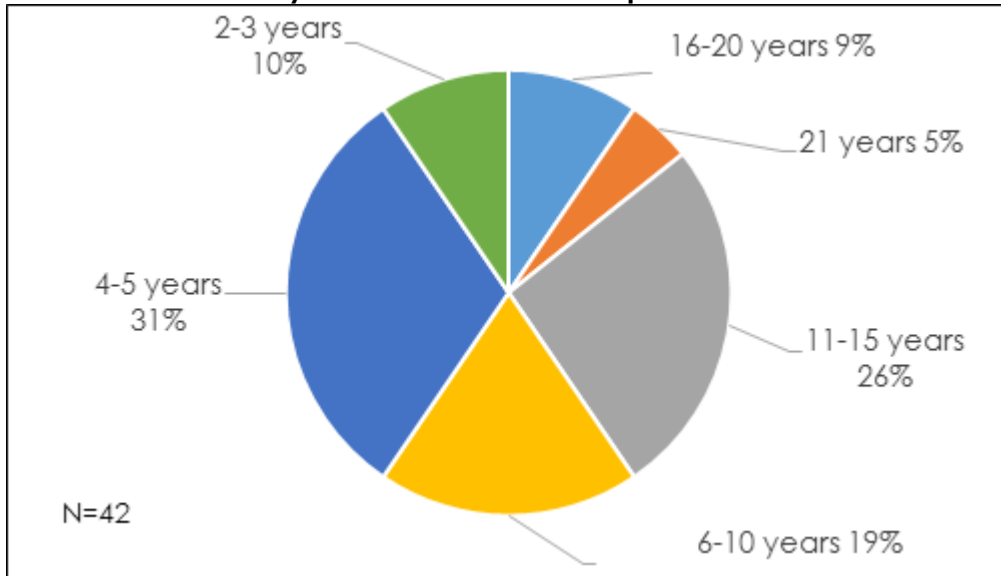
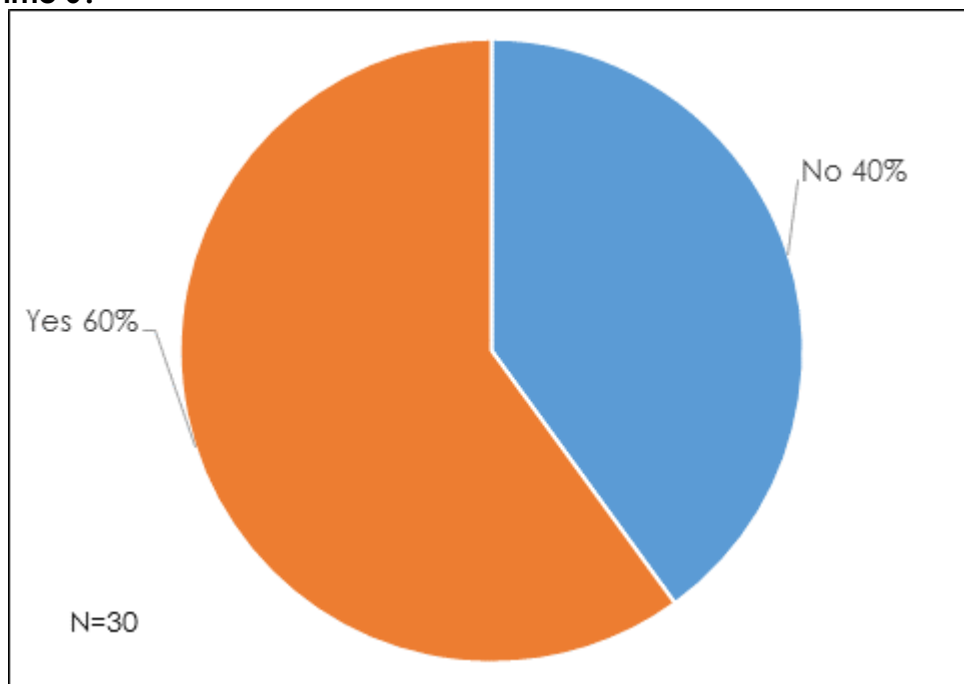


Figure 9-35 2016 Staff survey: Are you still currently employed by the WCDoA: Programme 6?



WCDoA Programme 6 Organisational Structure and HR Capacity Issues

Table 9-9 Selected Programme 6 organisational structure and HR capacity issues raised by WCDoA staff

Programme 6 and programme components	Selected HR capacity issues raised by WCDoA staff
Overall Programme 6	<p>Candidates in posts from level 8 upwards need to apply for higher level positions as there is no automatic progression.</p> <p>Economics is not defined as an Occupational Scarce Skill.</p> <p>There are limited career path advancement positions available above Level 10 SAE as there are only four level 12 positions in the programme. There are only two levels of Agricultural Economists (Level 8 and 10). This may contribute towards high staff turnover and staff leaving the Programme. There is a need to recognise that level 12 management positions are also needed for specialists.</p> <p>Occupational specialisation could be considered to allow for several grade levels for the same position and to create career development and mobility opportunities for people to move into new positions.</p>
Macro-economics support: statistics	<p>Over 200 databases are maintained and populated by 4 people, however, there are insufficient resources to make these databases more widely accessible. The statistics component only has one administrative support staff member.</p>
Macro-economics: modelling	<p>There is not an overall manager for this component. There is insufficient administrative support with no dedicated administrative support staff for the macro-economics component. This results in professional staff spending time unproductively on routine administrative tasks.</p>
Agri-business: marketing:	<p>There is not an overall manager for this component who can coordinate the inputs from various staff members. The manager resigned in November 2014 and funds are available, but the position has not yet been advertised (as of August 2016).</p>

Figure 9-36 2016 Staff survey: Are there sufficient numbers of the following staff in your sub programme component to meet the work load demand and expectations of your clients?

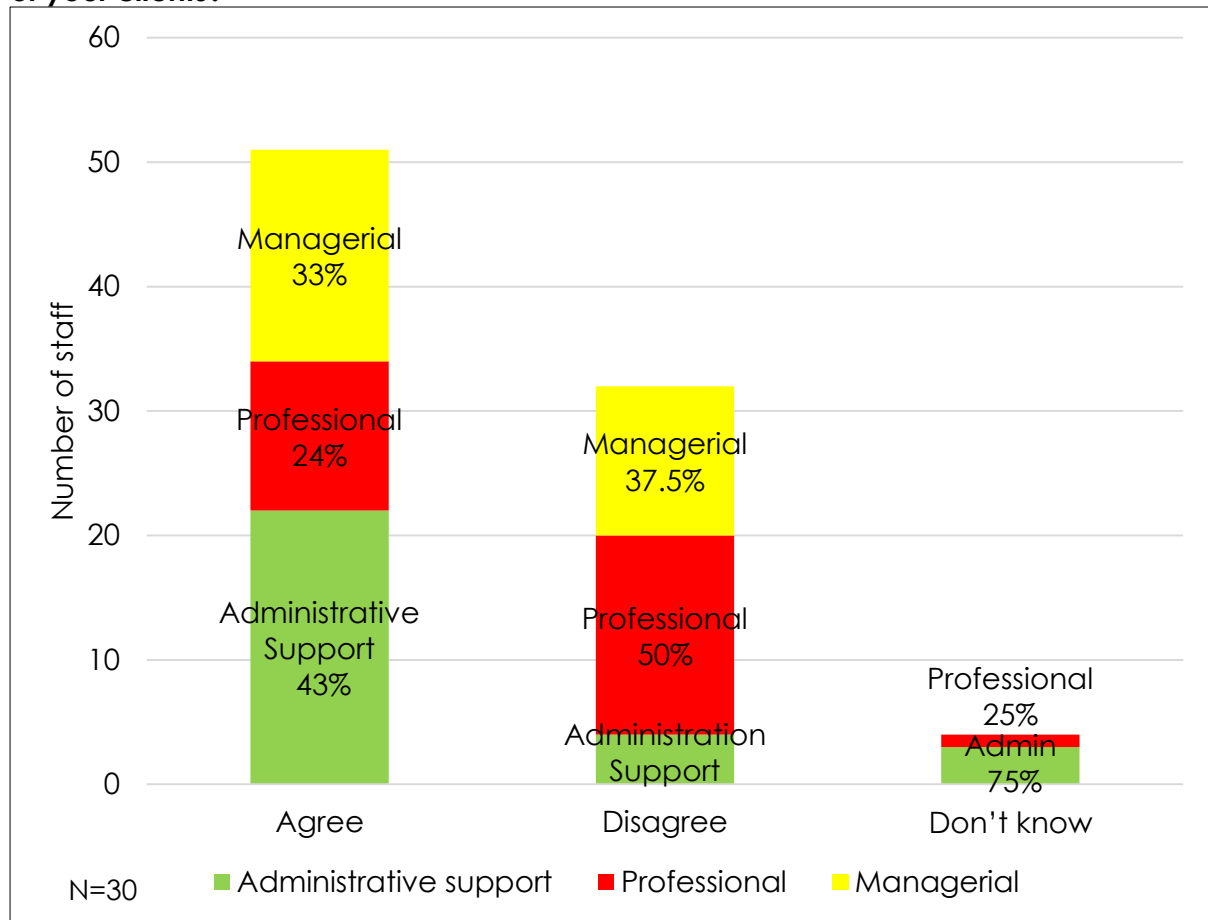


Figure 9-37 2016 Staff survey: Are there sufficient numbers of the following staff in your sub-Programme component to meet the work load demand and expectations of your clients?

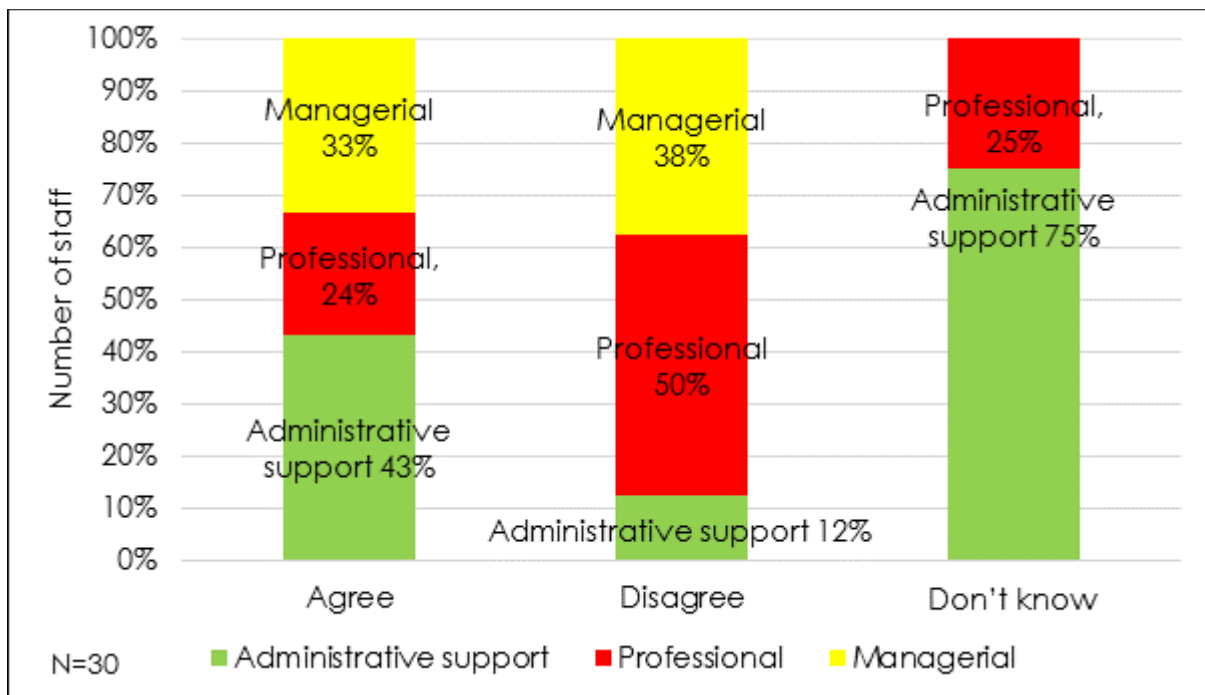


Figure 9-38 2016 Staff survey: Are there sufficient numbers of the following staff in your sub programme component to meet the work load demand and expectations of your clients: Agri-business Support: Production Economics?

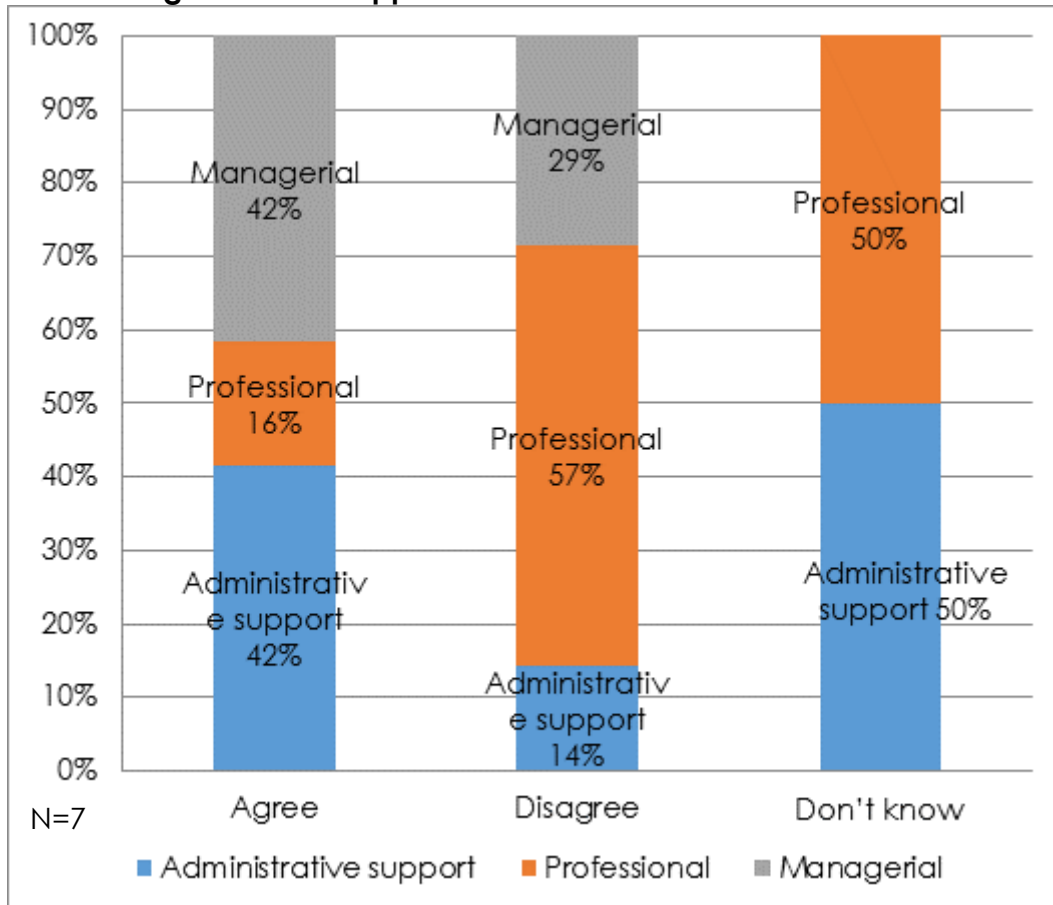


Figure 9-39 2016 Staff survey: Are there sufficient numbers of the following staff in your sub programme component to meet the work load demand and expectations of your clients: Agri-business Support: Marketing?

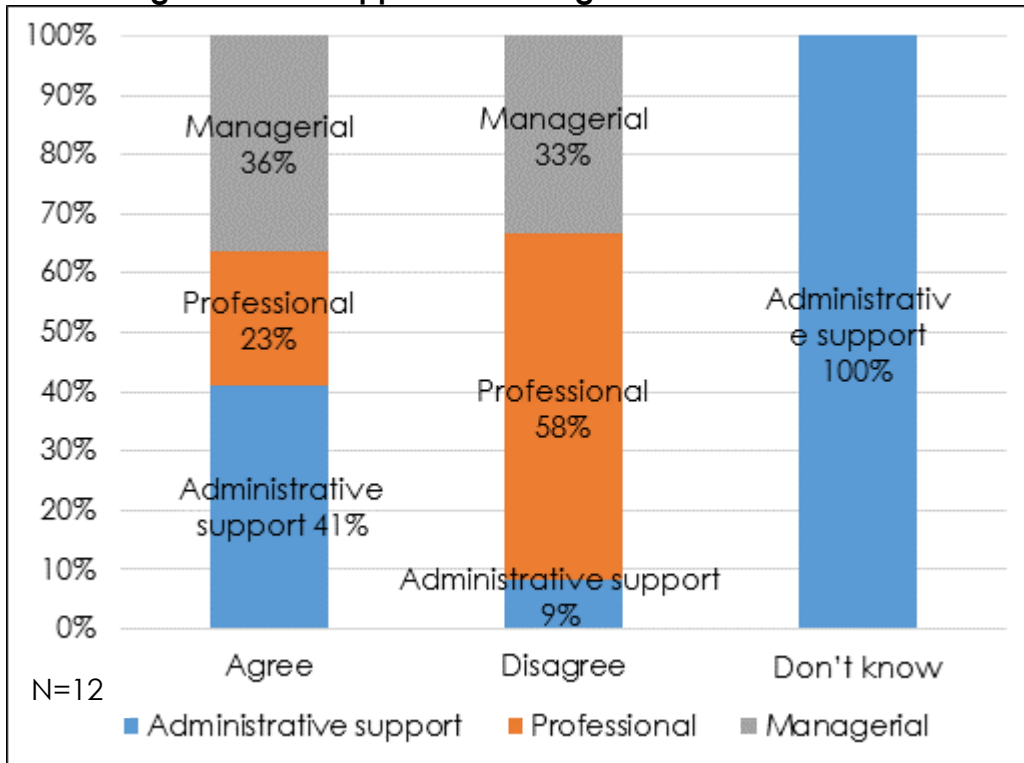


Figure 9-40 2016 Staff survey: Are there sufficient numbers of the following staff in your sub programme component to meet the work load demand and expectations of your clients: Macro-Economics Support: Macro and Resource Economics

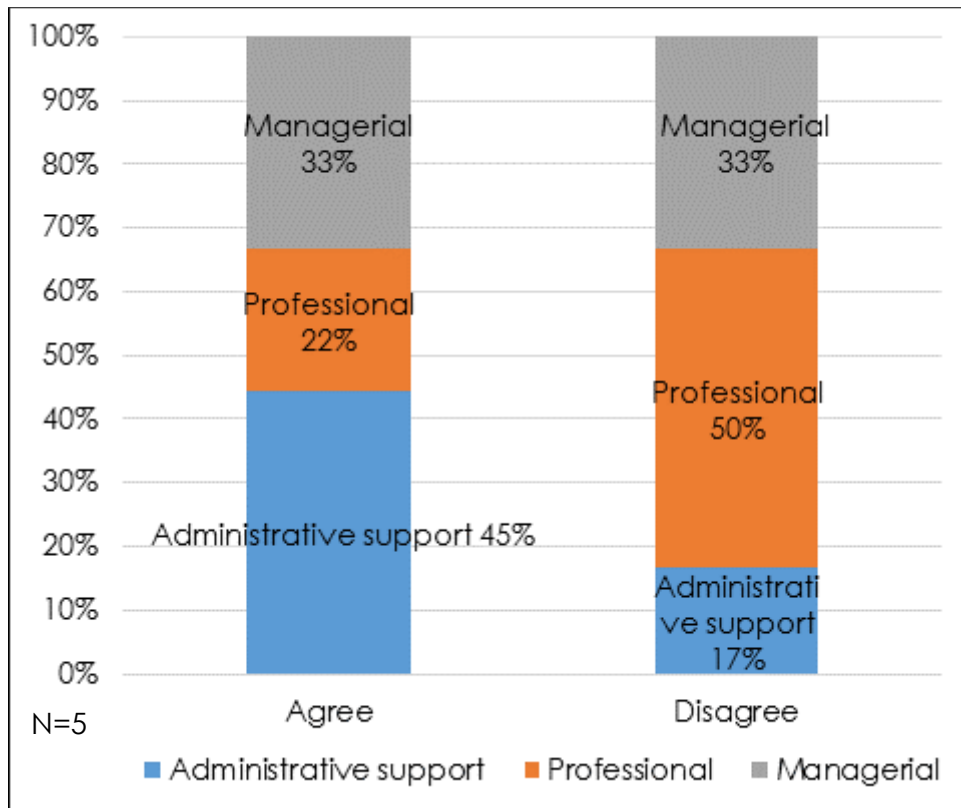


Figure 9-41 2016 Staff survey: Are there sufficient numbers of the following staff in your sub programme component to meet the work load demand and expectations of your clients: Macro-Economics Support: Statistics

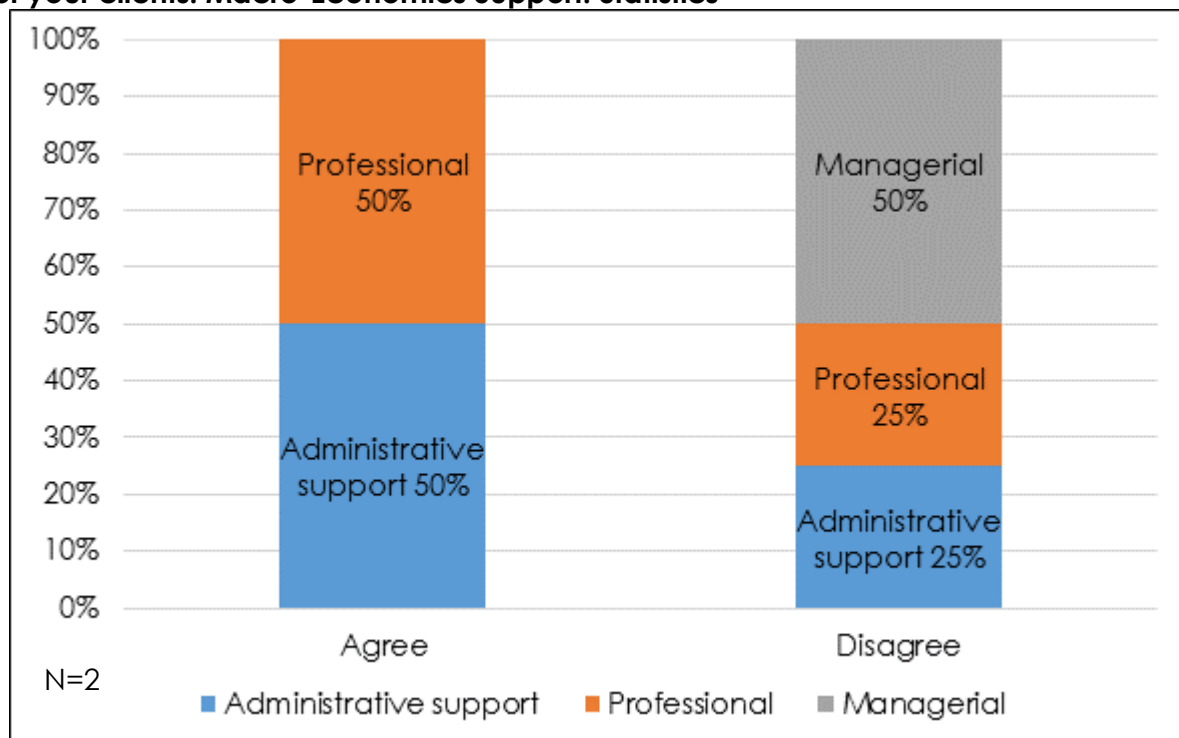


Figure 9-42 2016 Staff survey: Which of the following fields best describes the work that you currently do (or did when employed) at the WCDoA?

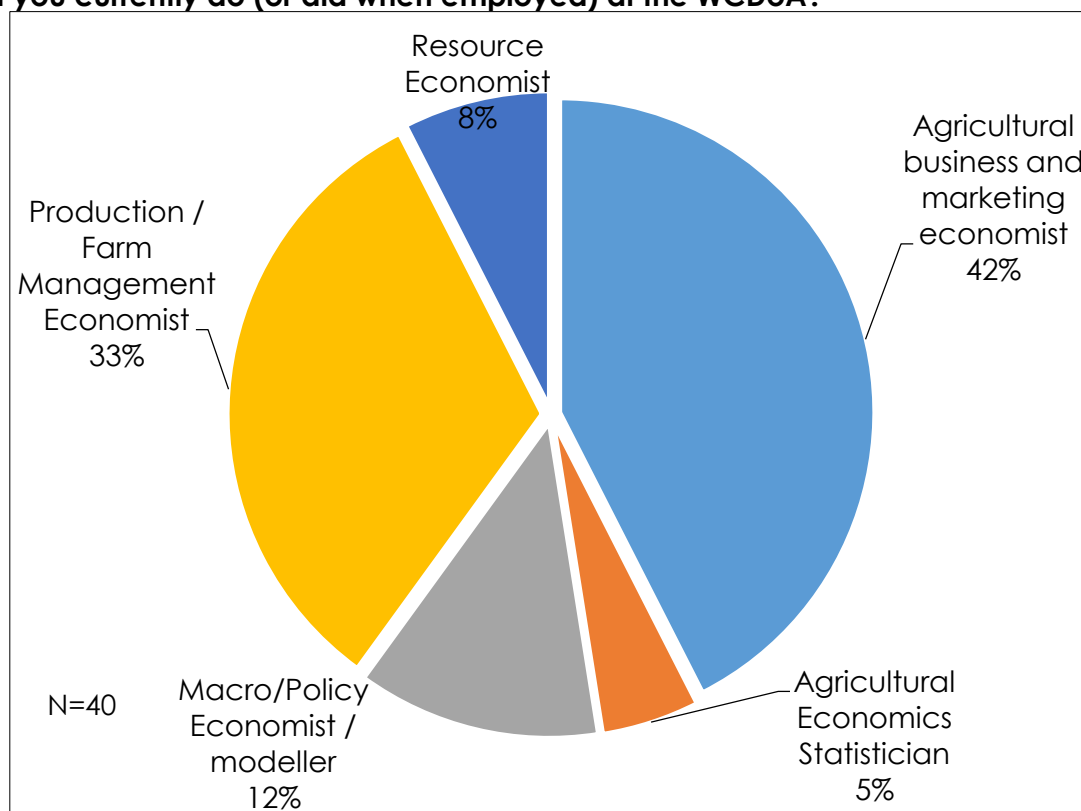
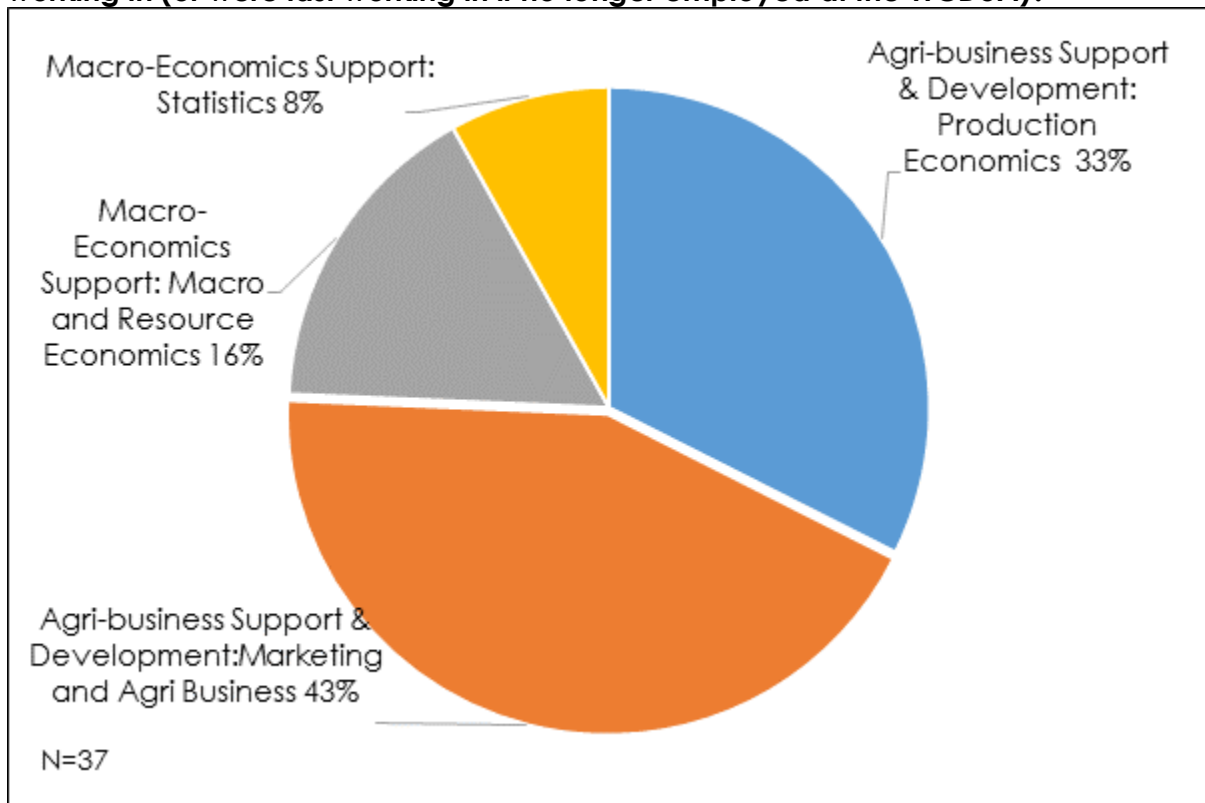


Figure 9-43 2016 Staff survey: Which programme component are you currently working in (or were last working in if no longer employed at the WCDoA)?



Programme staff career paths and salary dynamics

Figure 9-44 2016 Staff survey: Three main reasons staff originally chose to apply for a position in the WCDoA's Programme 6

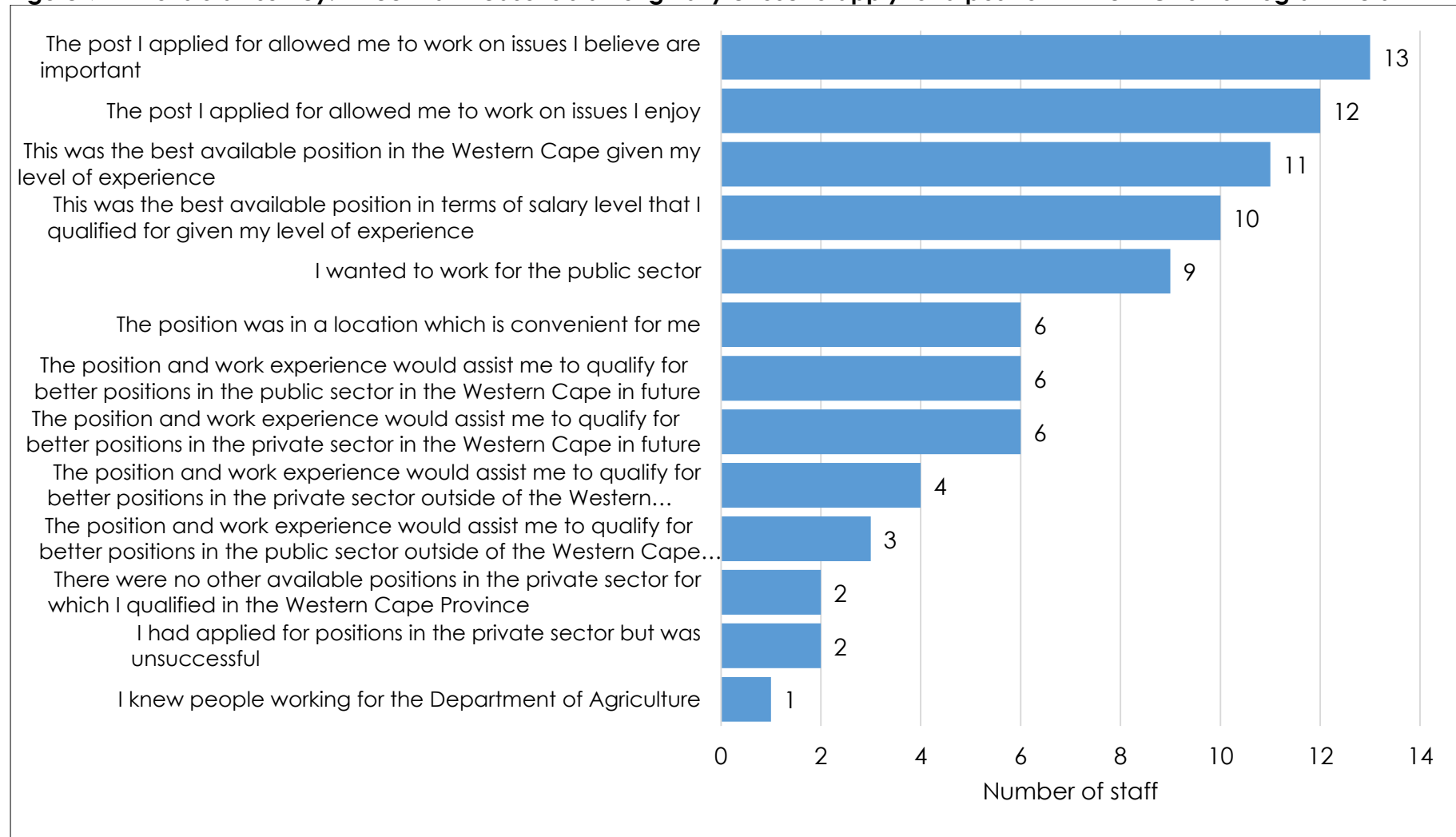


Figure 9-45 2016 Staff survey: Which organisation (if any) did you work for before you joined the WCDoA Programme 6?

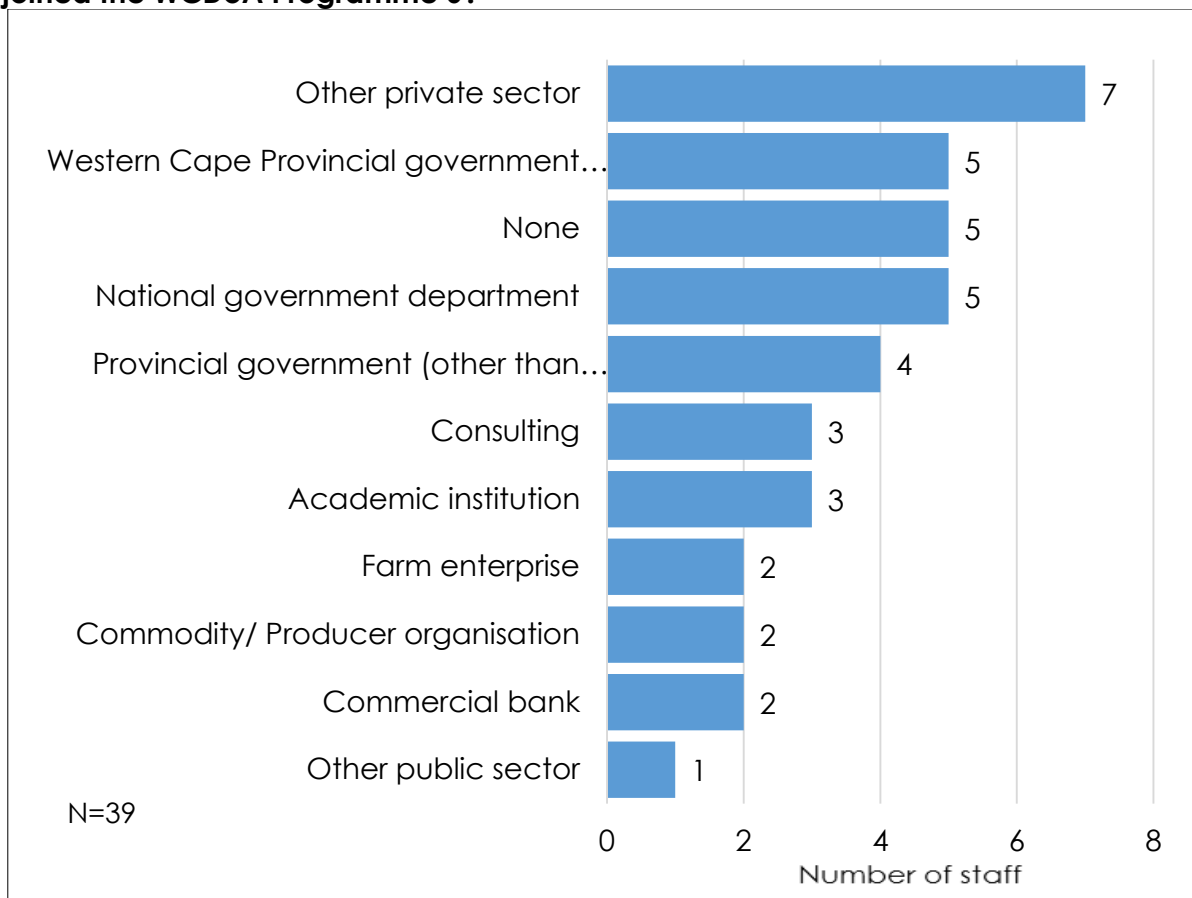


Figure 9-46 2016 Staff survey: Job title/position and level when you first joined Programme 6

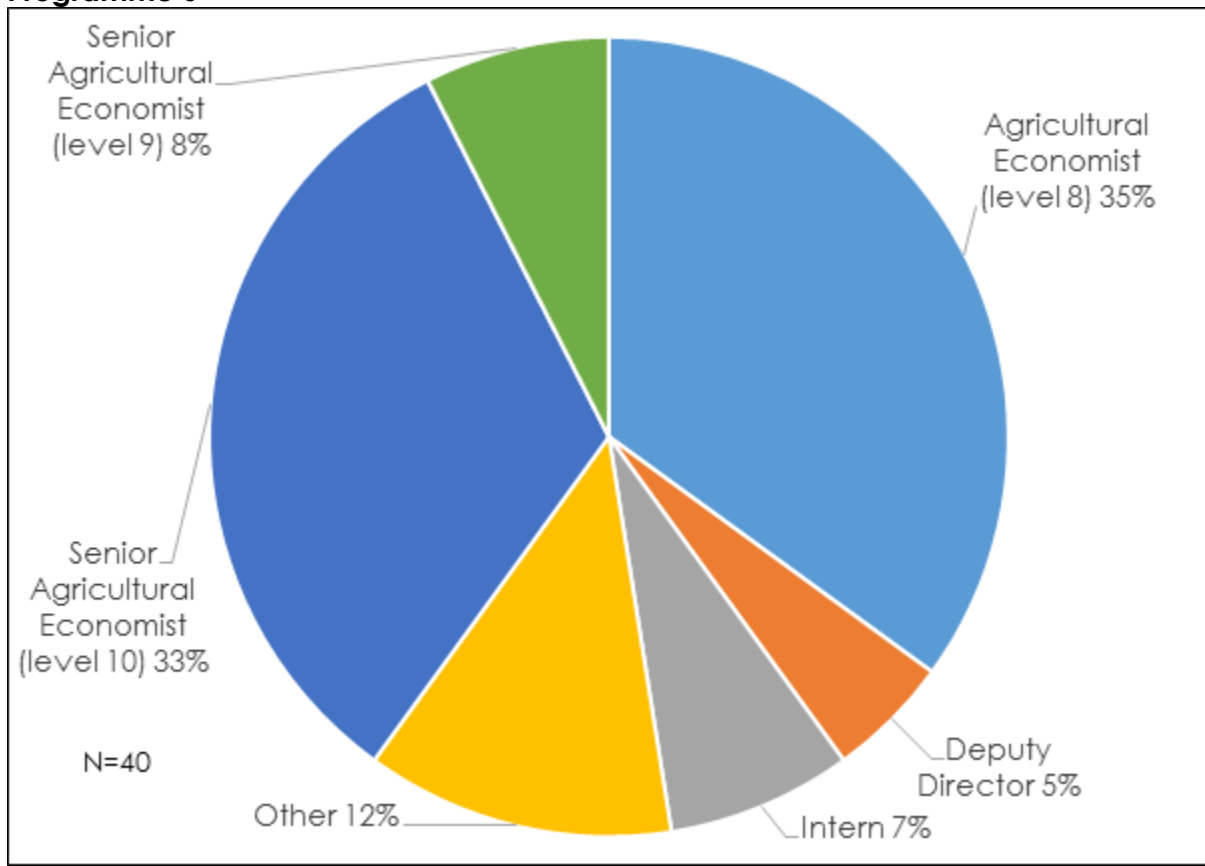


Figure 9-47 2016 Staff survey: What is your current job title/ position and level in Programme 6 (or your last title/ position/ level if you have since left Programme 6)?

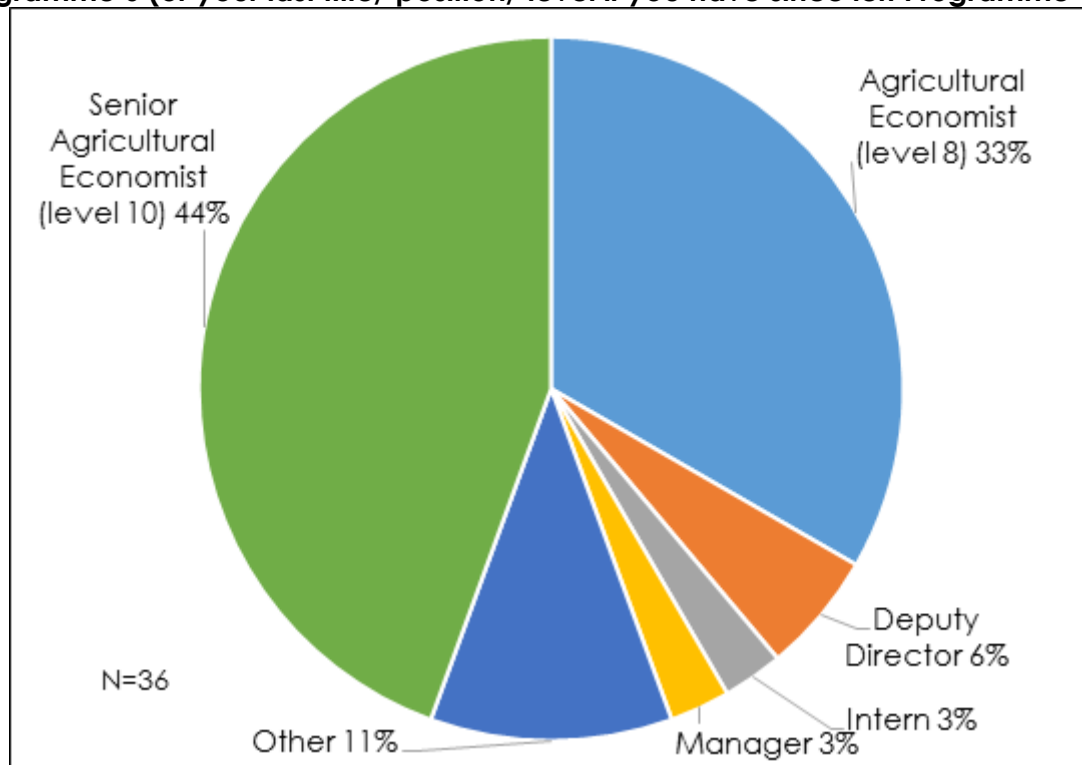


Figure 9-48 2016 Staff survey: Length of service before leaving WCDoA by year of leaving

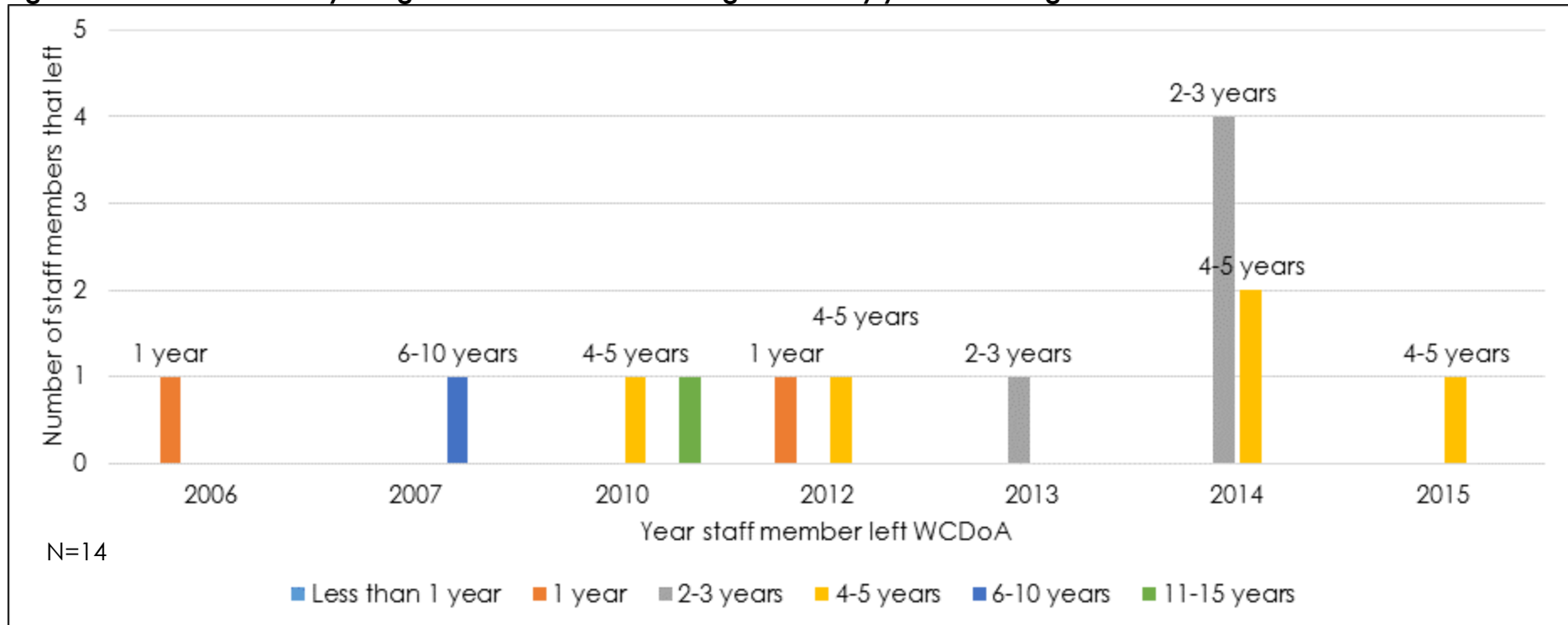


Figure 9-49 2016 Staff survey: If no longer work for WC Programme 6, are you currently working in the public or private sector?

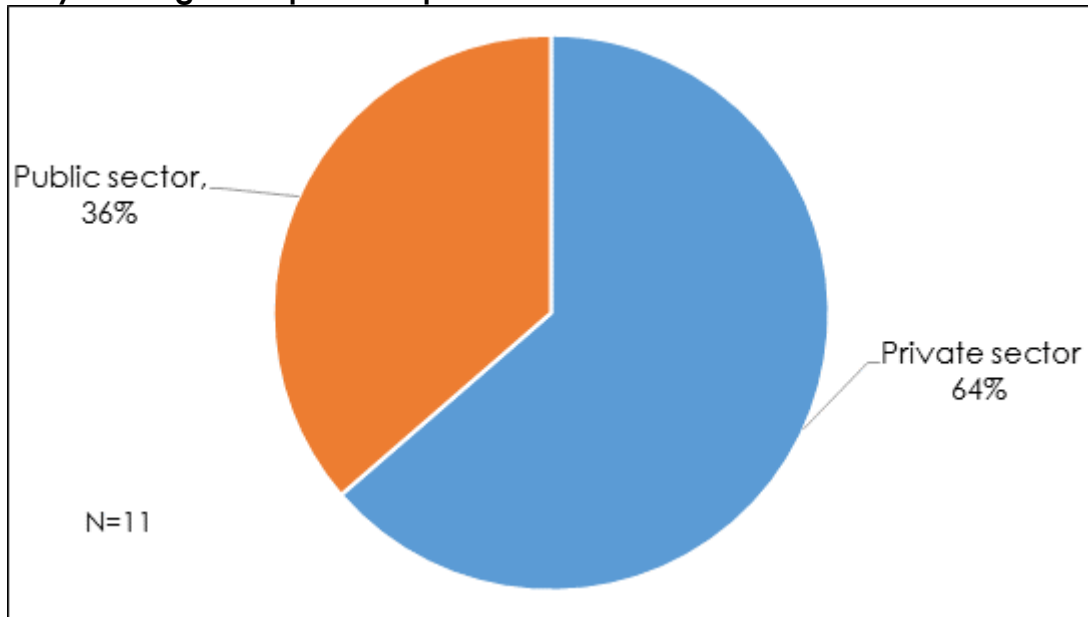


Figure 9-50 2016 Staff survey: Main reason for leaving the WCDoA Programme 6?

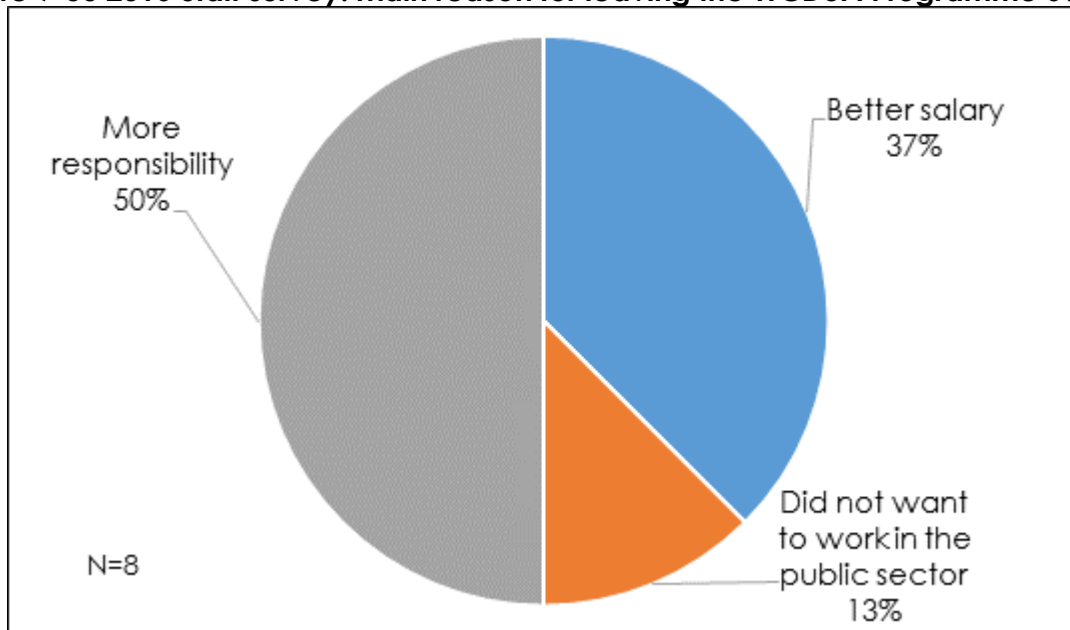


Figure 9-51 2016 Staff survey: How satisfied are (or were you just before you left) working in the WCDoA Programme 6?

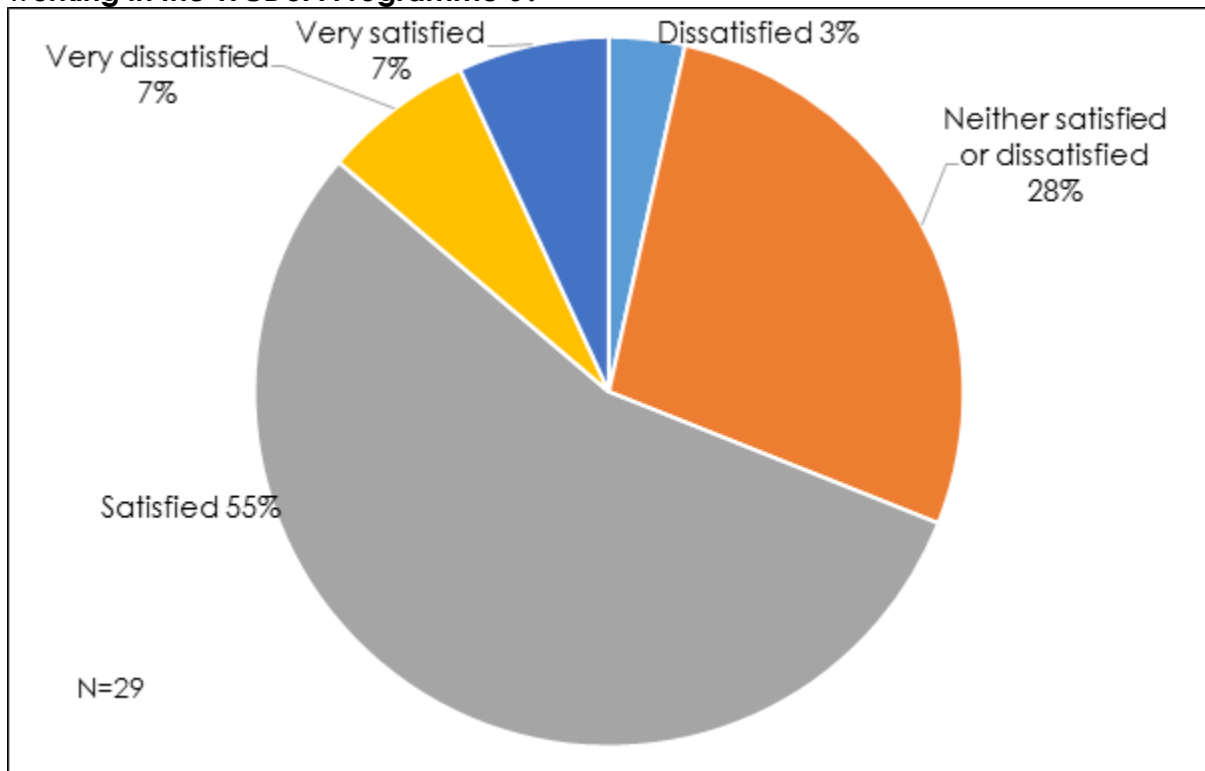


Figure 9-52 2016 Staff survey: if you are currently working for WCDoA Programme 6, How likely are you to be working there in 5 years' time?

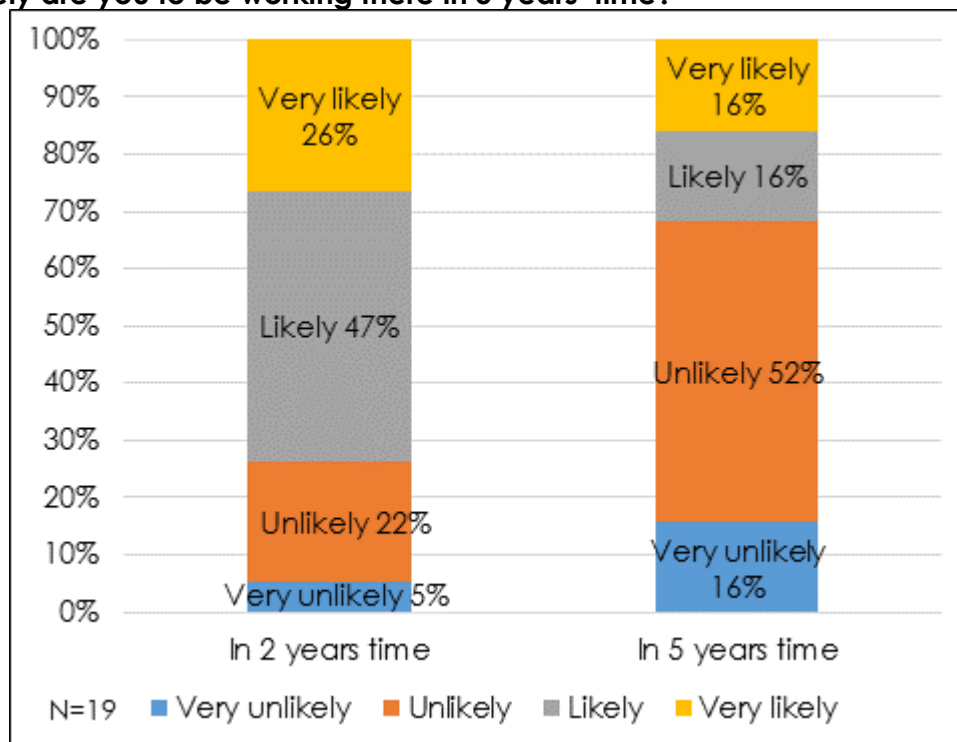


Figure 9-53 2016 Staff survey: If you are no longer employed under the WCDa AE Programme (Programme 6) what year did you leave?

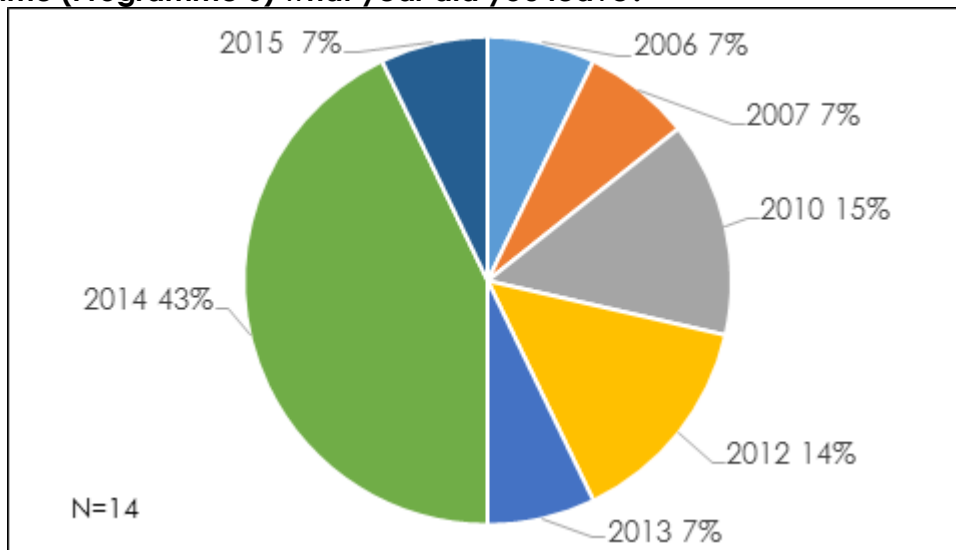


Figure 9-54 2016 Staff survey: Initial post when joining Programme 6 vs current post

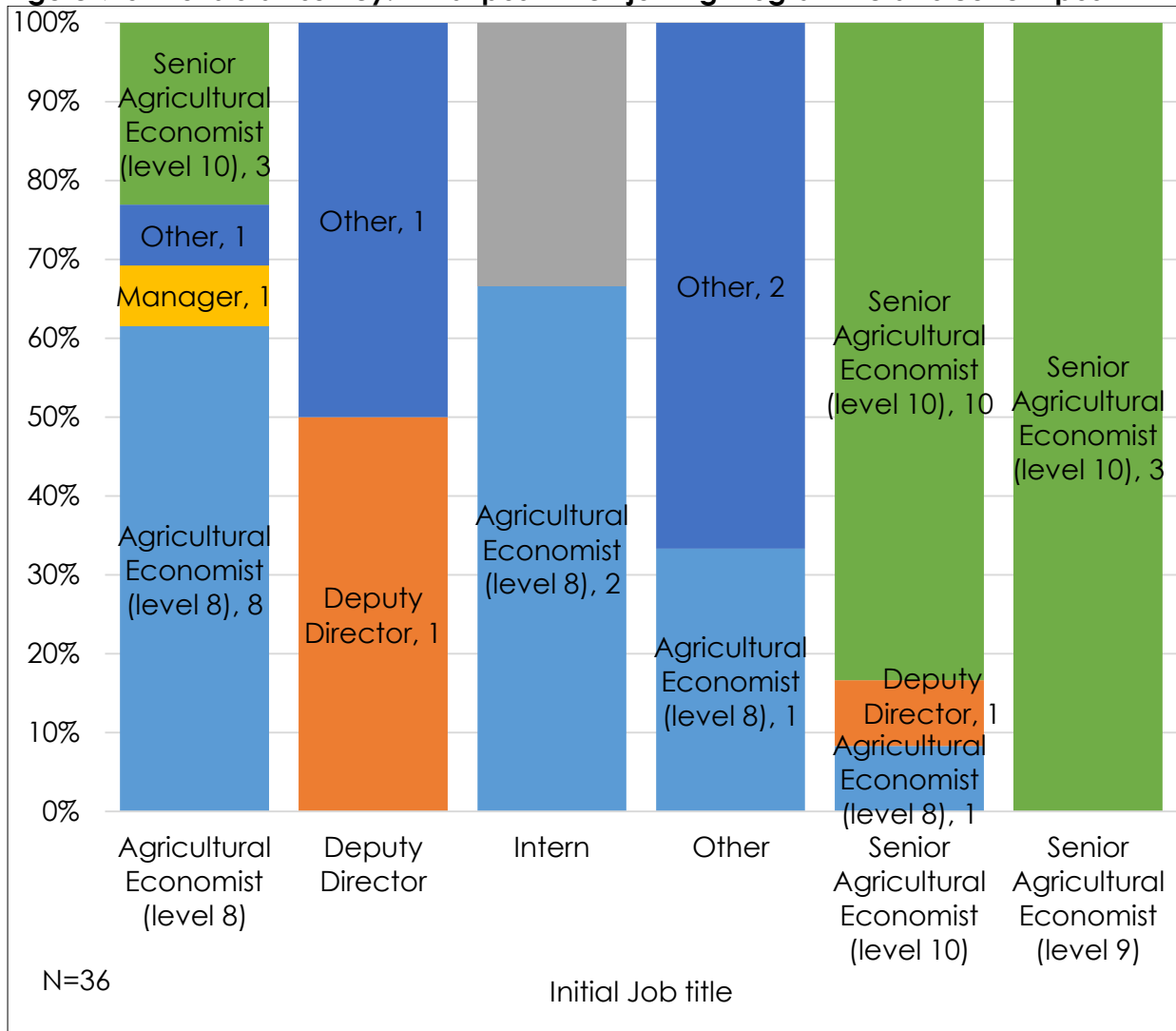


Figure 9-55 2016 Staff survey: If you were employed in a full time position before you joined the WCDOA's Programme 6, what was your total gross monthly salary at you last job?

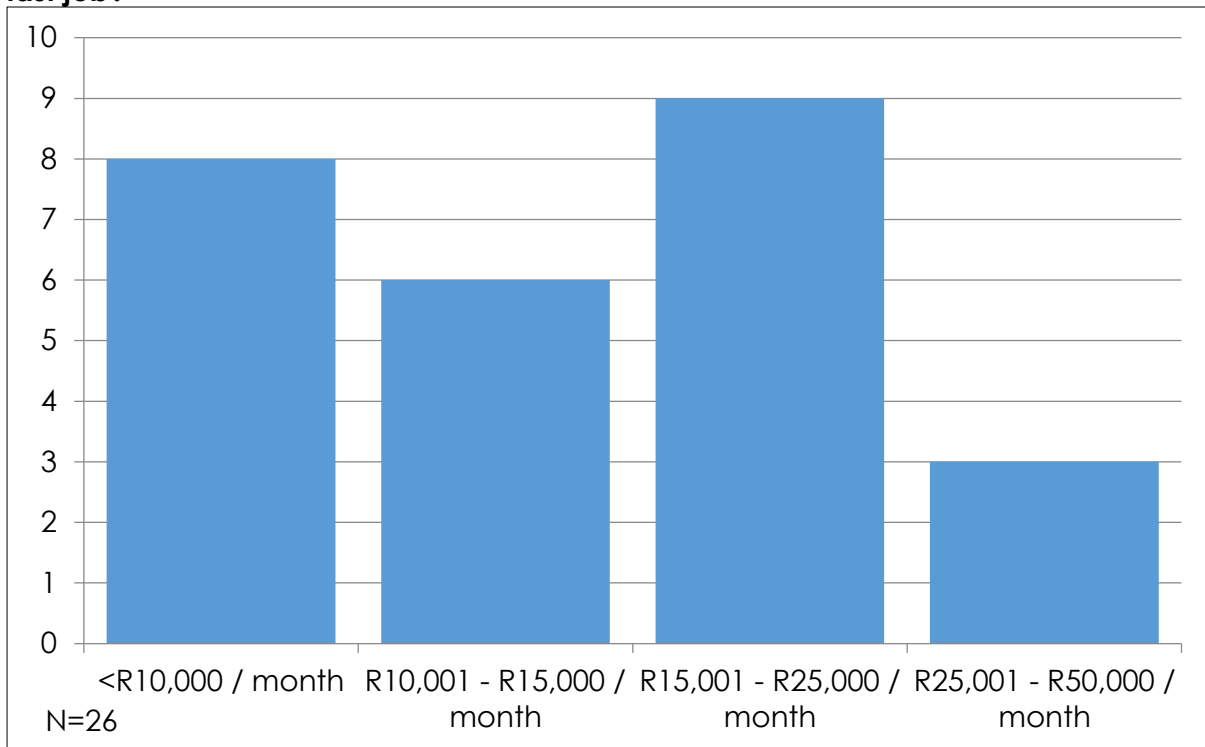


Figure 9-56 2016 Staff survey: Current gross monthly salary range

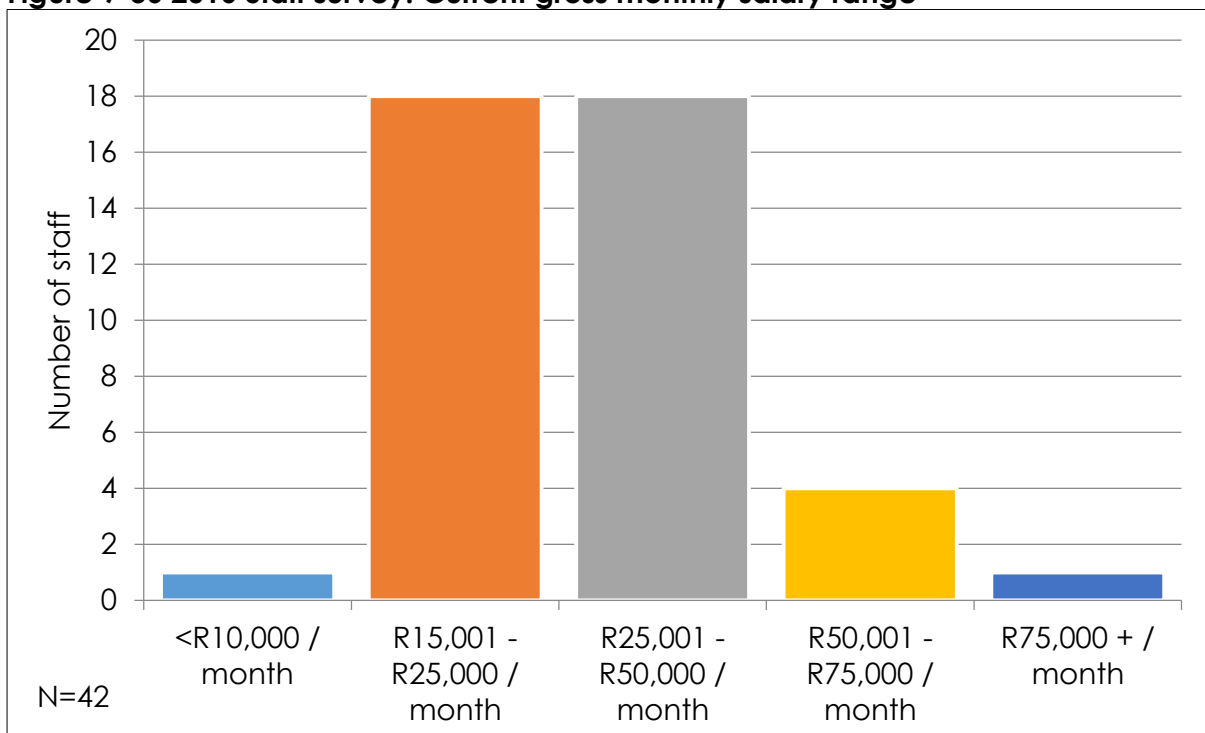


Figure 9-57 2016 Staff survey: Comparison of current staff previous gross monthly income to current gross monthly income

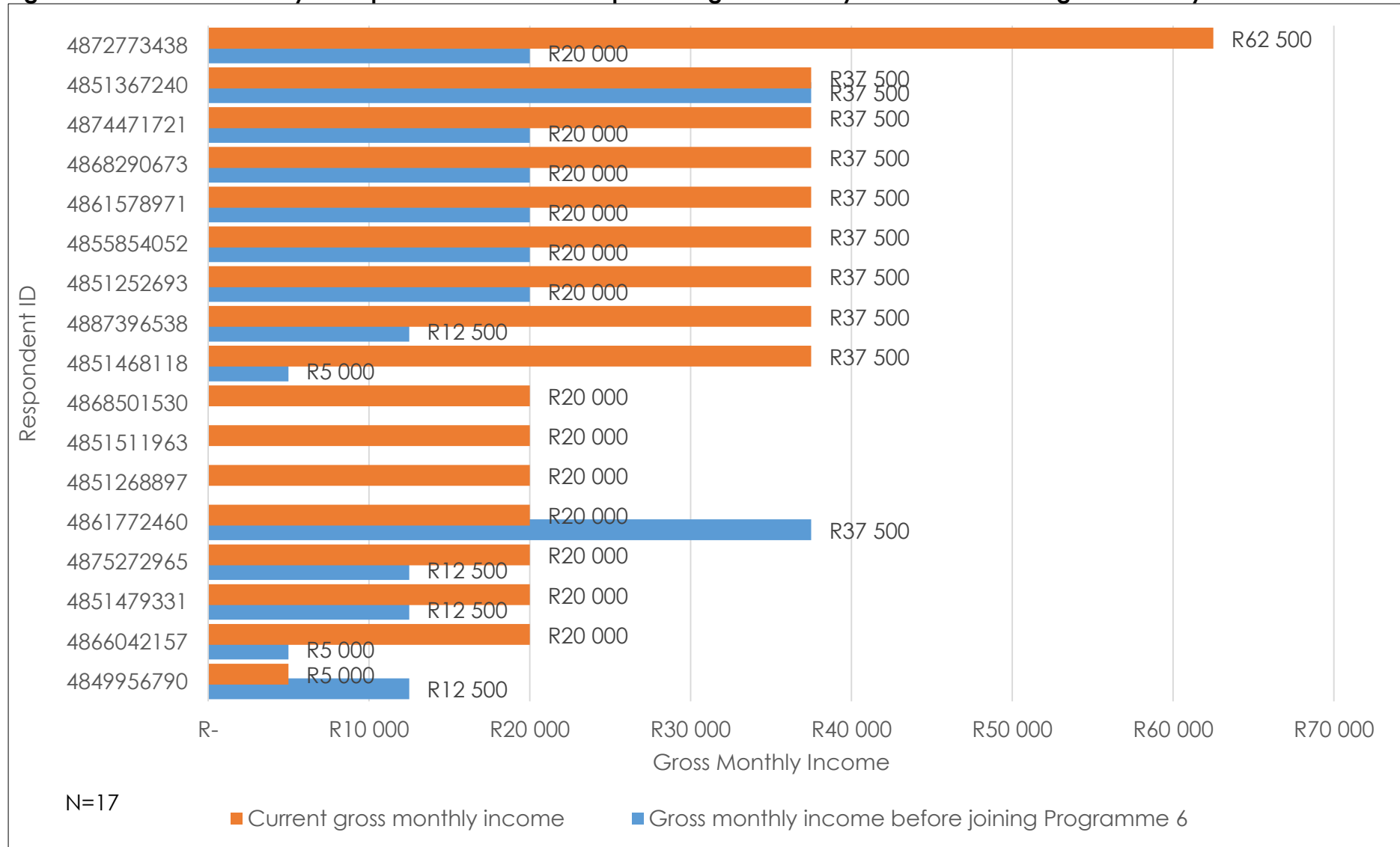


Figure 9-58 2016 Staff survey: Do you have an agricultural economics degree?

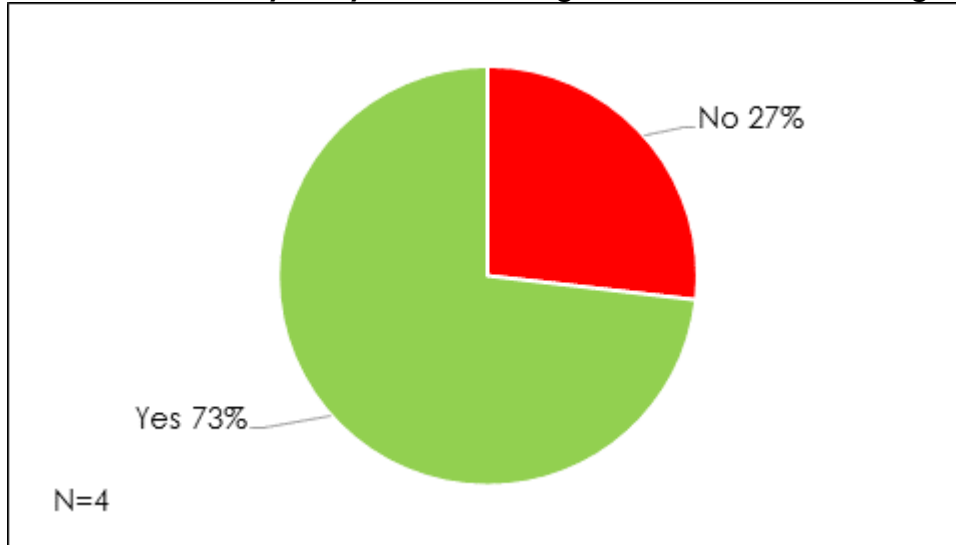


Figure 9-59 2016 Staff survey: Highest degree received/ completed from university

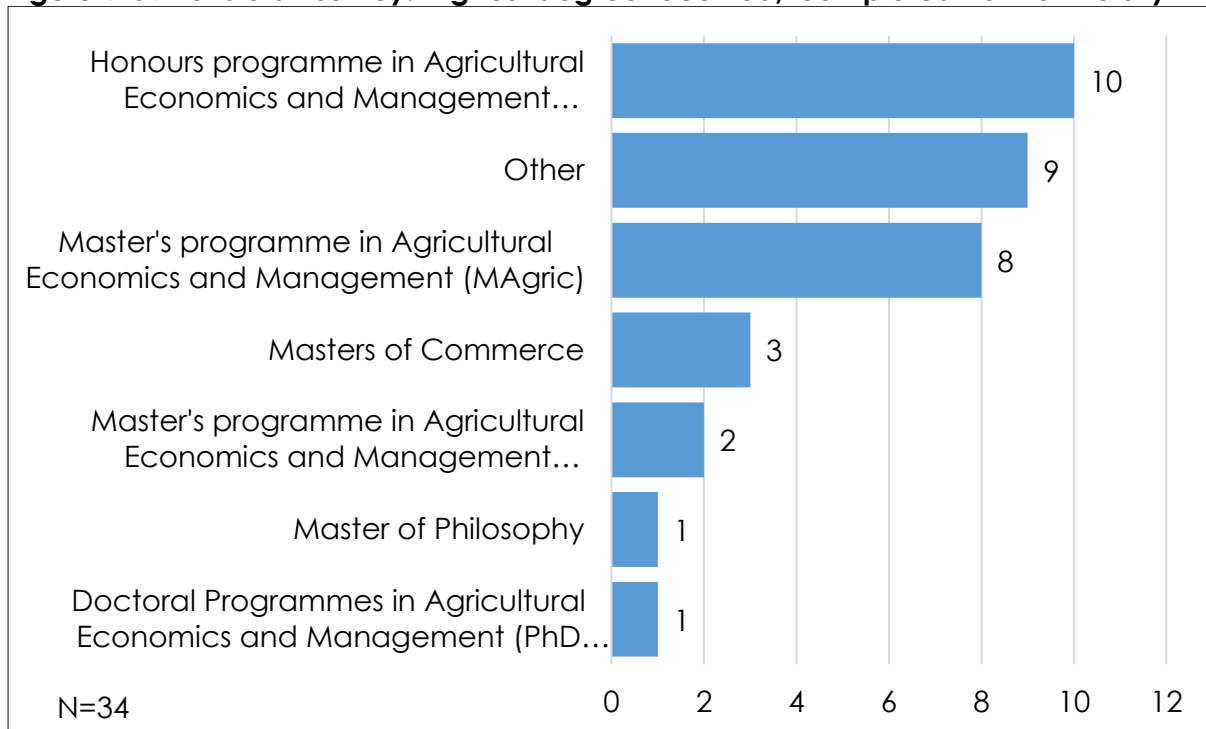


Figure 9-60 2016 Staff survey: University received an agricultural economics degree from

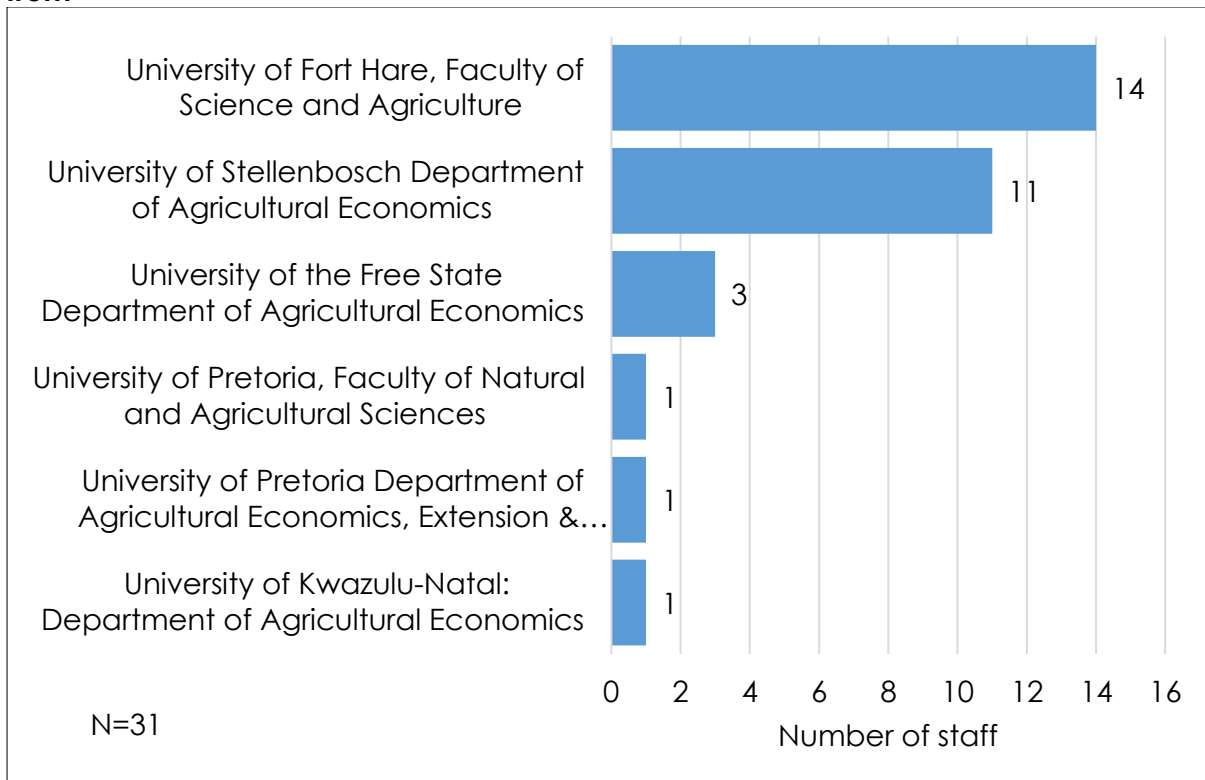


Figure 9-61 2016 Staff survey: Year graduated from university with last/ highest degree?

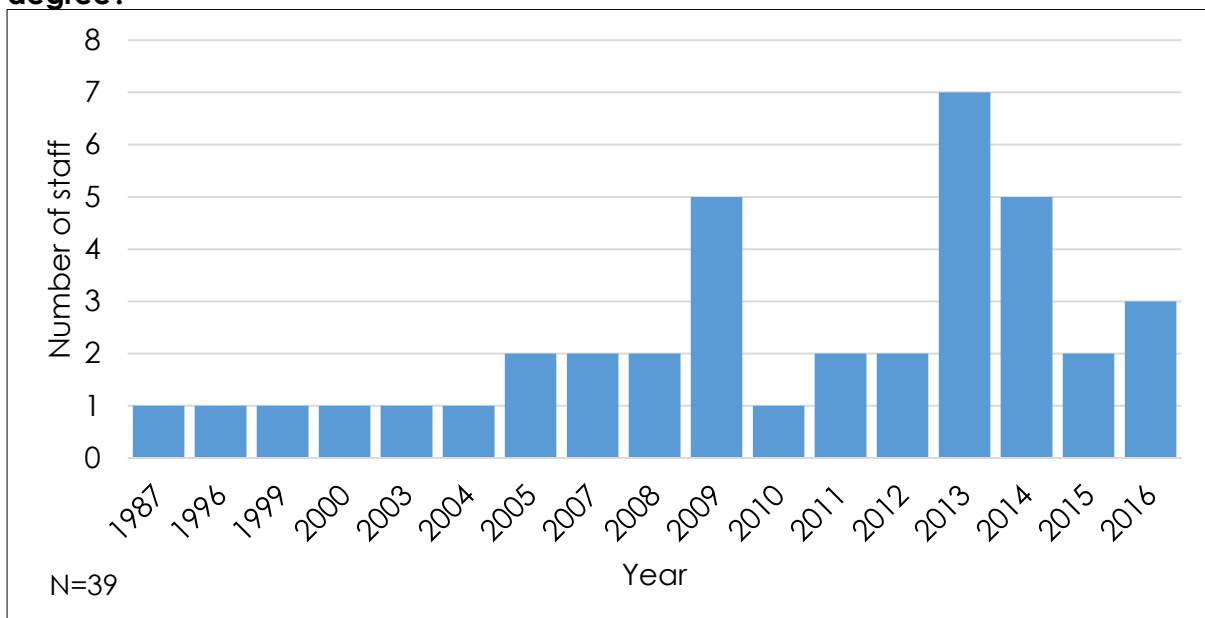
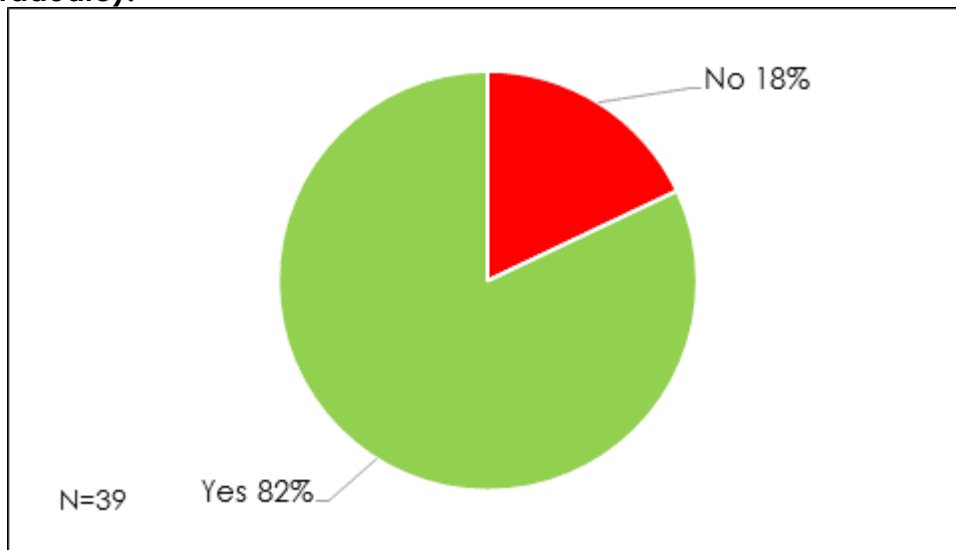


Figure 9-62 2016 Staff survey: Did you complete/ pass third year economics (undergraduate)?



WCDoA Programme 6 staff skills, knowledge, training and capacity building

Figure 9-63 2016 Staff survey: My university degree curriculum content was adequate to provide skills needed to provide AE Services

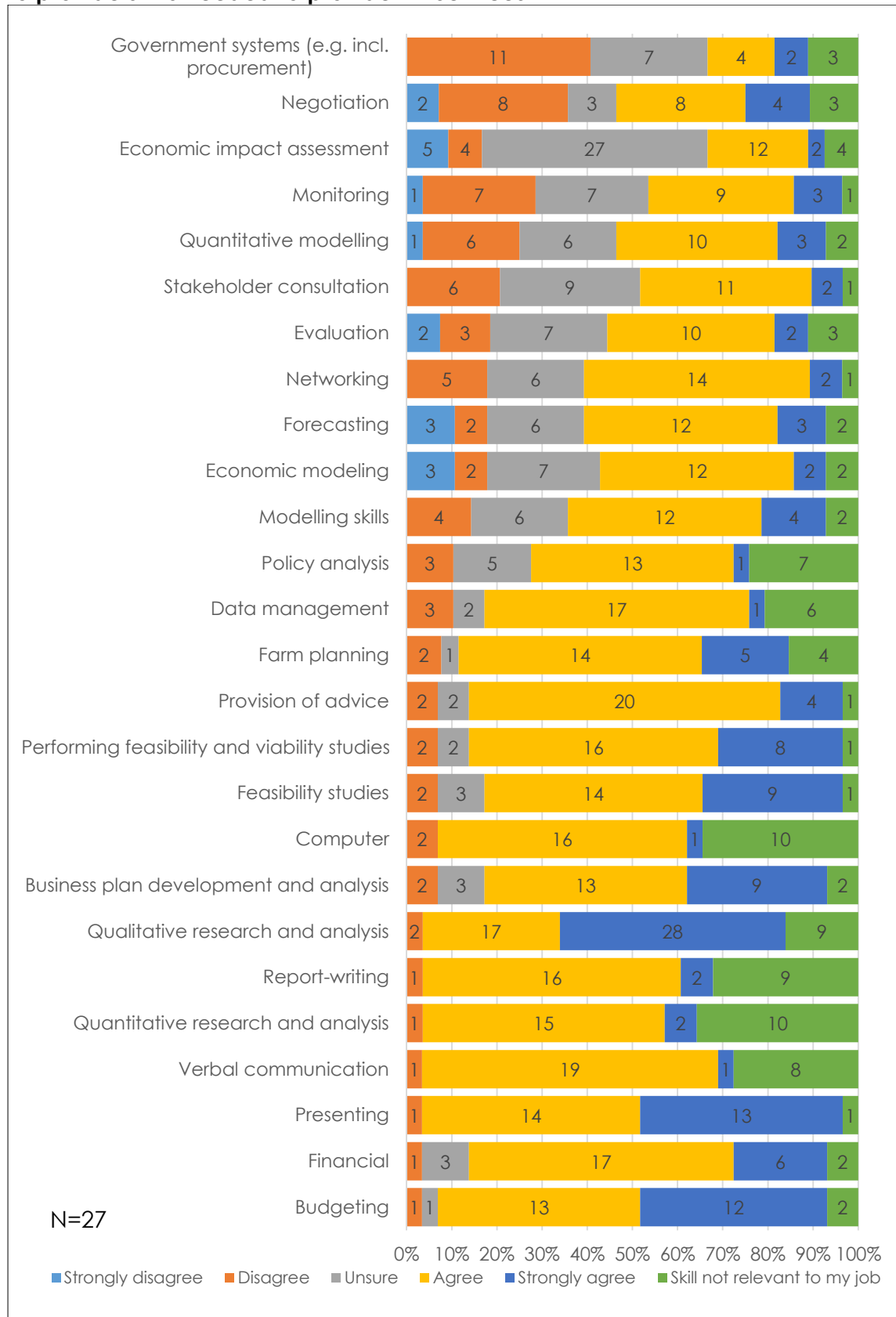


Figure 9-64 2016 Staff survey: My university degree curriculum content was adequate to provide me with the practical knowledge needed to successfully provide AE Services

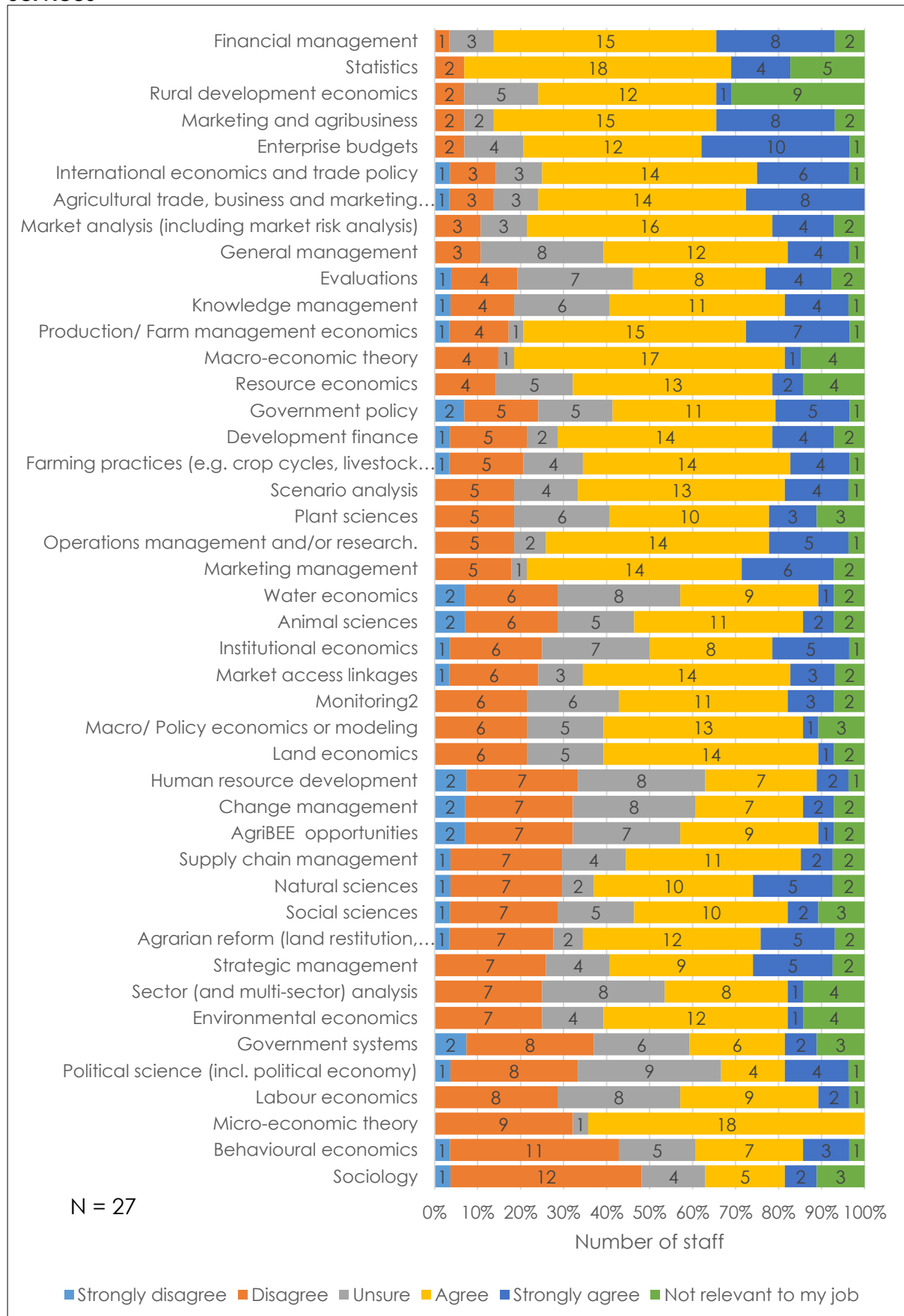


Figure 9-65 2016 Staff survey: Since being employed by the WCDa have you received any training to improve your AE skills and/or knowledge?

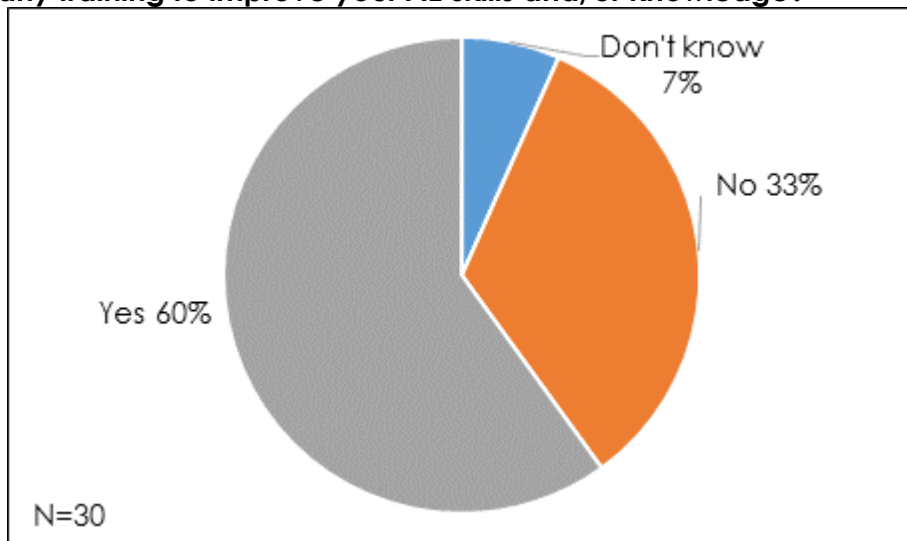


Figure 9-66 2016 Staff survey: Are you currently studying towards a university degree?

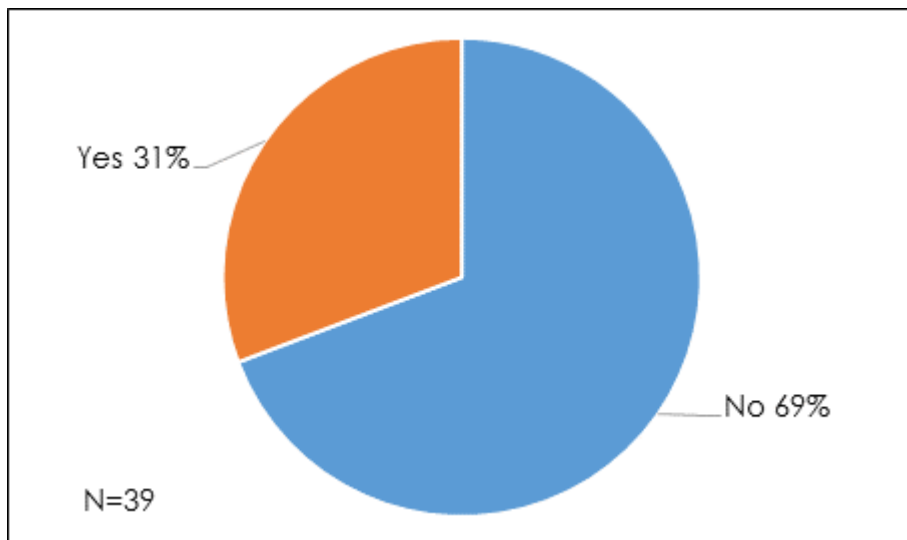


Figure 9-67 2016 Staff survey: Do you plan on studying further in future?

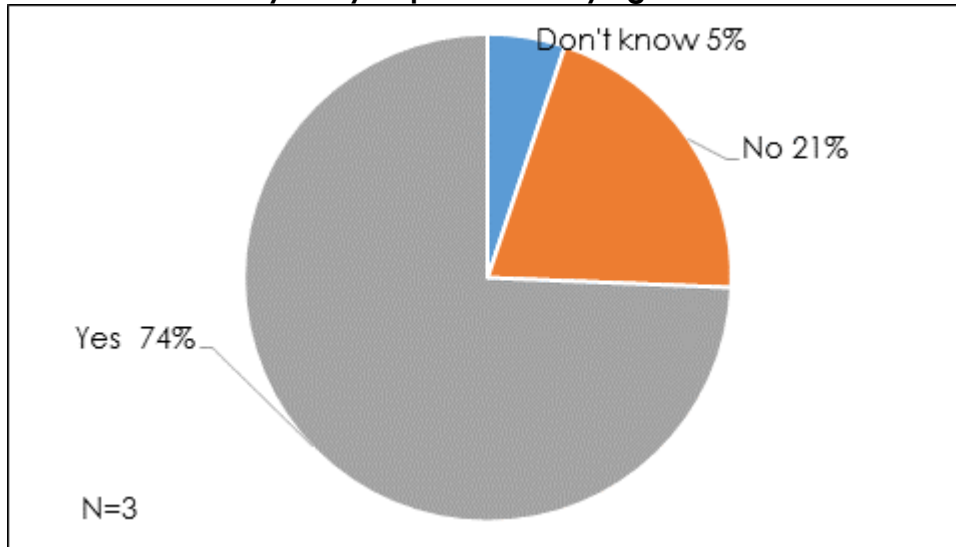


Figure 9-68 2016 Staff survey: Which 1. Duties/ task/ activities do you perform in your current position and for those duties/ tasks/ activities currently performed, 2. Do you believe you have the required knowledge and 3. Skills to adequately perform these?

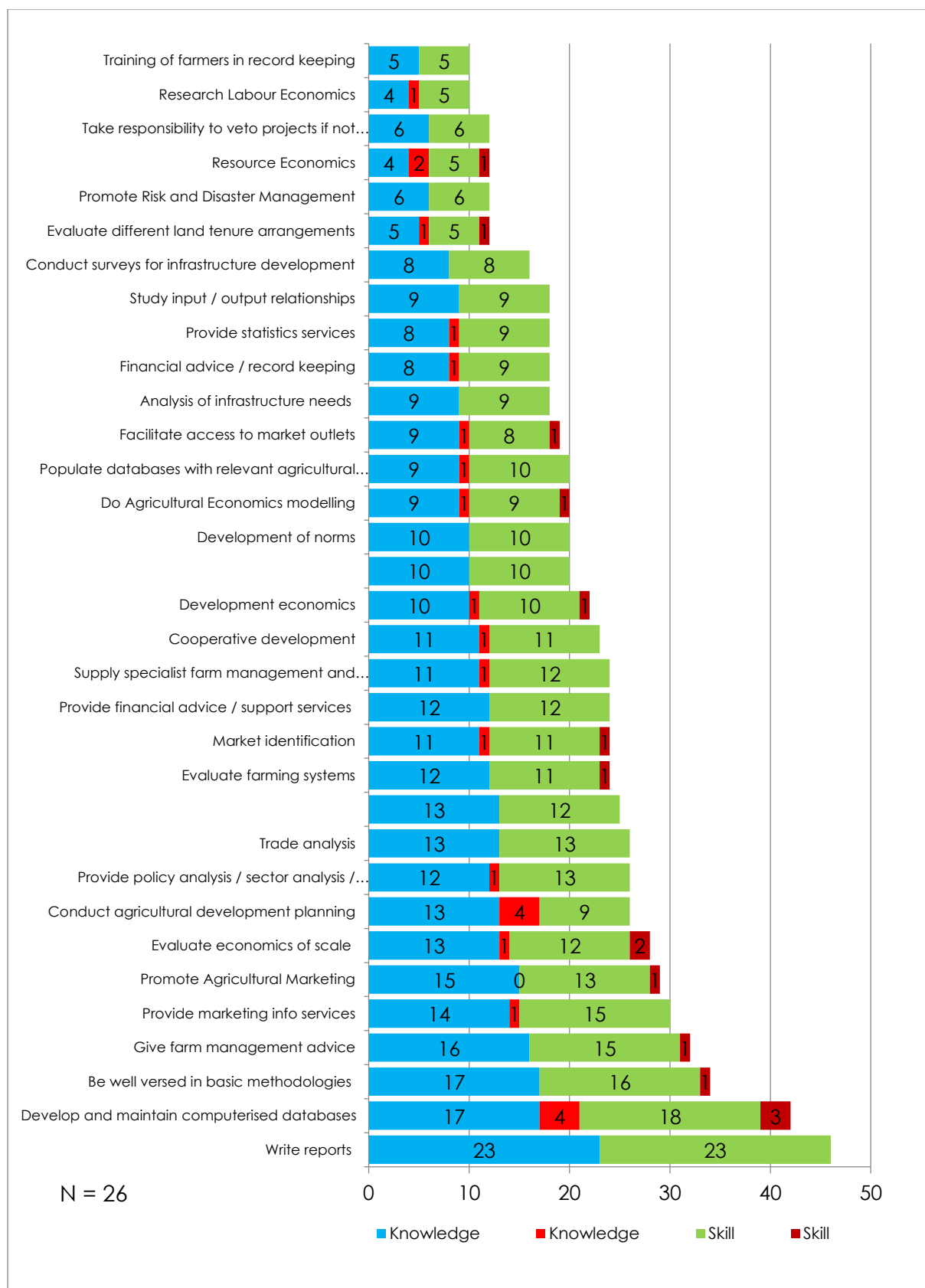


Figure 9-69 2016 Staff survey: Which 1. Duties/ task/ activities do you perform in your current position and for those duties/ tasks/ activities currently performed, do you believe you have the required 2. Knowledge and 3. Skills to adequately perform these?

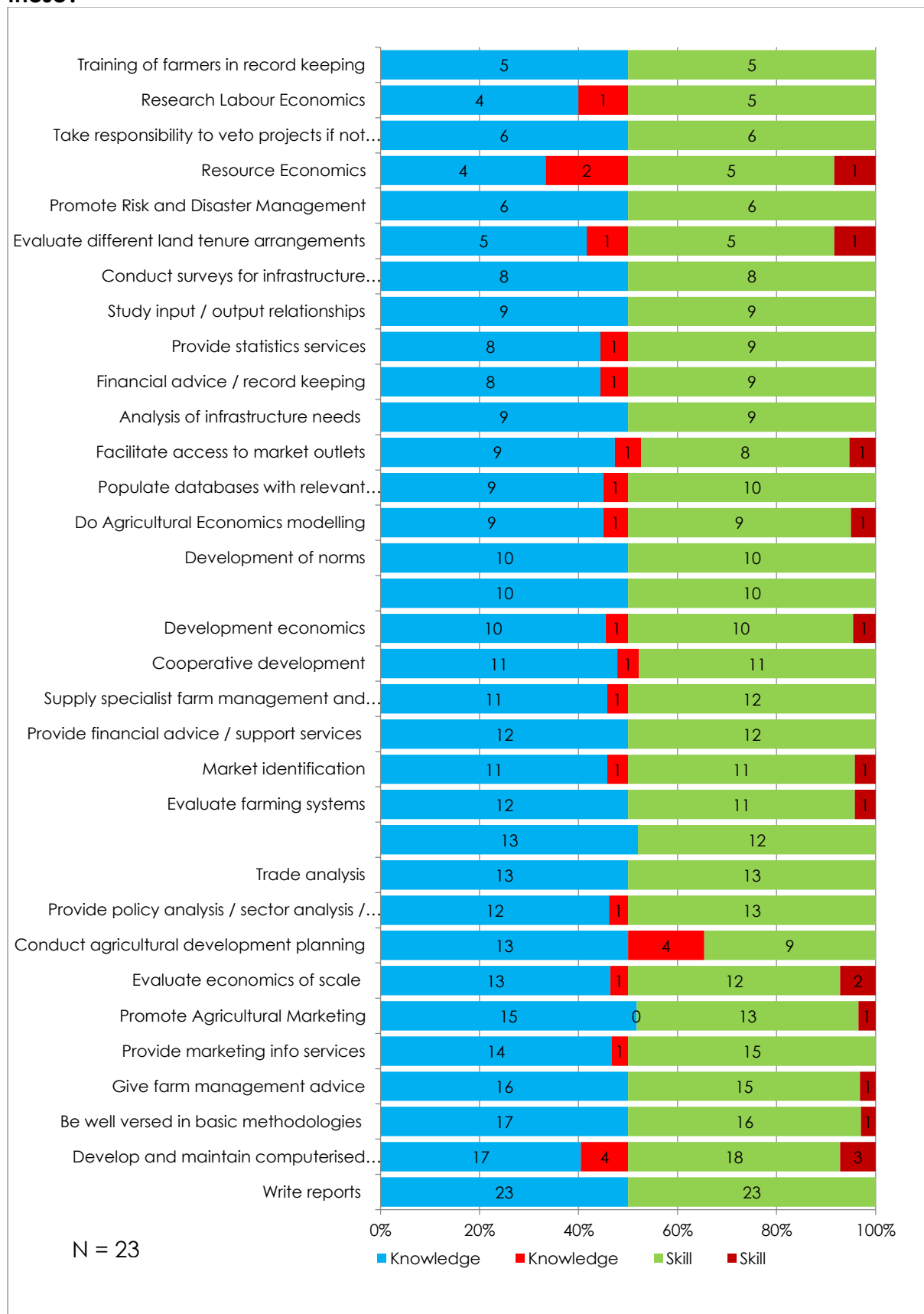


Figure 9-70 2016 Staff survey: What are the skills that you need to be effective at providing expected or requested services to your clients and do you currently have the required level of skill which you need to successfully deliver the expected services?

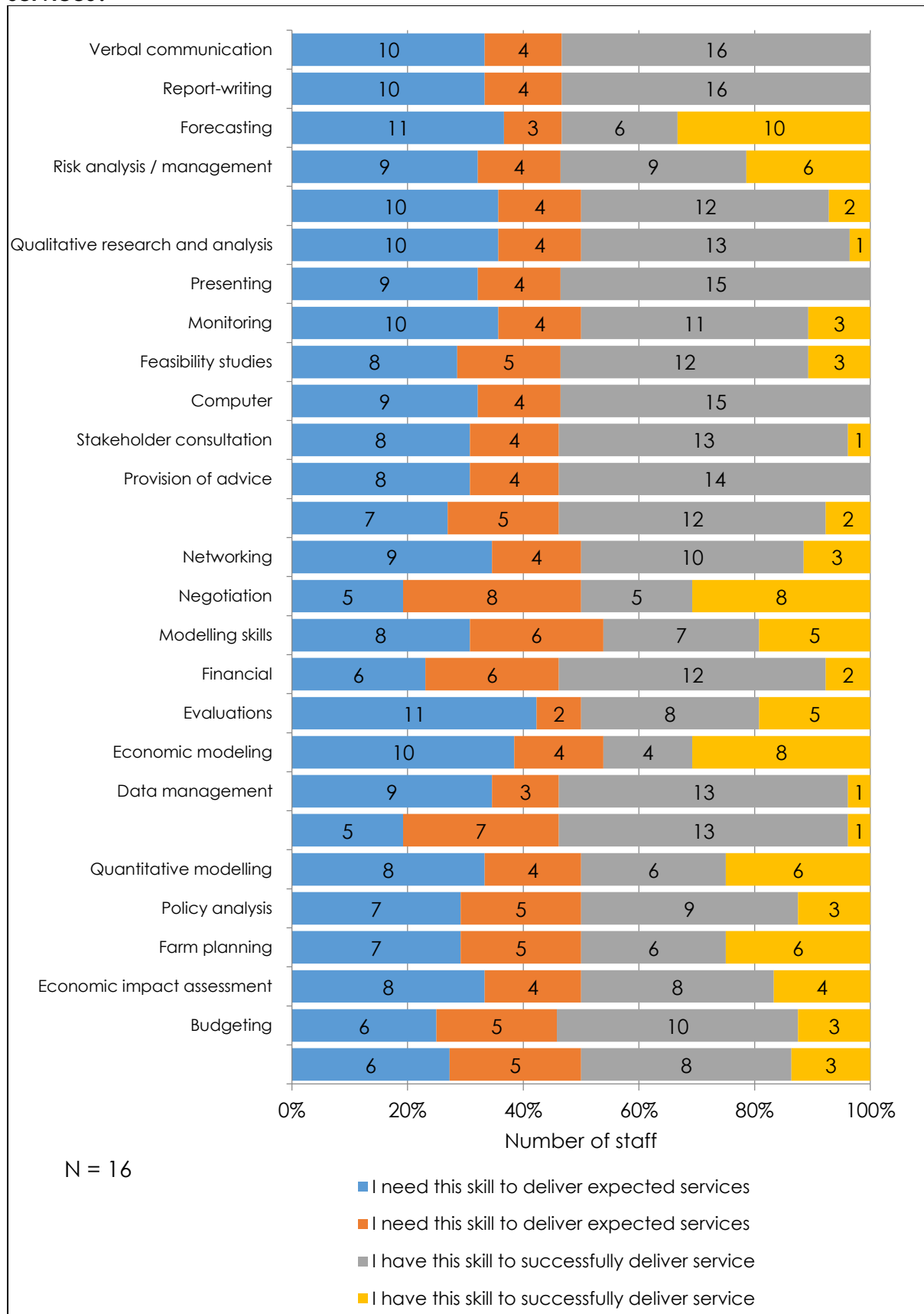
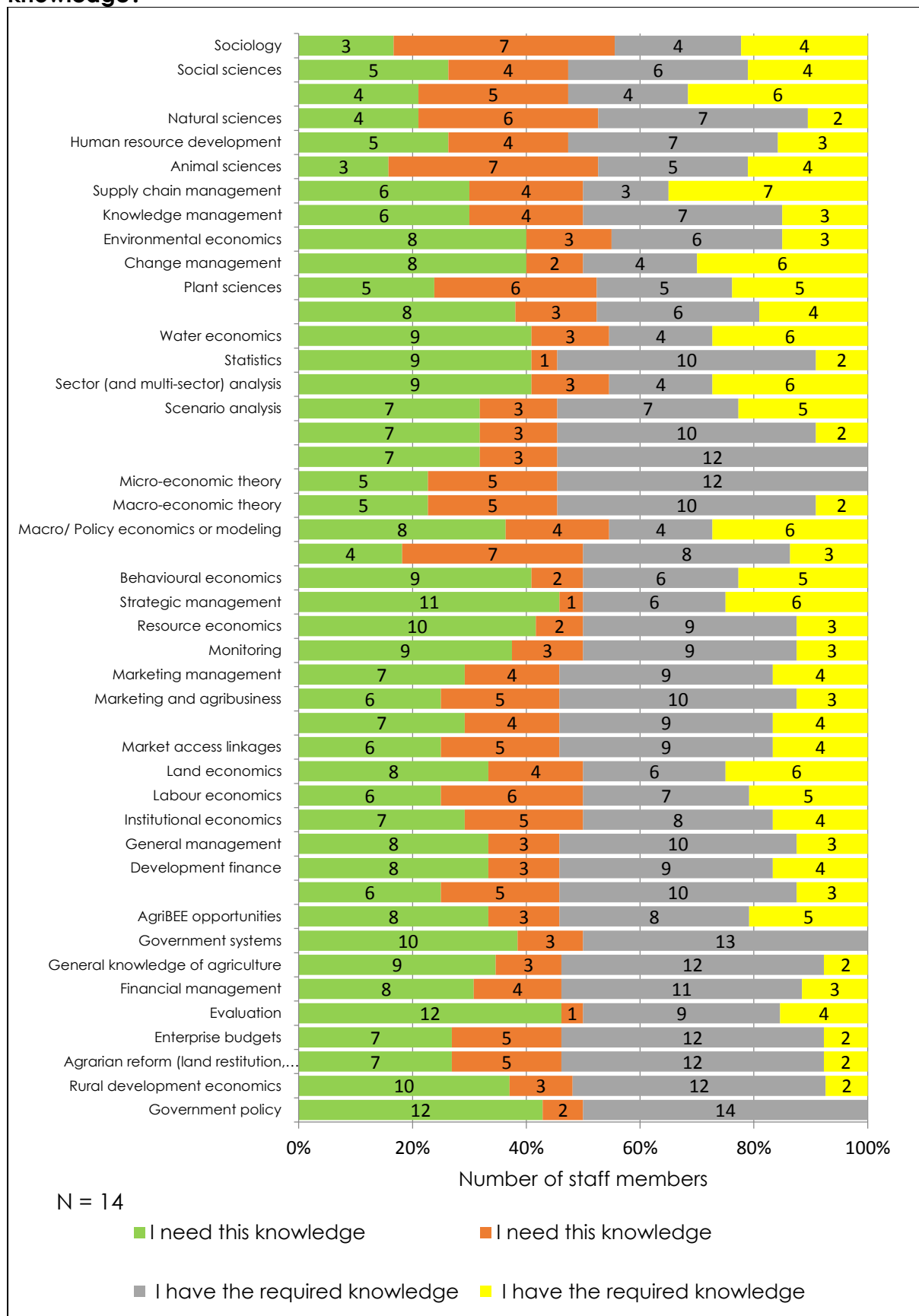
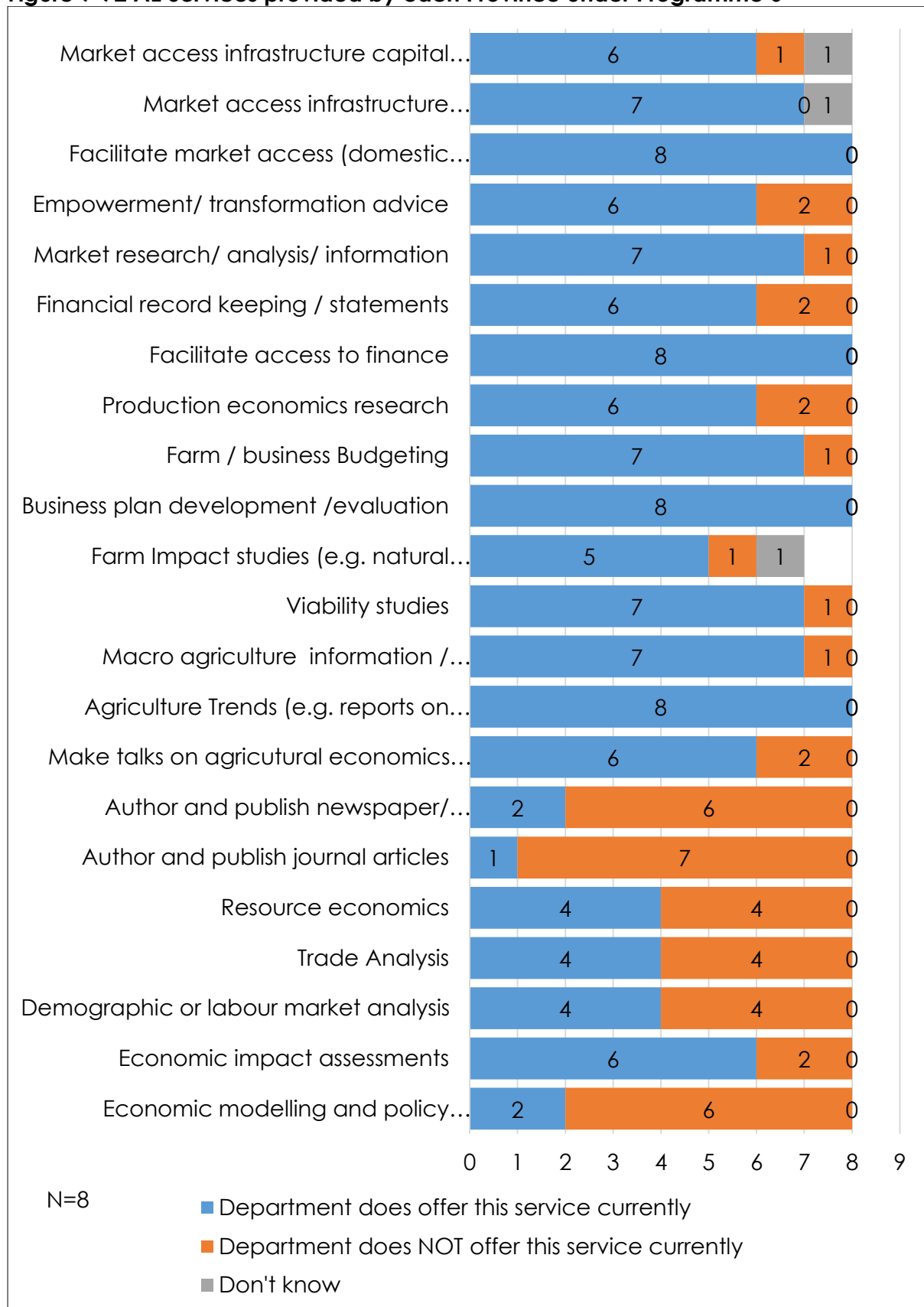


Figure 9-71 2016 Staff survey: Which areas of practical knowledge and understanding do you need to have to be effective at providing expected or requested services? If this knowledge area is needed, do you have the required knowledge?



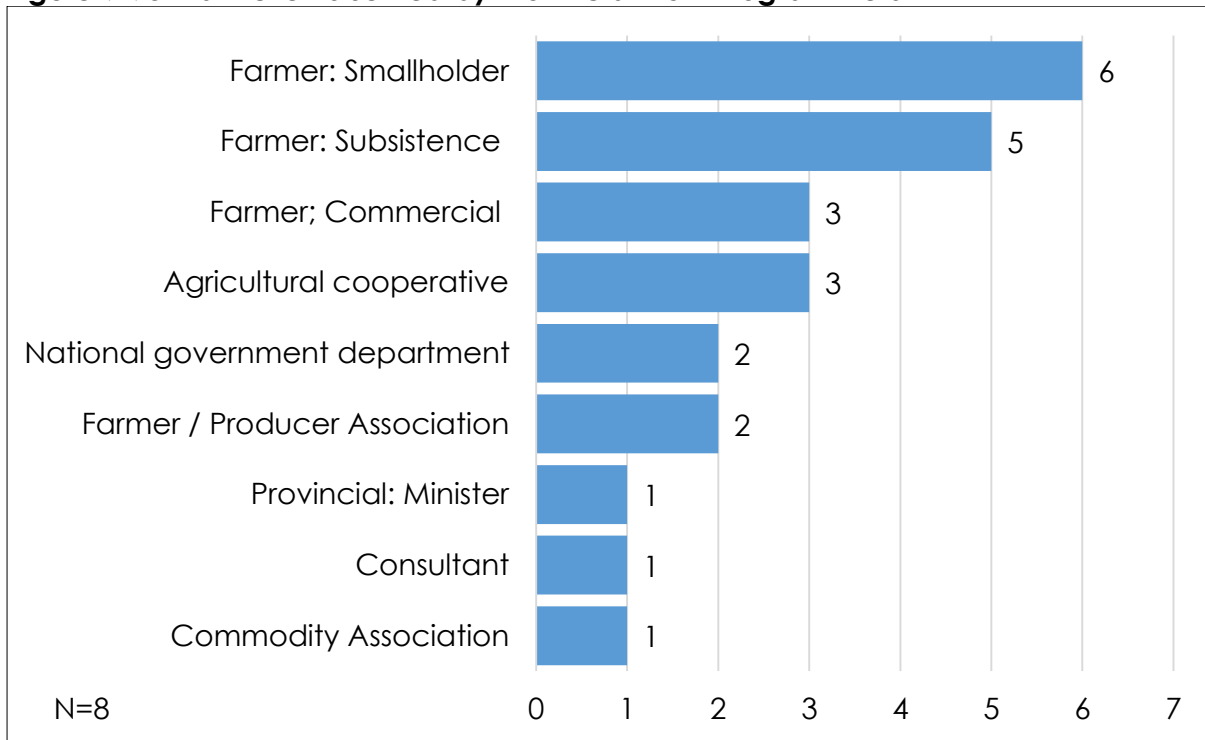
Provincial Programme 6 Comparison Benchmarking

Figure 9-72 AE Services provided by each Province under Programme 6



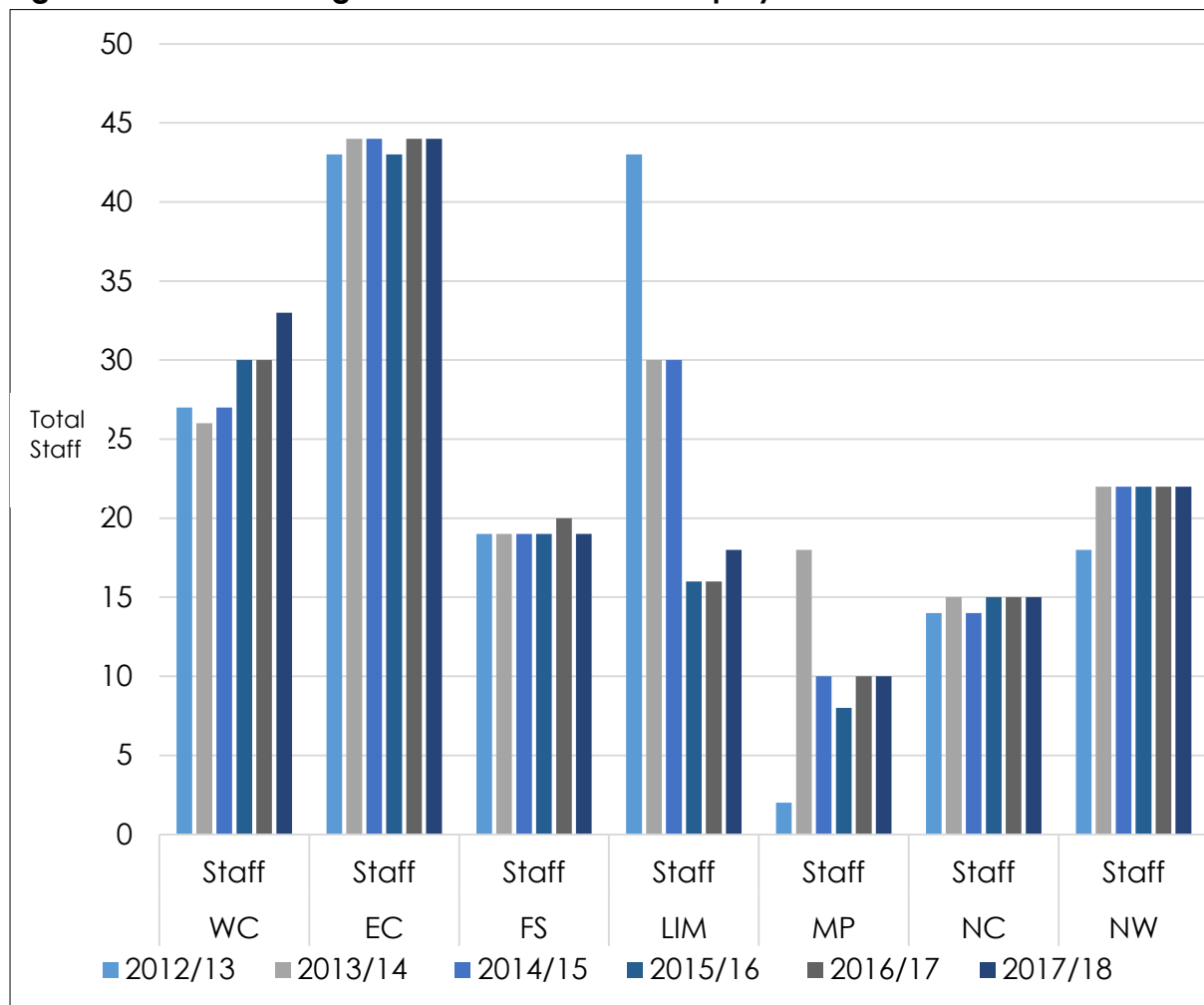
Main types of clients served

Figure 9-73 Main clients served by Provincial DoA Programme 6



Programme 6 employment by provinces:

Figure 9-74 AE Programme total staff employment trends: 2012 - 2018



Source: Own analysis of National Treasury Provincial Expenditure data available online at <http://www.treasury.gov.za/documents/provincial%20budget/2016/4.%20Estimates%20of%20Pr%20ov%20Rev%20and%20Exp/Default.aspx> [Accessed online in August 2016]

Table 9-10 Programme 6.1 Provincial Programme 6 staffing comparison: Agribusiness support sub-programme

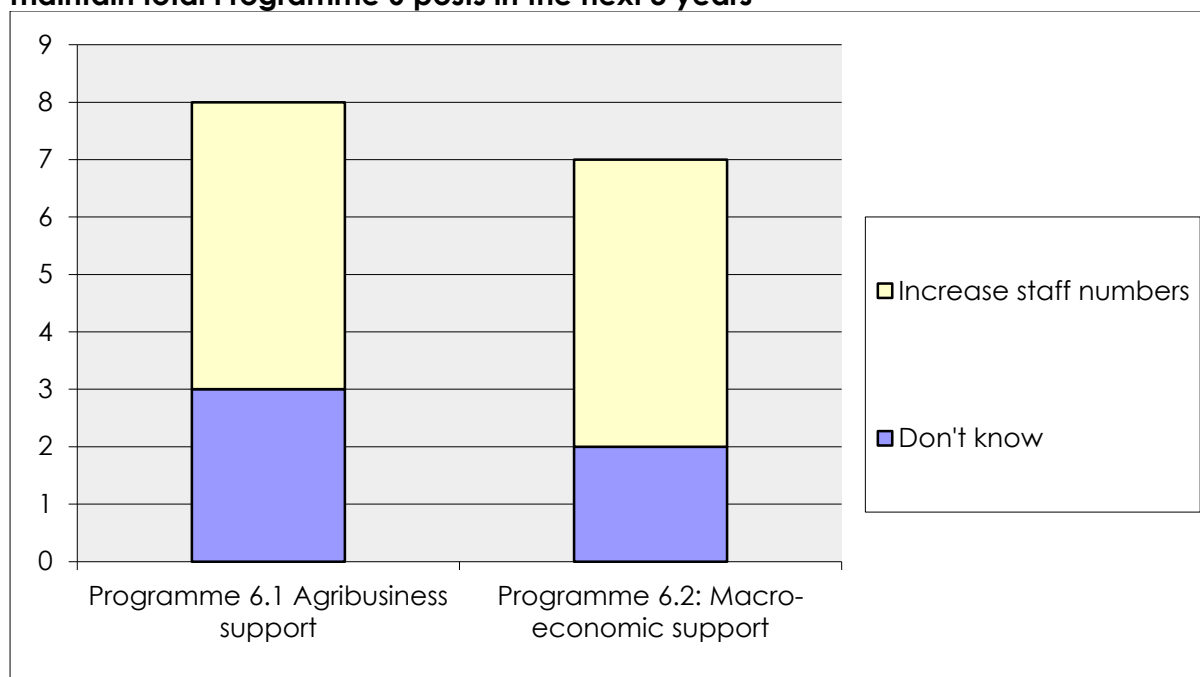
	Total approved posts in 15/16	Total funded posts in 16/17	Total filled posts currently	Total vacant posts currently	Total proposed new posts not yet submitted to Treasury for approval
WC	34	18	15	3	
Gauteng		5	5	1	1
Limpopo	29	29	21	8	
Northern Cape		5			
Free State	15	15	14	1	
KwaZulu-Natal	5	5	3	2	2
Eastern Cape	3	3	3	1	
North West	28	28	22	6	34

Table 9-11 Programme 6.1 Provincial Programme 6 staffing comparison: Macroeconomics support sub-programme

	Total approved posts in 15/16	Total funded posts in 15/16	Total filled posts currently	Total vacant posts currently	Total proposed new posts not yet submitted to Treasury for approval
WC	18	11	10	1	
Gauteng		6	6		
Limpopo	6	6	4	2	
Northern Cape		7			
Free State	1	1	1		
KwaZulu-Natal	10	10	9	1	1
Eastern Cape	40	40	40	7	28
North West	4	4	4		12

Note: The above Eastern Cape figures need to be verified.

Figure 9-75 Provincial DoA Programme 6 Director's plans to expand, reduce or maintain total Programme 6 posts in the next 3 years



Programme 6 Directors' Perceptions of Programme 6 Strengths

Table 9-12 Provincial DoA Programme 6 Director's perceptions of up to 3 main programme strengths

Province	Strength 1	Strength 2	Strength 3
Western Cape	Staff development/exposure locally and abroad	Combination of research and extension to stay relevant	Knowledgeable
Eastern Cape	It leads the department gives strategic direction	Provides strategic services	No answer provided
Free State	Agricultural and Rural Development Support	Provision of Agricultural Economic Advisory Services	No answer provided
Gauteng	Trainings for food safety which are highly demanded	No answer provided	No answer provided
KwaZulu-Natal	Advise the department on strategic issues	Agricultural economics support cuts across different branches within the department	Updating of Enterprise Budgets used in farm planning and costing of departmental agricultural activities
Limpopo	Experienced staff	Diverse structure that is commodity focused	More capacity at local offices
North	Enterprise Development	Market Access	AE Statistics

West	Models		
Northern Cape	Training offered farmers in financial management	Farm production assessments	No answer provided

Figure 9-76 Provincial DoA Programme 6 Directors' perception on whether university training provide Agricultural Economists with the relevant skills and knowledge to provide AE Services that meet the needs of clients?

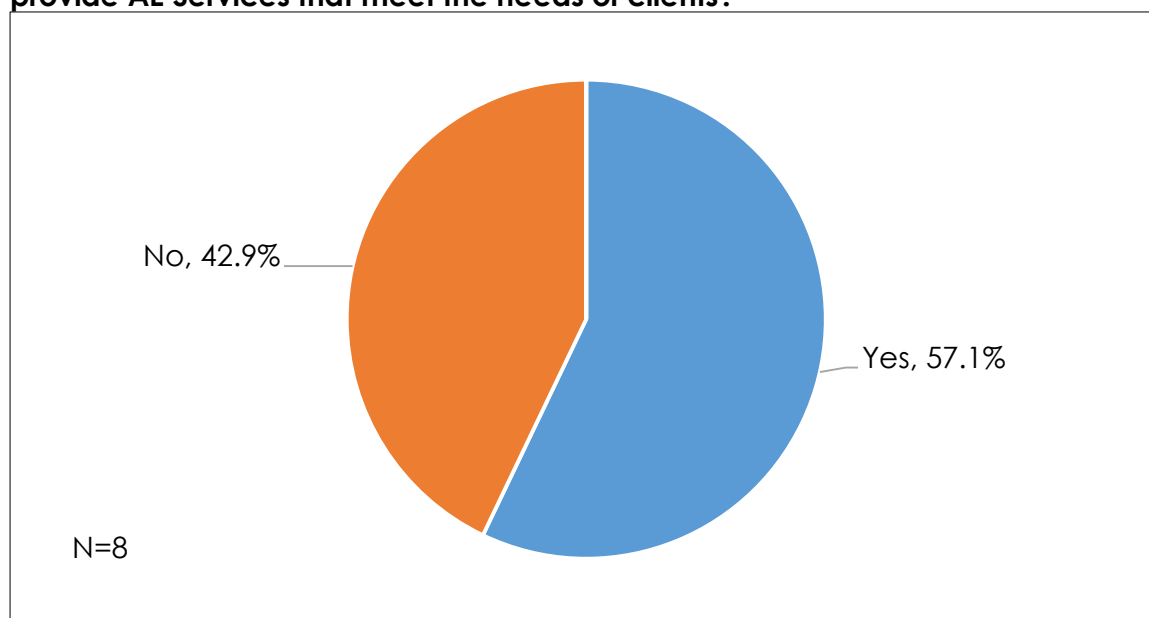


Table 9-13 Provincial DoA Programme 6 Director's survey: Does the training provided by universities to Agricultural Economists provides them with the relevant skills and knowledge to provide relevant AE Services that meet the needs of clients?

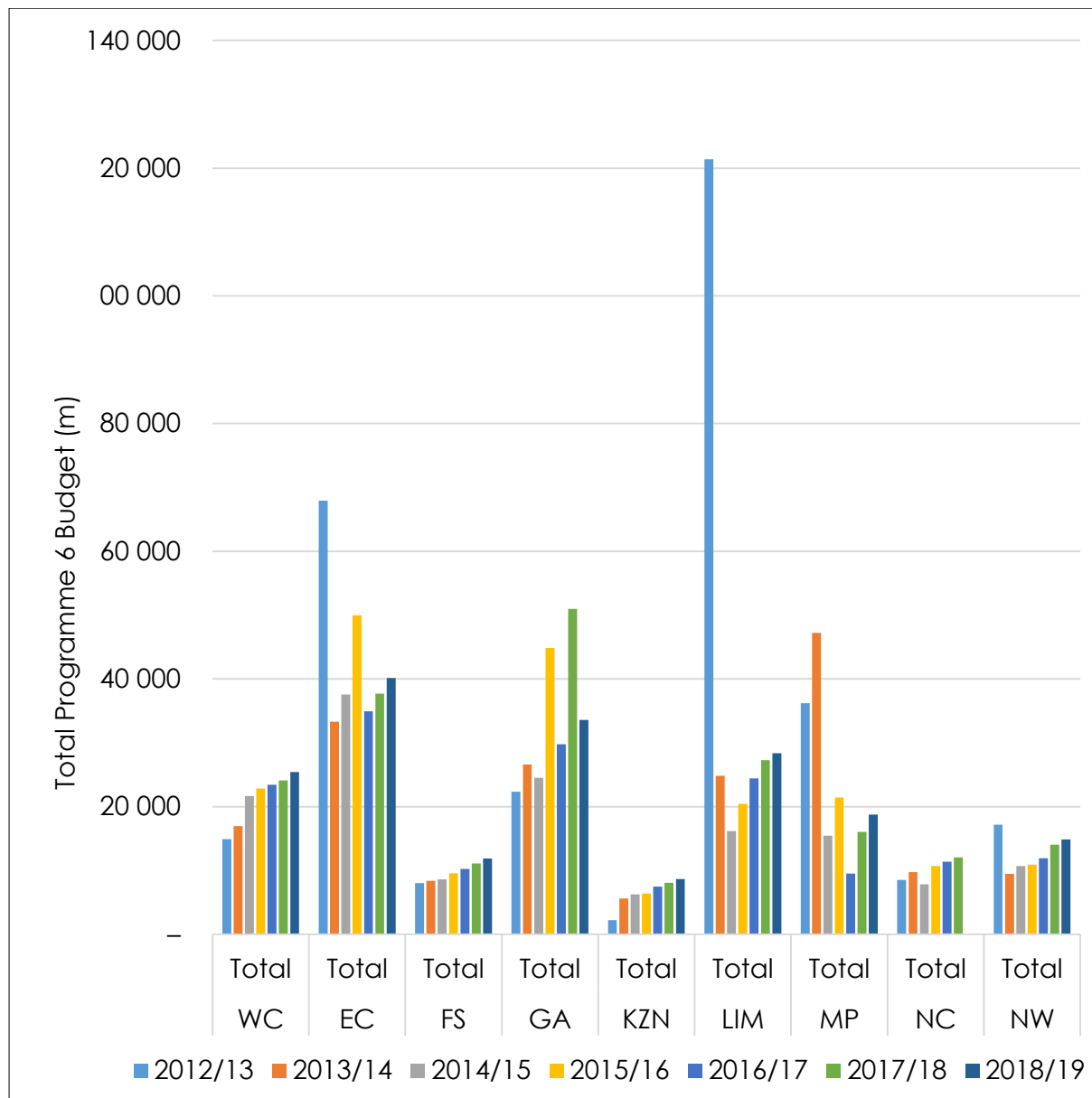
Province	Yes/No	Reason for answer
WC	No	They have to undergo a lot of training before they can contribute to the department
Gauteng	Yes	It teaches the basics, however when you reach the work area new concepts are brought to the field other than the ones learnt at university
Limpopo	Yes	No answer provided
Northern Cape	Yes and no	Those coming from school have the required theory but not the practical application of the theory.
Free State	No	No in terms of current quality of graduates being produced generally as opposed to the past
KwaZulu-Natal	No	The universities provide theoretical knowledge with no practical skills to implement in the real world
Eastern Cape	Yes	All the requirements for the public sector are taught at university level
North West	Yes	Graduates tend to be job competent and need minimum supervision

Table 9-14 Provincial DoA Programme 6 Director's survey: Key knowledge and skills gaps that Agricultural Economist graduates have and that need to be improved/ addressed in order for them to provide effective AE Services

Province	Key knowledge gaps	Key skills gaps
WC	<ul style="list-style-type: none"> Quantitative analysis using various tools/models Advanced excel Financial management (budgeting) Business plan development and evaluation skills Trade analysis 	<ul style="list-style-type: none"> Quantitative analysis using various tools/models Advanced excel Financial management (budgeting) business plan development and evaluation skills Risk analysis Trade analysis Accounting Agri processing,
Gauteng	<ul style="list-style-type: none"> Lack of readily available data that can help the economists to develop good business plans that will assist in aiding the farmers to access funds and support to grow their enterprises 	<ul style="list-style-type: none"> Analytical skills Presentation skills
Limpopo	<ul style="list-style-type: none"> Analytical skills 	<ul style="list-style-type: none"> Practical experience on real agribusiness advisory
Northern Cape	<ul style="list-style-type: none"> Research and analytic skills 	<ul style="list-style-type: none"> Research and analytic skills
Free State	<ul style="list-style-type: none"> Knowledge in agriculture Development economics Research Functional numerical Literacy 	<ul style="list-style-type: none"> Report writing Communication Analytical Relating theory to practice
KwaZulu-Natal	<ul style="list-style-type: none"> Hands on experience in the form of apprenticeship Exposure to different sectors of the whole value chain of agriculture 	<ul style="list-style-type: none"> Economic modelling and simulation Diagnostic skills in case of struggling enterprises and farms Problem solving skills Communication skills Technical skills (practical)
Eastern Cape	<ul style="list-style-type: none"> Experience gaps 	<ul style="list-style-type: none"> Research
North West	<ul style="list-style-type: none"> Trends analysis Statistical decision making and policy development 	<ul style="list-style-type: none"> Research Data analysis and interpretation

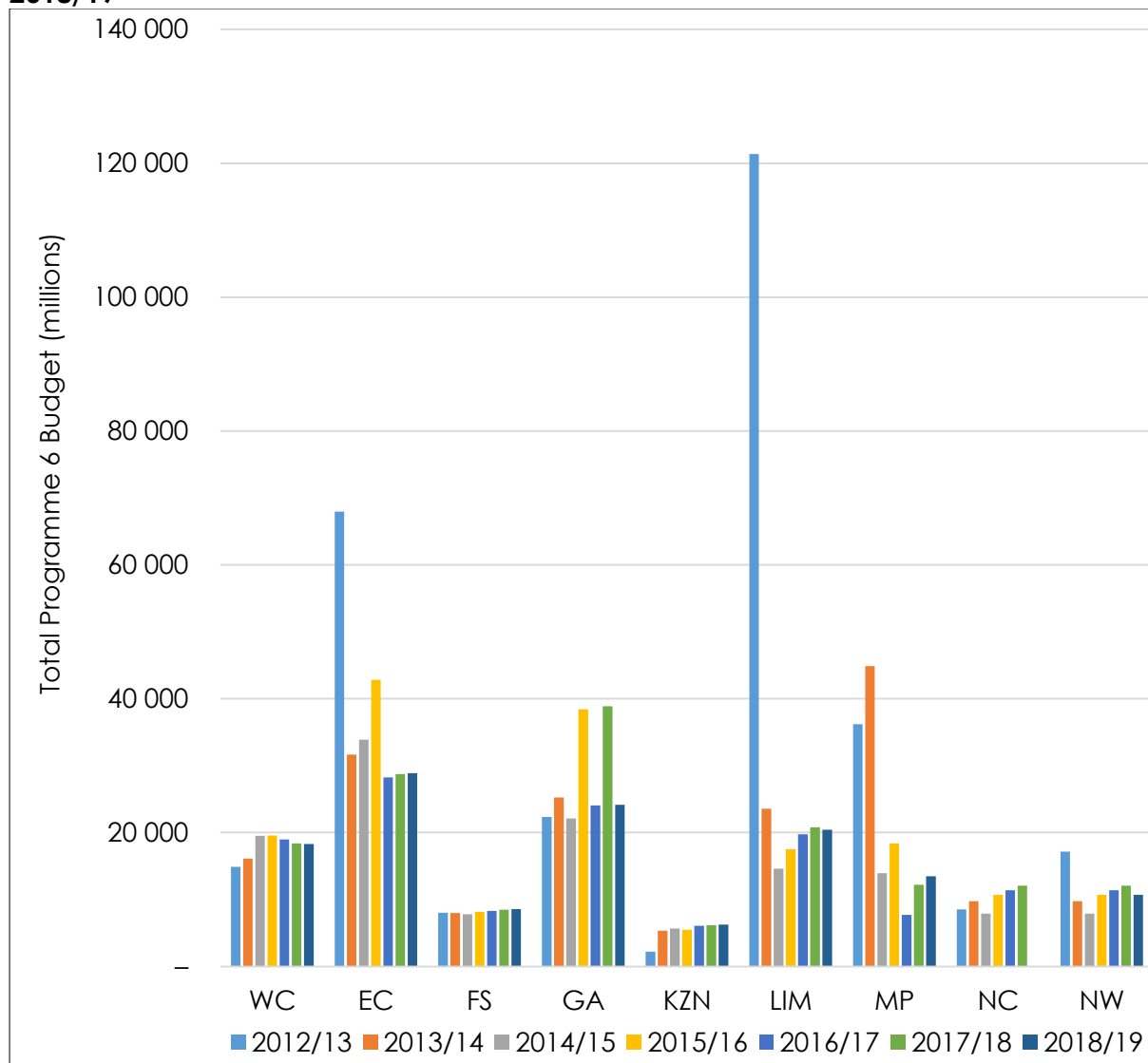
Programme 6 budget trends

Figure 9-77 Provincial AE Services Programme total nominal budget trends: 2012/13 - 2018/19



Source: Own analysis of National Treasury Provincial Expenditure data available online at <http://www.treasury.gov.za/documents/provincial%20budget/2016/4.%20Estimates%20of%20Pr%20ov%20Rev%20and%20Exp/Default.aspx> [Accessed online in August 2016]

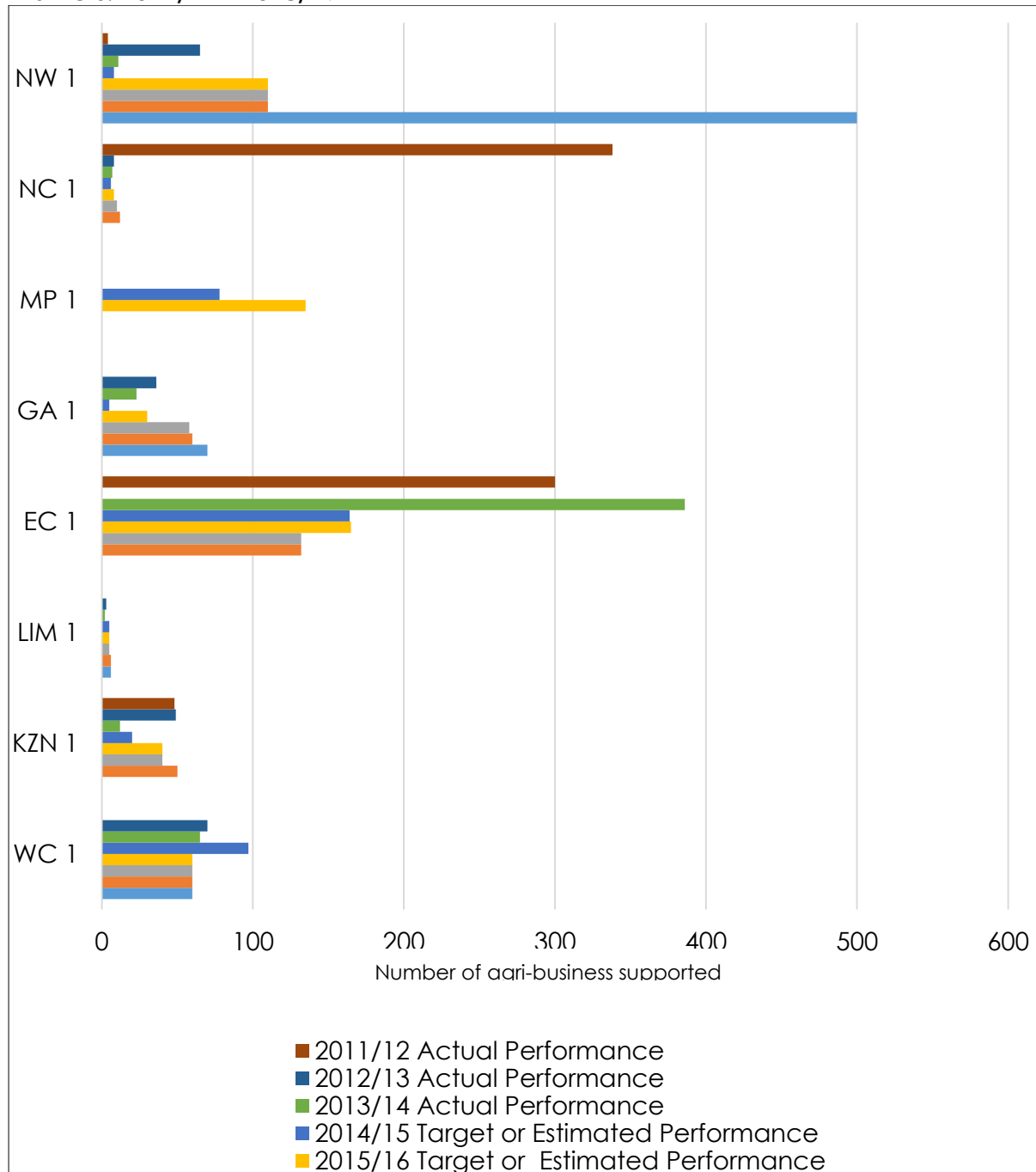
Figure 9-78 Provincial AE Services Programme 6 total real budget trends: 2012/13 - 2018/19



Source: Own analysis of National Treasury Provincial Expenditure data available online at <http://www.treasury.gov.za/documents/provincial%20budget/2016/4.%20Estimates%20of%20Pr%20ov%20Rev%20and%20Exp/Default.aspx> and using Statistics SA CPI annual national general deflator with 2012 = 100 [Accessed online in August 2016]

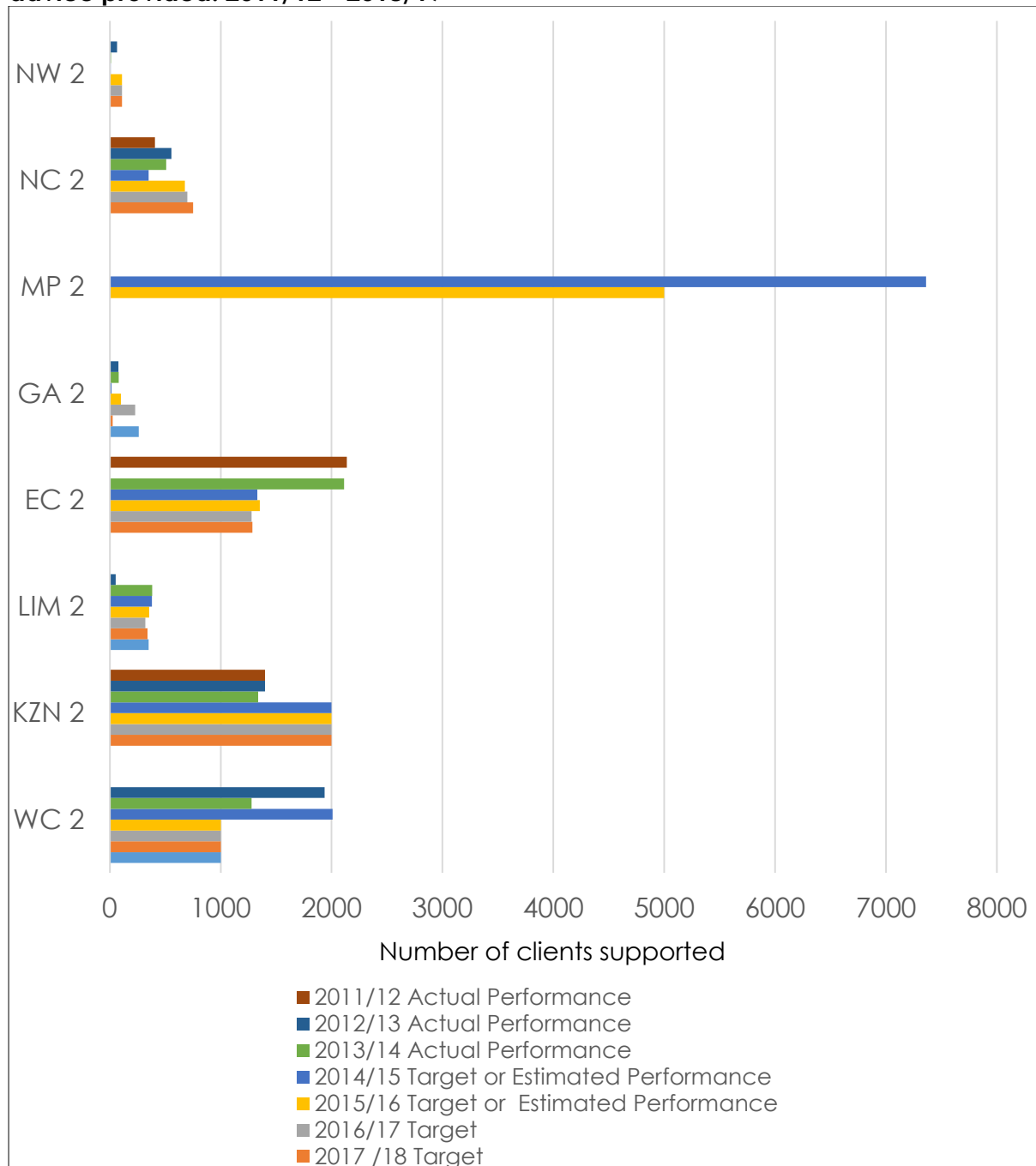
Provincial DoA AE Services outputs and targets

Figure 9-79 Agribusiness support: Number of agribusinesses supported to access markets: 2011/12 - 2018/19



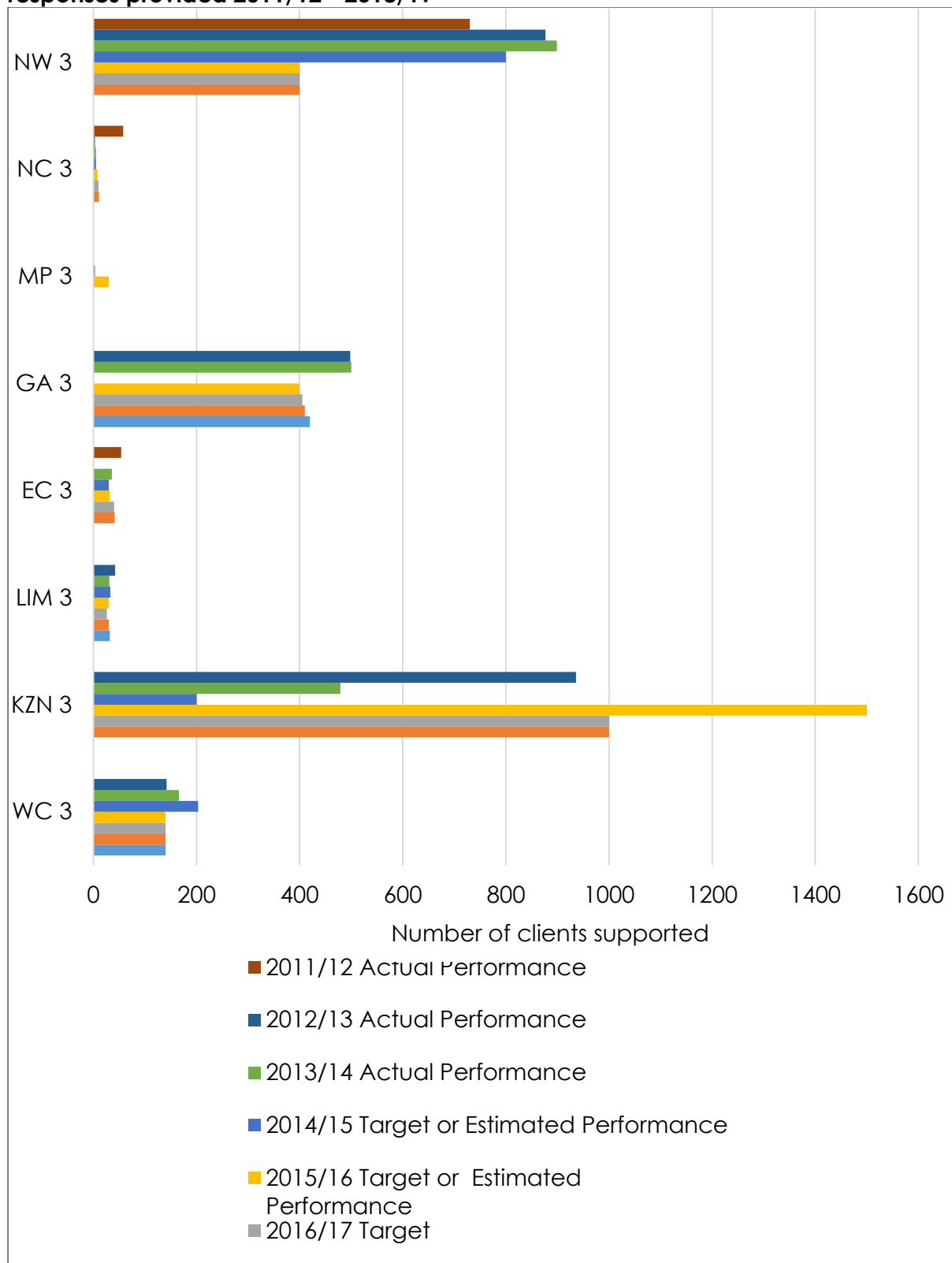
Sources: Own Analysis of data contained in Eastern Cape Provincial Government: Department of Rural Development and Agrarian Reform. (2016); Free State Provincial Government: Department of Agriculture and Rural Development. (2014); Gauteng Provincial Government: Department of Agriculture and Rural Development. (2016); Kwazulu-Natal Provincial Government: Department of Agriculture and Rural Development. (2016); Limpopo Provincial Government: Department of Agriculture and Rural Development. (2016); Mpumalanga Provincial Government: Office of the Premier. (n.d.); Northern Cape Provincial Government: Department of Agriculture, Land Reform and Rural Development. (2016); WCDoA (2016).

Figure 9-80 A support: Number of clients benefitting from agricultural economic advice provided: 2011/12 - 2018/19



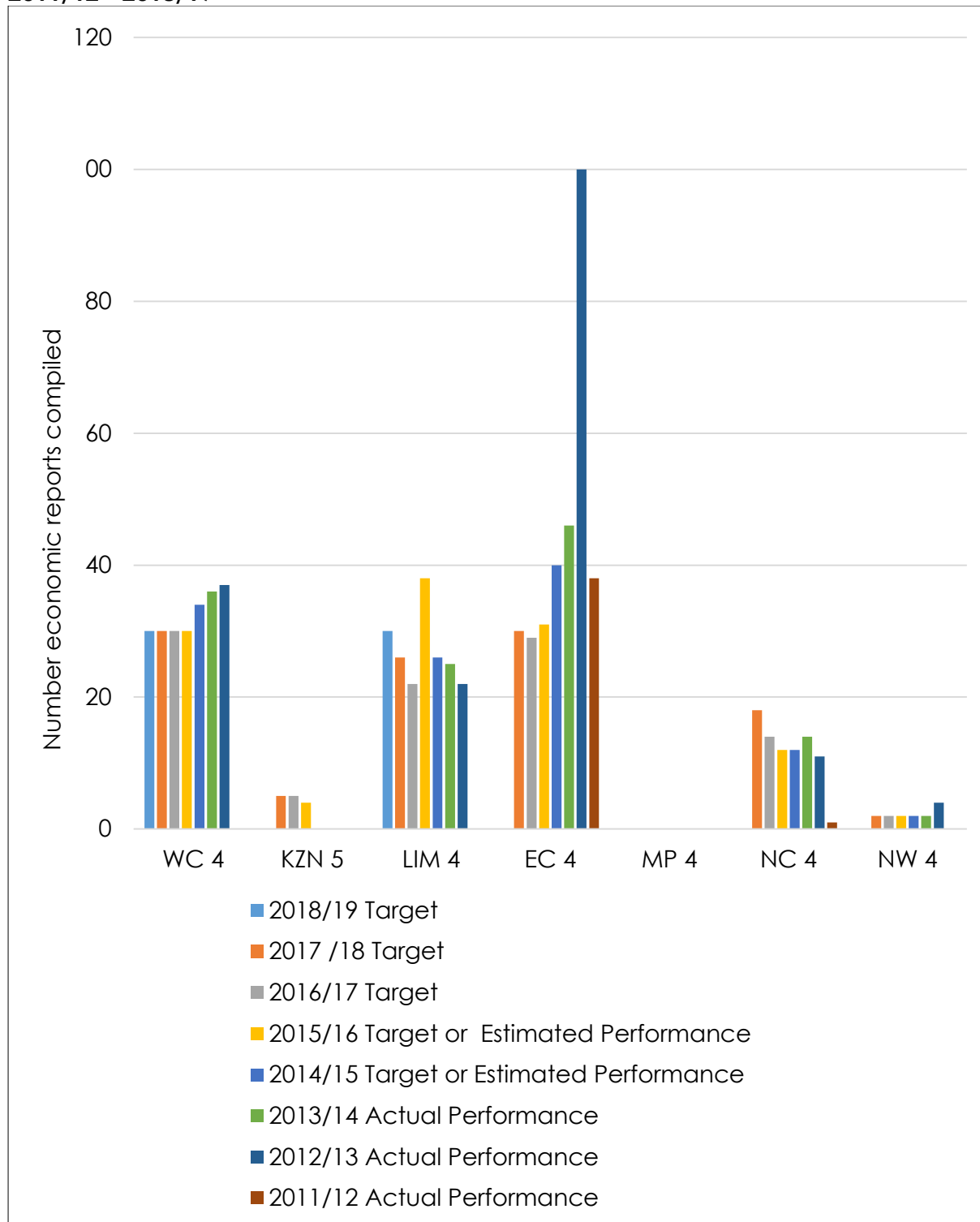
Sources: Own Analysis of data contained in Eastern Cape Provincial Government: Department of Rural Development and Agrarian Reform. (2016); Free State Provincial Government: Department of Agriculture and Rural Development. (2014); Gauteng Provincial Government: Department of Agriculture and Rural Development. (2016); Kwazulu-Natal Provincial Government: Department of Agriculture and Rural Development. (2016); Limpopo Provincial Government: Department of Agriculture and Rural Development. (2016); Mpumalanga Provincial Government: Office of the Premier. (n.d.); Northern Cape Provincial Government: Department of Agriculture, Land Reform and Rural Development. (2016); WCDoA (2016).

Figure 9-81 Macroeconomic support: Number of agricultural economic information responses provided 2011/12 - 2018/19



Sources: Own Analysis of data contained in Eastern Cape Provincial Government: Department of Rural Development and Agrarian Reform. (2016); Free State Provincial Government: Department of Agriculture and Rural Development. (2014); Gauteng Provincial Government: Department of Agriculture and Rural Development. (2016); Kwazulu-Natal Provincial Government: Department of Agriculture and Rural Development. (2016); Limpopo Provincial Government: Department of Agriculture and Rural Development. (2016); Mpumalanga Provincial Government: Office of the Premier. (n.d.); Northern Cape Provincial Government: Department of Agriculture, Land Reform and Rural Development. (2016); WCDoA (2016).

Figure 9-82 Macroeconomic support: Number of economic reports compiled: 2011/12 - 2018/19



Sources: Own Analysis of data contained in Eastern Cape Provincial Government: Department of Rural Development and Agrarian Reform. (2016); Free State Provincial Government: Department of Agriculture and Rural Development. (2014); Gauteng Provincial Government: Department of Agriculture and Rural Development. (2016); Kwazulu-Natal Provincial Government: Department of Agriculture and Rural Development. (2016); Limpopo Provincial Government: Department of Agriculture and Rural Development. (2016); Mpumalanga Provincial Government: Office of the Premier. (n.d.); Northern Cape Provincial Government: Department of Agriculture, Land Reform and Rural Development. (2016); WCDoA (2016).

10 Annexure 3: Extended overview of AE Services

10.1 Introduction

This Annexure contains an overview of various definitions of AE as well as Agricultural Economists. We then briefly review the historical context, including trends in the supply of Agricultural Economists in South Africa. This is followed by an overview of AE Services.

10.2 Definitions of AE and Agricultural Economists

10.2.1 Defining AE

There are numerous definitions of AE and these differ according to the range of issues which are defined as falling within the scope of AE. There is therefore no uniform or standard definition that is used universally to define this field of study. For example, Martin defines AE as *“the application of the social sciences of economics in the field of agriculture”* (Martin, 1978, p. 39). This suggests that much of the application of standard economic concepts and principles are the foundation of AE as a discipline. However, defining AE becomes difficult seeing that it is a heterogeneous subject field incorporating a large number of areas of specialisation such as production economics, farm and agribusiness management, marketing, natural resource management, rural development, finance, agricultural policy etc. (Conner, 1985).

The most comprehensive classification of AE is provided by the Journal of Economic Literature (JEL). The JEL provides a code guide to classify scholarly literature in the field of economics and contains information on the scope of different fields within economics³. The JEL Codes are used to classify articles, dissertations, books, book reviews, and working papers. Agricultural economics is classified as part of the major field of “Q. Agricultural and Natural Resource Economics; Environmental and Ecological Economics” which contains five main sub-fields (Q1 Agriculture; Q2 Renewable Resources and Conservation; Q3 Non-renewable Resources and Conservation; Q4 Energy; and Q5 Environmental Economics). The detailed JEL classification of AE is contained in Annexure 4 and includes detailed topics included under some of the above sub-fields.

Debertin provides a useful definition of an Agricultural Economist which includes the two key components of knowledge of economics as well as knowledge of agriculture, as follows:

“An Agricultural Economist is, first, an economist, in that an Agricultural Economist knows economic theory intimately. However, an Agricultural Economist is also an economist with a specialization in agriculture. The primary interest is in applying economic logic to problems that occur in agriculture. An Agricultural Economist needs to know economics, but a knowledge of

³ The JEL codes guide is available online at <https://www.aeaweb.org/jel/guide/jel.php> and the information in this section has been obtained from this online guide.

agriculture is also important. If an Agricultural Economist is to portray relationships accurately using a model of some component of an agricultural sector, the Agricultural Economist must know these relationships. Otherwise, the salient or important elements of the theory would be missed” (Debertin, 2012, p. 7).

10.3 Brief historical overview of AE in South Africa

The origins of AE can be traced to the late 19th century, combining the theory of the firm (applied to farm production) with marketing and organization theory (applied to strategies for organized marketing of agricultural commodities through collective bargaining and cooperatives) (Runge, 2008). Vink writes that “*Agricultural Economics was born of two parents: (a) the interest taken by economists in the issues of agriculture, with a focus on sector-level problems; and (b) the interest taken by agriculturalists (often horticulturalists and statisticians) and economists in the problems facing farmers*” (Vink, 2012, p. 1).

Vink (2012) and Runge (2008) note that the focus of the AE profession has been constantly evolving and broadening with increasing emphasis on the macro-economics of the food sector (including agricultural policy) since the 1970s as well as a focus on issues such as trade, consumer economics, economic development. Runge (2008) argues that AE has made important contributions in the following seven broad subjects since the 1970s: technical change and the returns to human capital investments; environmental and resource issues; trade and economic development; agricultural risk and uncertainty; price determination and income stabilization; market structure and the organization of agricultural businesses; and consumption and food supply chains.

In South Africa, Kirsten notes that the AE profession has responded in various ways to changes in “*the macro-economy, political regimes, other legislation, opportunities in world trade, technology, climatic conditions and social conditions*” and that “*South African agriculture went through several phases of transition – at least one major transition every decade*” (Kirsten, 2011, p. 29). As a result, Kirsten notes further that “*The scope of AE internationally and in South Africa has also evolved from the initial focus on farm management, marketing board issues and aspects of agriculture in general to a discipline now also covering the economic problems of food systems, rural communities, natural resources and the role they play in economic development*” (Kirsten, 2011, p. 29).

A few of the key milestones relevant to the South African AE profession include the following: the establishment (in the 1920s) of a Division of Economics and Markets in the National Department of Agriculture; the first AE graduates from the Departments of AE at the Universities of Stellenbosch and Pretoria in 1926; the establishment of farm financial record systems in the 1950s; the establishment of the AE Association of South Africa (AEASA and *Agrekon* (official journal of the AEASA) in the 1960s; the devolution of AE roles and responsibilities from national to provincial governments after 1994; and National Treasury's 2003 prescription for a uniform programme structure for all Provincial Departments of Agriculture whereby the AE Programme comprised two sub-programmes (Marketing services and macro-economics and

statistics). It is clear that the provision of AE Services has had to constantly adapt in relation to ongoing changes in South Africa's government system and policies. The above milestones were sourced from the following: AEASA (2015); Kirsten (2011); Troskie (2011); PSC (1994); National Planning Commission (2013); National Treasury (2003); WCDoA (2016).

10.4 Agricultural Economist supply trends in South Africa

Kirsten notes that selected South African universities largely supply Agricultural Economists (Kirsten, 2011). Currently, there are about eight departments of AE at traditional South African universities and that these train the majority of Agricultural Economists in South Africa (Vink, et al, 2011). Through these institutions, about 5874 Agricultural Economists were produced between 1926 and 2010 (Vink et al, 2011). Some Agricultural Economists are also trained at other institutions such as universities of technology and agricultural colleges.

According to Vink, there has been an increase in the rate of completion of postgraduate degrees and *"The profession has not faced the same problems as in the rest of the world other than the US, and Agricultural Economists are in demand in many parts of the public and private sector"* (Vink, 2012, p. 9).

Between 2003 - 2012, a total of 916 degrees (ranging from diplomas through to PhDs), or just over 90 degrees per year on average, have been awarded in South Africa (based on statistics supplied by DAFF in August 2016). These 916 degrees comprise 27 diplomas, 503 undergraduate degrees, 312 Master's Degrees and 74 PhDs. There appears to have been a strong growth in the number of graduates in 2010 – 2012 with more than 150 degrees being awarded in each of these years (it is not clear if this growth can be partly attributed to improvements in the reporting to, and collection of, such statistics by DAFF).

According to Kirsten, it is necessary for effective Agricultural Economists to obtain a relevant university degree. Nevertheless, people who are trained in agricultural colleges for courses lasting a few weeks or short courses less than a year without any advanced knowledge in agricultural sciences, economics or statistics are also referred to as Agricultural Economists despite the fact that they, however, do not hold the same exposure to the different aspects of agriculture as those individuals who attended universities (Kirsten, 2011).

10.5 The Legislative and policy mandate for AE Services, including effectiveness and inconsistencies

The policy mandate for agricultural economic services in the WC derives from a number of sources, including the South African Constitution (of 1996); Public sector legislation including the Public Finance Management Act (No. 1 of 1999 and subsequent amendments) and Intergovernmental Relations Act (No. 13 of 2005 and subsequent amendments); South Africa's 2030 National Development Plan (NDP) (National Planning Commission, 2013); Government's National Medium Term Strategic Framework (MTSF): 2014-2019 (Presidency, 2014); and the WC Provincial Government: Department of Agriculture Annual Performance Plan: 2016/17 (WCDoA, 2016). The Constitution of the WC, Act 1 of 1998, also guides the policies

strategies and activities of the WCDoA.

Growing and transforming the agricultural sector in South Africa is recognised as a key priority in both the NDP and MTSF. The MTSF further states that “The continued pressure on agriculture to increase output per unit of land poses an additional challenge of ensuring that the natural resource base is protected. A major limitation in increasing output on agriculture, especially smallholder producers has been uncoordinated support across government. Support in this context entails extension services, training, financial support, market information and related forms of support to smallholder producers.” (Presidency, 2014, p. 7).

10.5.1 The South African Constitution

Section 40 of the Constitution establishes three spheres of government: national, provincial and local. “Agriculture” is denoted as a Schedule 4 function, meaning that it is a concurrent national and provincial legislative competence. The Constitution through Section one04 (1) (B) provides power to the provinces in order “to pass legislation on any functionality listed in schedule 4A (concurrent) and 5A (exclusive provincial)”. Agriculture, animal and disease control, disaster management, environment, regional planning, soil conservation, trade, tourism as well as urban and rural development are part of these concurrent functions” (Troskie, 2011, p. 27) (see Annexure seven for a detailed breakdown of powers and functions relevant to agriculture and allocated to the three spheres of government under Schedules 4 and 5 of the Constitution). Exclusive provincial mandates include provincial planning, abattoirs and veterinary services.

According to the Constitution government at these spheres should be distinctive, interdependent and interrelated. According Section 41 (2) of the Constitution, any act passed by Parliament should regulate the relationship between the three levels of government, which resulted in the Intergovernmental Relations Framework Act (Act 13 of 2005). This Act made it possible for a number of platforms where functional and coordination issues can be discussed between the various spheres of government.

After the democratic elections in 1994, a situation arose where a lack of clarity existed as to the specific national and provincial responsibilities. As a result, in 1994, the then PSC provided a detailed breakdown of the Agricultural responsibilities between the Provincial and National spheres of Government and which involved the allocation of AE support to farmers as well as the determination of agricultural economic policy as well as the administration of matters pertaining to state agricultural land to Provincial governments in South Africa (PSC, 1994) (refer to Annexure six for further details).

More recently, the National Treasury (2003) used powers under the Public Finance Management Act (Act 1 of 1999) to, in consultation with the National Department of Agriculture, Forestry and Fisheries and the various Provincial Departments of Agriculture, prescribe a unified financial programme structure for agriculture at the Provincial level.

10.5.2 South Africa's 2030 National Development Plan (NDP)

The NDP (National Planning Commission, 2013) includes a scenario which demonstrates that just under one million direct and indirect jobs could be created in the South African agriculture sector between 2013 and 2030. This is made up of approximately 600,000 potential jobs in communal areas, and 300,000 jobs through commercial agriculture) if the correct policies and programmes are implemented well.

The NDP identifies six policy imperatives, which will be the focus of the 2014-2019 MTSF period and which include sustainable land reform (agrarian transformation); improved food security; and smallholder farmer development and support (technical, financial, infrastructure) for agrarian transformation.

The NDP also recommends investigating whether agricultural services are appropriately located at the Provincial level and states "*Innovative means for agricultural extension and training by the state, in partnership with industry, should be sought*" (National Planning Commission, 2013, p. 226).

AE Services can potentially play a critical role in enhancing all of the above six NDP policy imperatives. For example food security and the sustainability of land reform as well as improved smallholder farmer development can be improved if AE Services can be increasingly aligned and integrated with the Department of Rural Development and Land Reform's programmes. This includes the identification of land and farms for purchase as well as the recapitalisation of farms and the development of business plans which contribute to the effective utilisation of such land.

10.5.3 National Government: Medium Term Strategic Framework (MTSF): 2014-2019

The MTSF (2014-2019) identifies "Vibrant, equitable, sustainable rural communities contributing towards food security for all" (Presidency, 2014b, p. 31) as one of the national priorities. The MTSF states that achieving this vision and the set targets "will require improved coordination between land reform and land use, provision of communal tenure security, increased financial and technical support of farmers, and the provision of improved social and physical infrastructure. It will also require capacity building to enable state institutions and private industries to implement these interventions. Improved coordination and integration in the planning and implementation of area-based and differentiated rural development plans will be needed to achieve the vision of an inclusive rural economy" (Presidency, August 2014a, p. 25-26).

The MTSF identifies a sub-outcome (number 4) of "*Smallholder producers' development and support (technical, financial, infrastructure) for agrarian transformation*" and identifies a national target of supporting 80,000 smallholder producers by 2019 which is relevant to AE Services in South Africa (Presidency, 2014a, p. 8).

The key MTSF policy mandate for AE Services is therefore a focus on smallholders and on improving production efficiencies. This obviously needs to be linked to improved market access and access to finance as noted in the MTSF.

Furthermore, the MTSF identifies additional impact indicators and targets for land ownership by previously disadvantaged individuals, and rural poverty and unemployment and which AE services can contribute towards.

10.5.4 WC Provincial Department of Agriculture: Annual Performance Plan (APP) 2016/17

The WCDoA plays an important role in contributing towards Provincial Strategic Goal 1: Create opportunities for growth and jobs. Agri processing has been identified as one of the key strategic sectors. The WCDoA has already realigned its services to include agri processing and it will continue to do so over the medium to long term. Another Provincial Strategic Priority is the fast tracking of agricultural land reform.

10.5.5 Legislative and policy mandate effectiveness and inconsistencies

South Africa's inter-governmental context requires high levels of collaboration and coordination in order to effectively deliver services and achieve successful development outcomes. As Troskie notes *"no activity in one sphere can successfully be achieved without the involvement of the other spheres. However, the independence of each of these spheres is protected by the Constitution; therefore policy decisions need to be taken at all three levels."* (Troskie, 2011, p. 27).

Grey areas exist between the national and provincial-level regarding the formulation of agricultural policy and where national competencies end and where provincial responsibility starts. National government has the function of the "determination of macro-agricultural policy" while the provincial governments have the capability of the *"determination of (Provincial) agricultural economic policy"* (Troskie, 2011, p. 8).

11 Annexure 4: Journal of Economic Literature detailed classification of AE

Table 11-1 Q000 Agricultural and Natural Resource Economics; Environmental and Ecological Economics: General

JEL Agriculture Economics Division	Scope	Key words
Q100 Agriculture: General	Covers studies about general economic issues related to agriculture, including survey articles, textbooks, and data.	Food, Structural Reform
Q110 Agriculture: Aggregate Supply and Demand Analysis; Prices	Covers studies about issues related to aggregate agricultural market, including supply, demand, prices and sustainable agriculture.	Agricultural Productivity, Agricultural Supply, Cattle, Cereal, Commodity Futures, Corn, Cotton, Dairy, Food Price, Food Production, Fruit, Hogs, Livestock, Meat, Meatpacking, Milk, Poultry, Prices, Rice, Rice fields, Silkworm, Soybean, Sugar, Sugarcane, Sustainable Agriculture, Vegetables
Q120 Micro Analysis of Farm Firms, Farm Households, and Farm Input Markets	Covers microeconomic studies about issues pertaining to three closely related topics: farm firms, farm input markets, and farm households. Includes microeconomic studies of agricultural investment.	Acreage, Agricultural Employment, Agricultural Management, Agricultural Productivity, Cotton, Dairy, Farm Enterprise, Farm Firms, Farm Household, Farm Input Markets, Farm Mechanisation, Farm Mechanization, Farm Retail, Fertiliser Use, Fertilizer Use, On Farm, Parity Prices, Peasant, Rice, Rice fields, Sugar, Sugarcane
Q130 Agricultural Markets and Marketing; Cooperatives; Agribusiness	Covers studies about issues related to agricultural markets and marketing, cooperatives, and agribusiness.	Agribusiness, Agricultural Commodities, Agricultural Commodity, Agricultural Cooperative, Agricultural Marketing, Agri environment, Agri food, Agro industrial, Buffer Stock, Cereals Marketing, Collective Farm, Commodities, Cooperatives, Cotton, Dairy, Farm Enterprise, Farm Retail, Farmer Cooperatives, Feed Processing, Food Processing, Food Production, Fruit, Livestock, Marketing, Milk, Nuts, Peanut, Poultry, Producer Cooperative, Rice, Sugar, Sugarcane, Vegetables Caveats: Studies about non- agricultural producer cooperatives or labor managed firms should be classified under J54. Studies about marketing per se should be classified under M31. Studies about communes and agriculture in socialist or transitional economies should be classified under P32. Studies about communes and agriculture in socialist or transitional economies should be classified under P32.
Q140 Agricultural Finance	Covers microeconomic and macroeconomic	Agricultural Credit, Credit, Farm Credit, Farm Finance, Finance

	studies about issues related to private and public agricultural finance. Includes studies related agricultural investment at the sectoral level.	
Q150 Land Ownership and Tenure; Land Reform; Land Use; Irrigation; Agriculture and Environment	Covers studies about issues related to agricultural land, including ownership and tenure (for example, issues related to share cropping), irrigation and agricultural land valuation.	Acreage, Agricultural Land, BLM, Cropland, Dams, Drought, Erosion, Farmland, Farms, Irrigation, Land Ownership, Land Reclamation, Land Reform, Land Tenure, Land Use, Landholdings, Landownership, Ranchland, Reclamation, Resettlement, Sharecropping, Soils, Tenancy, Tenant, Tenure, Tillage, Water
Q160 Agricultural R&D; Agricultural Technology; Biofuels; Agricultural Extension Services	Covers studies about issues related to agricultural R&D, technology and technology adoption, including agricultural extension services, and animal and plant diseases and their control.	Agricultural Extension Service, Agricultural Research, Agrochemical, Alar, Animal Disease, Biofuels, Extension Services, Farm Mechanisation, Farm Mechanization, Fertiliser, Fertiliser Use, Fertilizer, Fertilizer Use, Pesticide, Plant Disease, Weed Control
Q170 Agriculture in International Trade	Covers studies about issues related to agriculture in international trade	Agreement, Agricultural Trade, Commodity Agreements, Cotton, Exports, Fruit, Import, International Trade, Livestock, Poultry, Protection, Sugar, Sugarcane, Trade Agreements
Q180 Agricultural Policy; Food Policy	Covers studies about issues related to renewable resources and conservation. Studies about environmental issues related to renewable resources should be classified under the appropriate category or categories in Q5, and should be cross-classified here only if they are relevant to pertinent markets and conservation.	Common Pool, Conservation, Conservationist, Environment, Environment Data, Environmentalism, Renewable Resources, Resource Base, Resource Booms, Resource Poor, Resource Rich, Resources, Risk Assessment, Sustainability.

Source: *Journal of Economic Literature* (1 August, 2016).

Table 11-2 Q2 Renewable Resources and Conservation

JEL Agriculture Economics Division	Scope	Keywords
Q200 Renewable Resources and Conservation: General	Covers studies about general issues related to renewable resources and conservation, including survey articles, textbooks, and data.	<i>Not specified.</i>
Q210 Renewable Resources and Conservation: Demand and Supply; Prices	Covers mostly theoretical studies about issues related to the market for renewable resources in general, such as demand, supply, and price analysis. Also includes issues pertaining to the commons.	Commons, Modelling, Modelling
Q220 Renewable Resources and Conservation: Fishery; Aquaculture	Covers studies about issues related to fishery and aquaculture.	Aquaculture, Endangered Species, Fisheries, Fishery, Fishing, Maritime, Overfishing, Salmon, Seafood
Q230 Renewable Resources and Conservation: Forestry	Covers studies about issues related to forestry.	Agroforestry, Deforestation, Forest, Forestry, Logging, Lumber, Lumber Industry, Rainforest, Redwood, Reforestation, Wood, Woodland
Q240 Renewable Resources and Conservation: Land	Covers studies about issues related to land as a renewable resource and its conservation.	Acreage, Desertification, Erosion, Land, Land Markets, Land Ownership, Land Reclamation, Land Use, Land Value, Landholdings, Ranchland, Reclamation, Soils, Waste Disposal, Waste Management, Wetlands
Q250 Renewable Resources and Conservation: Water	Covers studies about issues related to water as a renewable resource and its conservation.	Abatement, Atmospheric, Chlorofluorocarbons, Clean Air, CO2, Dams, Drought, Emissions, Flood Control, Groundwater, Nox, Oceans, Ozone, Ozone Depleting, Pollutant, Polluter, Polluting, Pollution, Rainfall, Reef, Rivers, Sewage, SO2, SO2 NOx, SOx, Water
Q260 Recreational Aspects of Natural Resources	Covers studies about issues related to the recreational uses of natural resources, for example fishing or parks.	Benefit Cost, National Parks, Parks, Recreation, Willingness to Pay
Q270 Renewable Resources and Conservation: Issues in International Trade	Covers studies about issues related to the international trade aspects of renewable resources, including fishing rights.	Catastrophe, Earthquake, Forest, International Trade
Q280 Renewable Resources and Conservation: Government Policy	Covers studies about government policies related to renewable	International Environmental Policy

	resources and their conservation, including international policies.	
Q290 Renewable Resources and Conservation: Other	<i>Not specified</i>	<i>Not specified</i>

Source: *Journal of Economic Literature* (1 August, 2016).

Table 11-3 Q3 Non-renewable Resources and Conservation

JEL Agriculture Economics Division	Scope	Keywords
Q300 Non-renewable Resources and Conservation: General	Covers studies about general issues related to non-renewable resources and their conservation, including survey articles, textbooks, and data.	<i>None specified</i>
Q310 Non-renewable Resources and Conservation: Demand and Supply; Prices	Covers mostly theoretical studies of issues related to the market for non-renewable resources, including demand, supply, and price analysis.	Depletion, Natural Gas
Q330 Resource Booms	Covers studies about issues related to resource booms and their effects, including Dutch disease.	Dutch Disease, Resource Booms
Q350 Hydrocarbon Resources	Covers studies related to the market for and conservation of hydrocarbon resources including oil, gas, and coal.	Coal, Conservation, Gas, Hydrocarbons, Oil
Q370 Non-renewable Resources and Conservation: Issues in International Trade	Covers studies about issues related to the international trade aspects of non-renewable resources.	International Trade, Oil, Rare Earth Minerals
Q380 Non-renewable Resources and Conservation: Government Policy	Covers studies about government policy related to non-renewable resources and their conservation, including OPEC policy.	Crude Oil, Electricity Conservation, Natural Gas, OPEC, OPEC Policy

Source: *Journal of Economic Literature* (1 August, 2016).

Table 11-4 Q4 Energy

JEL Agriculture Economics Division	Scope	Keywords
Q400 Energy: General	Covers studies about issues related to energy in general, including survey articles, textbooks, and data.	Environmental Accounts, Oil, Resources
Q410 Energy: Demand and Supply; Prices	Covers studies about issues related to the market for energy in general, including demand, supply, and prices.	Crude Oil, Energy Conservation, Energy Efficiency, Energy Sources, Energy Supply, Natural Gas, Petroleum
Q420 Alternative Energy Sources	Covers studies about issues related to alternative energy sources, for example non-hydrocarbon fuels or wind.	Alternative Energy Source, Energy Sources, Ethanol, Gasification, Hydropower, Nuclear
Q430 Energy and the Macro-economy	Covers studies about issues related to the relationships between energy and the macro-economy, such as the relationship between energy usage and GDP or growth.	Energy Consumption, Energy Prices, Oil Shocks
Q470 Energy Forecasting	<i>Not specified</i>	Crude oil prices, Energy, Production Prediction
Q480 Energy: Government Policy	Covers studies about issues related to government policy on energy.	Electric Utilities, Energy Conservation, Natural Gas

Source: *Journal of Economic Literature* (1 August, 2016).

Table 11-5 Q5 Environmental economics

JEL Agriculture Economics Division	Scope	Keywords
Q500 Environmental Economics: General	Covers studies about general issues related to environmental economics and/or ecological economics, including survey articles, textbooks, and data.	Ecological, Global, Green
Q510 Valuation of Environmental Effects	Covers studies about issues related to valuation of environmental effects. Includes studies on recreational effects and health effects, as well as valuation methods, such as contingent valuation.	Contingent Valuation, Environmental Health and Safety, Health Effects, Hedonic, Recreation
Q530 Air Pollution; Water Pollution; Noise; Hazardous Waste; Solid Waste; Recycling	Covers studies about issues related to environmental degradation, its impacts and its solution.	Hazardous Waste, Noise, Pollutant, Polluter, Polluting, Pollution, Recycling, Solid Waste
Q540 Climate; Natural Disasters and Their Management; Global Warming	Covers studies about issues related to climate and natural disasters, including desertification and drought.	Climate, Desertification, Drought, Natural Disaster
Q550 Environmental Economics:	Covers studies about issues related to technological innovation that is used	Technological Innovation

Technological Innovation	to control environmental degradation.	
Q560 Environment and Development; Environment and Trade; Sustainability; Environmental Accounts and Accounting; Environmental Equity; Population Growth	Covers studies about issues related to the environment and development, the environment and trade, environmental accountability, environmental equity, and environmental sustainability	Environmental Accounting, Environmental Equity, Environmental Kuznets Curve, Sustainability, Trade
Q570 Ecological Economics: Ecosystem Services; Biodiversity Conservation; Bio-economics; Industrial Ecology	Covers studies about issues related to topics in ecological economics including ecosystem services and biodiversity.	Biodiversity Conservation, Bio-economics, Ecological, Ecology, Ecosystem
Q580 Environmental Economics: Government Policy	Covers studies about issues related to both national and international government policy pertaining to the environment, including environmental taxes and tradable permits.	Command and Control, Eco tax, Environmental Regulation, Environmental Subsidies, Environmental Subsidy, Environmental Tax, Hazardous Waste, Pollution Control, Regulation, Solid Waste, Tradable Permits

Source: *Journal of Economic Literature* (1 August, 2016).

11 Annexure 5: Summary of emerging farmer focus group held with representatives of the African Farmer Association of South Africa (AFASA)

Focus group purpose: To discuss emerging farmer use of WCDoA AE Services including any priority emerging farmer needs not being adequately met as well as proposals for improving WCDOA Programme 6 and its services.

AFASA represents black producers. Most of these are small scale farmer, together with a hand-full of commercial larger farmers.

Focus group agenda:

1. Programme 6 evaluation background and overview of Programme 6
2. Focus group purpose.
3. Perceptions of Programme 6 services including gaps, weaknesses, and proposals for improvement.

Focus group participants: Western Cape AFASA chairperson and deputy-chairperson.

Introduction: The purpose of the programme 6 evaluation was explained by Camissa. The focus group agenda was discussed and confirmed. The purpose of the focus group was discussed (see above).

Market access:

Most AFASA members are aware of the WCDoA's AE services. For example, the Market Access Programme has been running for a few years (mainly in fruit sector) and the AFASA representatives believe that there is a need to expand this programme to other commodities.

There is insufficient Programme 6 focus and support for assisting emerging farmers to access local markets/retailers. Programme 6 could facilitate engagement with retailers so that retailers can commit to create supplier development opportunities for black farmers (e.g. as currently done by Woolworths). These partnerships could be formalised by way of MOUs. To overcome challenges with the consistency of supply and sufficient volumes from smaller producers, Programme 6 could play a valuable role through supporting aggregation centres.

Programme 6 can play an important role by creating a formal platform for farmers to negotiate with retailers. For example, WCDoA could provide a certification process and stamp of approval/endorsement for emerging farmers capable of supplying retailers so that retailers can have better confidence and trust in smaller suppliers and to address issues of information market failure (e.g. where retailers do not have access to comprehensive information on smaller producers and their production profile).

Access to finance including Combud system/production costs and commodity profitability information:

Many businesses lack the ability to have proper financial record system and ability to understand basic financial management accounts.

Approximately seventy percent of small scale farmers do not have their financial records in order.

WCDoA has a software programme that is used to assist farmers with their financial records. However, it is believed that there is no consistent effort to drive skills transfer to emerging farmers to use the software or to create a demand by emerging farmers for using this software. Farmers know that they must have proper financial records and systems but there is a lack of understanding as to the "why and the how".

Auditors are a large cost at approximately R10 000 and there is a barrier from the farmer to spend money on this as many people do not see the value of good financial records.

It needs to be clarified how Programme 6 delivers the financial record keeping service at the moment. Programme 6 needs to find ways to get service delivery closer to the farmers and to increase the number of WCDoA officials who have access to the financial management software to assist farmers. One option to be explored is that staff in district offices be use to deliver basic financial management training.

WCDOA must bring back the Combud system: Farmers want to see financials of the top three commodities by profitability and income. Banks use information on how their loan clients are performing in the production of certain crops in order to approve commercial loans. Farmers need an independent source of information which is not from the commodity organisations.

Government grant funding (such as CASP) is not enough to develop black farmers on its own and a combination of public and private funding sources and larger sums of money are needed. There a need for Programme 6 and the commercial banks to work closer with CASP funding in order for WCDoA to leverage commercial loan funding from the banks with this CASP grant funding. CASP grant funding is not sufficient. At the same tie, large number of farmers do not want to be 100% tied to grant system. Instead, farmers want to receive funds from a combination of funding sources. Farmers want to graduate from the grant system but this needs the commercial banks to be on board with funding emerging farmers. The commercial banks do not necessarily understand all the needs and dynamics related to funding black producers.

It is difficult for 100% black owned farms to access equity scheme funding from commercial banks and other large commercial partners. Government support is needed to facilitate this access.

Land Reform and purchasing of farms and involvement of Programme 6:

As part of the DRLR land reform process and the process to consider possible farm purchases by DRDLR, DRDLR currently asks WCDoA for a report on a potential farm

for purchase. The WCDoA extension officer and a crop expert then provided DRDLR with a report on the farm. However, it is not necessarily clear from the economics side if the farm is viable. Programme 6 is not involved in making inputs into this land reform farm purchase process. There is a need in future for DRDLR to work closer with the commodity organisations and Programme 6 regarding whether farms are viable and whether they should be recommended for purchase or not. With the current process, it is possible that the amount of Recapitalization and Development Programme (RECAP) funding (this funding focuses on human capacity development, infra-structure development and operational inputs on properties in distress and newly acquired through the land reform redistribution, restitution and other programmes since 1994 as well as other agricultural properties in distress acquired without grant funding) actually needed to make a farm viable will be underestimated. Farmers selling farms often say that their farm is not a going concern, and usually farmers are bankrupt and their farm can't be sold and the market does not want to buy the farm and therefore DRDLR is seen as the last option.

General Programme 6 service delivery improvement:

There is a need for more advertising of Programme 6 services including information sharing at the district-level where farmers can meet Programme 6 staff.

12 Annexure 6: Summary of commercial banks focus group

Focus Group Purpose: To discuss differences in AE Services provided by banks and WCDoA Programme 6; to discuss bank's awareness of and use of WCDoA AE Services and other current or potential future linkages between banks and WCDoA; to discuss AE career path dynamics (and linked issues related to training and staff development and career opportunities including movement between banks and WCDoA).

Focus group agenda:

1. Programme 6 evaluation background and overview of Programme 6
2. Focus group purpose.
3. Differences between public and private sector AE Services.
4. Career paths for Agricultural Economists.
5. AE Service linkages between Programme 6 and commercial banks.

Focus group participants: Two Agricultural Economists (one working for Standard Bank (Regional Manager), and one working for Nedbank).

Introduction: The purpose of the programme 6 evaluation was explained by Impact Economix. The focus group agenda was discussed and confirmed. The purpose of the focus group was discussed (see above).

Differences between working in the public and private sector as an Agricultural Economist:

- The speed with which one needs to make decisions in the private sector is faster and the scope to make mistakes and not accurately identify risks is a lot smaller as you are working with shareholder's funds.
- Working in the public sector provides the opportunity to impact on development needs but the red tape and bureaucracy is an obstacle for Agricultural Economists to move from the private sector to the public sector.
- Working in the bank requires a lot of multi-disciplinary interactions with other departments such as legal, risk, marketing, international finance etc. as well as interactions with very senior management within the bank. So Agricultural Economists in the private sector gain business knowledge and have the opportunity to move into management roles at different levels including senior management. So you are exposed to far more career development opportunities in commercial banks than the public sector. In the public sector one tends to specialise in one area and keep doing the same things without much chance to diversify your skills and knowledge.
- When Agricultural Economists work in the banks they look at farm budgets in a lot of detail including looking at a wide range of risks and they get inputs from different specialist areas in the bank including social analysis and production issues. So Agricultural Economists need to be able to work as a

team and integrate inputs from specialists to take a holistic view on a loan in order to make an informed decision.

Career paths for Agricultural Economists in commercial banks:

- There is strong interest from Agricultural Economists in applying to work in the banks - The reasons are unclear but could potentially be the high perceived salaries.
- Most of the applications from Agricultural Economists to work in the banks come from the private sector, for example the cooperatives. Most applicants have at least 2-4 years' work experience and they have been exposed directly to the farmer and farm production.
- Most of the new black graduates applying to the bank graduate from the University of Free State and a few from Universities of Stellenbosch and Pretoria.
- Only a small percentage of commercial bank's appointments are applicants who have come from the WCDoA – estimated at about 5%.
- There is a shortage of skills within the bank.
- The banks have a high performance culture which is combined with a strong focus on five year career path development and plans where there is agreement on where a candidate would like to be in 5 years and what leadership and other qualities/skills they will need to focus on and what support they need to develop those skills and qualities. Career plans and performance is assessed twice a year where interventions are identified that are required to improve performance. People are then sent, for example, to the global leadership centre in Sandton.

Agricultural Economist skills issues:

- The banks prefer applicants who have a Master's level degree. But having a few years work experience can be more valuable than having a Master's degree as having life experience outside of the academic setting allows them to adapt to the team environment a lot quicker and they get up to speed a lot quicker. The other key criteria when assessing applicants are their attitudes.
- Soft skills are very important especially communicating with confidence given the importance of working in teams. Applicants might have the right skills but if they can't get the message across it is a problem.
- Analytical, writing and quantitative and excel skills are also important.
- Writing in the bank context requires the ability to write very succinctly as people don't have a lot of time to read 5-10 pages.

Linkages between banks and WCDoA Programme 6:

- Banks use to use Combud system years ago but found the information was out of line with cash flows and actual income at the time. Having an independent source of this information is very important. Average production costs can vary a lot in a local area of 10-15 kilometres so it's not a perfect science. Combud also needs to take into account the size of the operation and production efficiencies and economies of scale.

- The information online on the WCDoA maps is not that important from the bank's perspective.
- There is a need to improve the banks awareness of what information WCDoA can provide.
- The focus group participant do not know much about what kind of viability studies the WCDoA does and how much details goes into these in terms of, for example, the kinds of risks that they cover. All the banks do viability studies slightly differently. Some look at the broader value chain, for example others include market risk and SWOT analysis. It is also very important if the viability study is done before the farm is purchased and the original farmer is still in production or after the farm is sold. It could be useful for WCDoA to facilitate an informal learning workshop with the banks where all role-players can share how they look at farm viability, including how they assess different risks. This may be one way the banks can contribute to capacity building with the WCDoA regarding how to assess risks holistically.
- WCDoA must be clear on who their main clients are - it may not be the banks.
- There is huge potential for the WCDoA to work more closely with the banks to get them more involved in providing finance so that emerging farmers are not always relying only on government grants. At the same time, when government funding is involved in a project the banks often see this as a risk because the decision-making processes and time-frames to make this funding available are uncertain and could pose a risk.

13 Annexure 7: Allocation of agriculturally related functional areas between the three spheres of government

Table 13-1 Constitutional allocation of agriculturally related functional areas between the three spheres of government:

Reference	National	Provincial	Local
Schedule 4; Part A: Concurrent national and provincial functional area.	Agriculture	Agriculture	
	Animal control & diseases	Animal control & diseases	
	Casinos, racing, gambling, etc.	Casinos, racing, gambling, etc.	
	Consumer protection	Consumer protection	
	Disaster management	Disaster management	
	Environment	Environment	
	Nature conservation, excluding national parks, etc.	Nature conservation, excluding national parks, etc.	
	Public transport	Public transport	
	Public works	Public works	
	Regional planning and development	Regional planning and development	
	Soil conservation	Soil conservation	
	Tourism	Tourism	
	Trade	Trade	
Urban and rural development.	Urban and rural development.		
Schedule 4; Part B: National & Provincial Government regulate Municipal implementation.	Firefighting services	Firefighting services	Firefighting services
	Local tourism	Local tourism	Local tourism
	Municipal planning	Municipal planning	Municipal planning

	Municipal public transport	Municipal public transport	Municipal public transport
	Trading regulations	Trading regulations	Trading regulations
	Potable water systems.	Potable water systems.	Potable water systems.
Schedule 5; Part A: Exclusive Provincial Competence.		Abattoirs	
		Liquor licenses	
		Provincial planning	
		Provincial roads and traffic.	
		Veterinary services	
Schedule 5; Part B: Province regulate and monitor Municipal implementation		Fencing and fences	Fencing and fences
		Control of liquor sales	Control of liquor sales
		Licence & Control of places that sells food to public.	Licence & Control of places that sells food to public.
		Markets	Markets
		Municipal abattoirs	Municipal abattoirs
		Street trading.	Street trading.

Source: Constitution of the Republic of South Africa (Act 108 of 1996)

Table 13-2 Division of agricultural Functions between the National and Provincial spheres of competence

National	Provincial
<p>Determination of norms and standards.</p> <ul style="list-style-type: none"> plant improvement. livestock improvement. subdivision of agricultural land. agricultural resource conservation. utilisation of agricultural resources. agricultural credit and financial assistance. <p>Regulation of:</p> <ul style="list-style-type: none"> animal health. plant health. agricultural marketing. combating of agricultural pests. co-operatives. quality of plant and animal material and products. veterinary public health. livestock brands. <p>Determination of macro agricultural policy</p> <p>control of:</p> <ul style="list-style-type: none"> import and export of animals, agricultural material and products. agricultural and stock remedies, stock feeds and fertilisers. <p>Rendering of:</p> <ul style="list-style-type: none"> specialised diagnostic and research services regarding animal diseases. agricultural statistical services. financial assistance in national disaster situations. 	<p>Rendering of support to farmers and agricultural communities regarding:</p> <ul style="list-style-type: none"> extension services. training. Financing. household food security. disaster aid. agricultural economics. agricultural engineering technology. marketing infrastructure. irrigation. stock-watering systems. <p>Promotion of:</p> <ul style="list-style-type: none"> agricultural resource conservation. sustainable utilisation of agricultural resources. agricultural technology development, adaptation and transfer. improvement of livestock, plants and related products. agricultural marketing. <p>Rendering of:</p> <ul style="list-style-type: none"> animal health services veterinary public health services. plant health services. agricultural statistical services. veterinary laboratory services. <p>Determination of agricultural economic policy</p> <p>Administration of matters pertaining to state agricultural land.</p>

Source: Public Service Commission (1994).

14 Annexure 8: Summary of roles played and services provided by Agricultural Economists in different types of organisations in South Africa

Table 14-1 AE service providers in South Africa: Selected roles and AE Services provided

Institutional Type	Agricultural Economists: Selected Roles and Services
National Government	<ul style="list-style-type: none"> • Provide policies and implementation standards for international trade • Develop policies and monitoring mechanisms for agricultural marketing • Develop strategies for agri processing • Facilitate and coordinate provision of development finance • Promote compliance with Broad-Based Black Economic Empowerment (BBBEE) • Provide statistics and economic analysis • Promote cooperatives and enterprise development • As far as services relating to natural resources are concerned, the development, re-planning and related aspects of irrigation schemes have proven to be very important service areas for production orientated economists at a national level
Provincial Departments Of Agriculture	<ul style="list-style-type: none"> • Facilitate access to markets and market identification • Provide financial advice and support service to farmers • Facilitate development of agricultural co-operatives • Conduct project appraisal and business plan development • Provide specialist farm management and economic advice
The National Agricultural Marketing Council	<ul style="list-style-type: none"> • Undertake research in the areas of agricultural marketing and trade, agro-food chains efficiency, viability and competitiveness and linking farmers to markets • Establish farmer development schemes aimed at enhancing market access • Monitor transformation in agribusiness and agricultural trusts • Undertake investigations and provide advice on statutory measures
State – Owned Entities	<ul style="list-style-type: none"> • Advise in financing, marketing, production, development, technology impact, research and policy • Use mathematical models to make predictions and analyse data • Undertake research and report findings to decision-makers
The Development Bank Of Southern Africa	<ul style="list-style-type: none"> • Analysis of the policy constructs of South Africa's "two agricultures" • Undertaking of research on small farmer development and support • Conducting social cost-benefit analysis (CBA) • Investigating land reform models

Institutional Type	Agricultural Economists: Selected Roles and Services
Commercial Banks	<ul style="list-style-type: none"> • Developing strategies for the agricultural segment of the bank • Involved in the risk management of the agricultural exposure of the bank • Initiate product development to address the financial needs of the agriculture sector • Training of bank staff members that deal with agricultural clients • Client visits, conducting financial and feasibility analysis, assisting with credit • Applications and conducting annual reviews • Training of farmers in financial management • Conducting viability studies and agricultural property valuations
Agribusiness	<ul style="list-style-type: none"> • Contributing to agribusiness' strategic processes • Investment analysis and providing options for managerial decision making • Management Information Systems linked to financial and economic modelling • Project planning and financial management • Leading and directing agribusinesses as strategic managers
Private Consultancy	<ul style="list-style-type: none"> • Providing commentaries on agricultural policies • Contributing on development policies, strategies and frameworks and modelling development impacts • Undertaking feasibility studies and compiling business plans • Undertaking studies to support the sustainable development of previously disadvantaged farmers and farming communities • Providing economic and financial planning and advice at farm level

Source: Extracted by author from AEASA (2015).

15 Annexure 9: Desired Agricultural Economist skills in South Africa

Table 15-1 Specific skills relevant to Agricultural Economists and university degrees in South Africa

Desirable business skills
Ability to prepare a solid business plan.
Ability to to conduct a transaction on SAFEX.
Ability to to pass the SAFEX commodity trading exam.
Ability to prepare financial statements and do a financial analysis of a farm and or/ agribusiness.
Ability to develop a cash flow statement for farming enterprise.
Ability to do a feasibility study.
Ability to do tax planning and provision of realistic and reliable advice to farmers
Soft skills
Ability to work independently without supervision.
Ability to perform well in a group.
Ability to communicate effectively..
Confidence in asking and answering questions.
Ability to apply critical thinking into problem solving.
Ability to listen to and summarise lengthy oral presentation.
Ability to work under varied conditions.
Willingness to be mentored.
Have a practical concept of what farming is really about.
Desirable computer skills
Ability to prepare a whole farm budget on Excel.
Ability to prepare an enterprise budget on Excel.
Ability to do simple regression and forecasting.
Ability to prepare a good project report.
Ability to prepare a good PowerPoint presentation.
Ability to prepare a sound and precise word document with correct technical guidelines (e.g. font, structure and formatting).
Conduct research using internet, books and other information sources.
Basic AE skills
Ability to estimate a supply and demand function.
Ability to estimate elasticities.
Ability to manage a data set.
Ability to conduct a welfare analysis of policy interventions.
Knowledge of the main elements of the South African agricultural policy.
Ability to listen to and summarise lengthy oral presentation.
Understanding of the techniques involved in analysing agricultural value chains (such as the production process from farm to market, input and output flows of produce and the impacts of global markets).

Source; Adapted from ka Makhaya (2014).

Table 15-2: Skill requirements of different categories of Agricultural Economists

Field	Duties/activities/tasks	Skill requirements
<p>1. Agricultural Economic Statistician</p>	<ul style="list-style-type: none"> • Statistical services: Manage, develop and maintain database of relevant • Agricultural statistics and trends <ul style="list-style-type: none"> • Statistics reports/compile documents etc. • Survey for infrastructure development • Basic methodologies • Policy analysis/sector analysis/impact analysis • Agricultural development planning (IDP's) • Write reports • Take responsibility to veto projects if not sustainable. 	<ul style="list-style-type: none"> • Good understanding of statistical methods • Statistical data collection methods i.e. surveys, censuses, focus groups, etc. • Computer skills (statistical packages i.e. SASS, SPSS, Database) • Database construction and management • Understand economic principles, dynamics and indicators • Data mining • Convey complex statistics in lay-man's terms • Apply statistics in decision making • Disseminate relevant information to clients • Basic research skills.
<p>2. Macro/Policy Economist or modeller</p>	<ul style="list-style-type: none"> • Policy analysis/sector analysis/impact analysis • Trade analysis • Basic methodologies • Agricultural development planning (IDP's) • AE modelling • Labour economics • Policy advice • Write reports • Take responsibility to veto projects if not sustainable. 	<p>Proven experience in analytical techniques such as:</p> <ul style="list-style-type: none"> • Input-output and SAM based modelling • Statistics • Linear programming • Econometrics/Statistics <ul style="list-style-type: none"> ○ Time series ○ Cross sectional. <p>Programming skills.</p> <p>Sound knowledge of general economic theory and proven ability to apply in field of work.</p> <ul style="list-style-type: none"> • Macroeconomics (e.g. Fiscal policy, national accounting, trade) • General micro economics (consumer, production, welfare, labour & development economics) • Public sector economics • Political economy.

Field	Duties/activities/tasks	Skill requirements
		<p>Proven understanding of government procedures, structures and decision making processes.</p> <p>Proven ability to identify critical policy issues/development of relevant research agenda.</p> <p>Proven communication skills</p> <ul style="list-style-type: none"> • Verbal • Scientific report writing • Presentation • Communication of policy advice • Management communication. <p>Proven research skills</p> <ul style="list-style-type: none"> • Quantitative and qualitative • Critical interpretation • Integration of knowledge from different sources • Dissemination of results • Formulation of policy advice. <p>Computer literacy</p> <ul style="list-style-type: none"> • Proven experience in the core MS Office applications. • Specialist experience in the use of at least one statistical package (e.g. E-Views, SPSS, Stata, SAS). • Modelling experience with e.g. GAMS, Matlab, Mathematica, etc. <p>Specialist competency in one or more of the following: (Labour markets, Monetary/financial markets, Trade, Public sector/welfare economics, Property markets, Macro-econometrics, National accounts)</p>
3. Production/Farm Management Economist	<ul style="list-style-type: none"> • Input/output relationships <ul style="list-style-type: none"> • Economics of scale • Labour economics • Systems 	<ul style="list-style-type: none"> • Farm planning (Assessment of resources; whole farm concept) • Financial skills (cash flows, budgets, financial statements, accounting, investment analysis, financial viability criteria, financial risk indicators, understanding credit and resources)

Field	Duties/activities/tasks	Skill requirements
	<ul style="list-style-type: none"> • Land tenure • Implement programmes for Risk and Disaster Management • Provide financial easing/support services • Training of farmers i.e. record keeping • Agricultural business/value adding/supply chain • Cooperative and commodity group development • Basic methodologies • Survey for infrastructure development • Agricultural development planning (IDP's) • Project appraisal/business plan development and evaluation • Supply specialist farm management and economic advice. • Development of norms (Combud/FINREC) • Financial advice/record keeping (FINREC) • Write reports • Take responsibility to veto projects if not sustainable. 	<ul style="list-style-type: none"> available) • Risk management (break-even analysis; sensitivity analysis, insurance, understanding of climate, soils, animals and plants,) • Basic understanding of policy environment on farm level; basics of Agricultural marketing, • Basic business forms (legal entities) • Security of tenure (rental, crop sharing and ownership) • HR management and farm organisational structures • Project appraisal skill • Agricultural Tax knowledge (for example VAT) • Good understanding of basic legal concepts and acts • Computer skills (spreadsheets, word processing, Combud, FINREC, Internet,) • Communication skills, public relations, persuasive skills • Good language and report writing skills • Integration of information into a business plan • Basic research skills.
4.Agricultural business and marketing economist	<ul style="list-style-type: none"> • Promote Agricultural Marketing • Marketing info services • Facilitate access to market outlets • Market identification • Agricultural business/value adding/supply chain management • Cooperative and commodity group development • Survey for infrastructure development • Write reports • Agricultural BEE development and facilitating • Project appraisal/business plan development and evaluation • Basic methodologies 	<ul style="list-style-type: none"> • Basic production economic skills • Understanding of socio and economic environment, consumer needs and market conditions • Ability to translate above to marketing plans • Analytical skills to analyse market trends, prices and quantities • Ability to transfer information in user-friendly manner • Understand and apply institutional economics – ability to put supply chain together • Basic business forms (legal entities) • Appraisal of demand and supply relative to infrastructure • Basic research skills • Ability to transfer business skills to Agricultural businesses e.g. coop's • Ability to source all types of market information from internet,

Field	Duties/activities/tasks	Skill requirements
	<ul style="list-style-type: none"> • Securing farming input availability • Development of norms (Combud/FINREC) • Write reports • Take responsibility to veto projects if not sustainable. 	<ul style="list-style-type: none"> • commodity organisations • Negotiation skills • Ability to prepare business plans specifically for marketing Agricultural businesses • Ability to facilitate securing of farming input availability • Knowledge of import/export issues, processes, procedures, and requirements (ISO standards, Euro gap, SPS requirements, TBT barriers) • Understand opportunities created by international trade agreements and how to access it • Tender procedures in different public sectors • Understand the principals of product differentiation (e.g. organics, fair trade) • Basic research skills
5.Resource Economist	<ul style="list-style-type: none"> • Resource (land, water, climate) Economics • Water management • Implement programmes for Risk and Disaster • Management • Basic methodologies • Land tenure • Land reform • Write reports • Take responsibility to veto projects if not sustainable. 	<ul style="list-style-type: none"> • Farm planning (assessment of resources; whole farm concept) • Basic financial skills (cash flows, budgets, financial statements, accounting, investment analysis, financial viability criteria, financial risk indicators, understanding credit and resources available) • Risk management (break-even analysis; sensitivity analysis, insurance, understanding of climate, soils, animals and plants,) • Basic understanding of policy environment on farm level; basics of Agricultural marketing, • Security of tenure (rental, crop sharing and ownership) • Project appraisal skill • Good understanding of basic legal concepts and acts • Computer skills (spreadsheets, word processing, Internet, GIS ArcView programming, linear programming) • Communication skills, public relations, persuasive skills • Good language and report writing skills • Basic disaster assessment skills • Evaluating of feasibility and viability studies • Good understanding of resource economics • Policy analysis and interpretation

Field	Duties/activities/tasks	Skill requirements
		<ul style="list-style-type: none"> • Implementation of disaster management strategies • Development of disaster management strategies and programs to PFMA • Good understanding of environmental issues, treaties and legislation • Basic research skills.
6.Rural Development Specialist	<ul style="list-style-type: none"> • Development economics • Basic methodologies • Agricultural development planning (IDP's) • Land tenure • Liaise with local government and other Governmental departments • Write reports • Take responsibility to veto projects if not sustainable. 	<ul style="list-style-type: none"> • Basic skills of all the other categories • Ability to understand the socio economic dynamics of a specific area (local politics, infrastructure, cultural, climate, etc.) • Skills and experience in rural development • Basic research skills.

Source: Provincial Representative Task Team (2007).

Table 15-3: Different skill levels of Agricultural Economists

Field	Grade 1 Agricultural Economist	Grade 2 Agricultural Economist	Grade 3 Agricultural Economist
1. Agricultural Economic Statistician	<p>Good understanding of statistical methods</p> <p>Understand statistical data collection methods i.e. surveys, censuses, focus groups, etc.</p> <p>Computer skills (Ability to work independently with statistical packages i.e. SASS, SPSS, Database)</p> <p>Database construction and management</p> <p>Understand economic principles, dynamics and indicators</p> <p>Ability to do data mining</p> <p>Apply statistics in decision making</p> <p>Disseminate relevant information to clients</p> <p>Basic research skills</p>	<p>Good understanding of statistical methods</p> <p>Ability to take the lead in implementing statistical data collection methods i.e. surveys, censuses, focus groups, etc.</p> <p>Computer skills (statistical packages i.e. SASS, SPSS, Database)</p> <p>Proven experience in database construction and management</p> <p>Understand economic principles, dynamics and indicators. Apply principles on a regular basis.</p> <p>Data mining</p> <p>Convey complex statistics in lay-man's terms</p> <p>Apply statistics in decision making</p> <p>Disseminate relevant information to clients</p> <p>Basic research skills</p>	<p>Excellent understanding of statistical methods. Ability to converse on a high academic level on statistical methods.</p> <p>Ability to adapt and to develop new statistical data collection methods i.e. surveys, censuses, focus groups, etc.</p> <p>Computer skills (statistical packages i.e. SASS, SPSS, Database)</p> <p>Proven experience in database construction and management</p> <p>Understand economic principles, dynamics and indicators. Apply principles on a regular basis and explain to others.</p> <p>Excellent data mining and report writing skills.</p> <p>Convey complex statistics in lay-man's terms</p> <p>Apply statistics in decision making and provide advice on implications.</p> <p>Disseminate relevant information to clients</p> <p>Excellent research skills</p>
2. Macro/Policy Economist/M	<p>Basic knowledge of one or more of the following analytical techniques:</p> <ul style="list-style-type: none"> • Input-output and SAM based 	<p>Proven experience in analytical techniques such as:</p> <ul style="list-style-type: none"> • Input-output and SAM based 	<p>Leadership in of one or more of the following analytical skills and proven knowledge of the remainder:</p>

Field	Grade 1 Agricultural Economist	Grade 2 Agricultural Economist	Grade 3 Agricultural Economist
modeller	<ul style="list-style-type: none"> • modelling • Linear programming • Econometrics/Statistics <ul style="list-style-type: none"> ○ Time series ○ Cross sectional <p>Sound knowledge of general economic theory:</p> <ul style="list-style-type: none"> • Macro-economics (e.g. Fiscal policy, national accounting, trade) • general micro economics (consumer, production, labour, welfare & development economics) • public sector economics • political economy <p>Basic understanding of government procedures, structures and decision making processes.</p> <p>Ability to identify critical policy issues</p> <p>Basic communication skills</p> <ul style="list-style-type: none"> • Verbal • Scientific report writing • Presentation • Communication of policy advice <p>Basic research skills</p> <ul style="list-style-type: none"> • Quantitative and qualitative • Critical interpretation • Integration of knowledge from 	<ul style="list-style-type: none"> • modelling • Linear programming • Econometrics/Statistics <ul style="list-style-type: none"> ○ Time series ○ Cross sectional <p>Sound knowledge of general economic theory and proven ability to apply in field of work.</p> <ul style="list-style-type: none"> • Macro-economics e.g. Fiscal policy, national accounting, trade) • general micro economics (consumer, production, welfare, labour & development economics) • public sector economics • political economy <p>Proven understanding of government procedures, structures and decision making processes.</p> <p>Proven ability to identify critical policy issues/development of relevant research agenda</p> <p>Proven communication skills</p> <ul style="list-style-type: none"> • Verbal • Scientific report writing • Presentation • Communication of policy advice • Management communication <p>Proven research skills</p> <ul style="list-style-type: none"> • Quantitative and qualitative 	<ul style="list-style-type: none"> • Input-output and SAM based modelling • Linear programming • Econometrics/Statistics <ul style="list-style-type: none"> ○ Time series ○ Cross sectional <p>Sound knowledge of general economic theory and proven ability to apply in field of work.</p> <ul style="list-style-type: none"> • Macro-economics (e.g. Fiscal policy, national accounting, trade) • general micro economics (consumer, production, welfare, labour & development economics) • public sector economics • political economy <p>Excellent understanding of government procedures, structures and decision making processes.</p> <p>Leadership in the identification of critical policy issues/Management of relevant research agenda</p> <p>Excellent proven communication skills</p> <ul style="list-style-type: none"> • Verbal • Scientific report writing • Presentation • Communication of policy advice • Management communication <p>Excellent proven research skills</p>

Field	Grade 1 Agricultural Economist	Grade 2 Agricultural Economist	Grade 3 Agricultural Economist
	<p>different sources</p> <ul style="list-style-type: none"> Dissemination of results Formulation of policy advice <p>Computer literacy</p> <ul style="list-style-type: none"> Experience in the core MS Office applications. Experience in the use of at least one statistical package (e.g. E-Views, SPSS, Stata, and SAS). 	<ul style="list-style-type: none"> Critical interpretation Integration of knowledge from different sources Dissemination of results Formulation of policy advice <p>Computer literacy</p> <ul style="list-style-type: none"> Proven experience in the core MS Office applications. Specialist experience in the use of at least one statistical package (e.g. E-Views, SPSS, Stata, SAS). Modelling experience with e.g. GAMS, Matlab, Mathematica, etc. 	<ul style="list-style-type: none"> Quantitative and qualitative Critical interpretation Integration of knowledge from different sources Dissemination of results Formulation of policy advice <p>Computer literacy</p> <ul style="list-style-type: none"> Proven experience in the core MS Office applications. Specialist experience in the use of at least one statistical package (e.g. E-Views, SPSS, Stata, SAS). Leadership in modelling with e.g. GAMS, Matlab, Mathematica, etc.
3. Production/Farm management Economist	<p>Basic knowledge of farm planning (assessment of resources; whole farm concept).</p> <p>Basic financial skills (cash flows, budgets, financial statements, accounting, investment analysis, financial viability criteria, financial risk indicators, understanding credit and resources available).</p> <p>Basic risk management (break-even analysis; sensitivity analysis, insurance, understanding of climate, soils, animals and plants).</p> <p>Basic understanding of policy environment on farm level; basic knowledge of agricultural marketing.</p>	<p>Good knowledge of farm planning (assessment of resources; whole farm concept).</p> <p>Proven financial skills (cash flows, budgets, financial statements, accounting, investment analysis, financial viability criteria, financial risk indicators, understanding credit and resources available).</p> <p>Proven risk management (break-even analysis; sensitivity analysis, insurance, understanding of climate, soils, animals and plants).</p> <p>Good understanding of policy environment on farm level; good knowledge of agricultural marketing.</p>	<p>Authority on farm planning (assessment of resources; whole farm concept).</p> <p>Excellent financial skills (cash flows, budgets, financial statements, accounting, investment analysis, financial viability criteria, financial risk indicators, understanding credit and resources available).</p> <p>Proven excellence in risk management (break-even analysis; sensitivity analysis, insurance, understanding of climate, soils, animals and plants).</p> <p>Excellent understanding of policy environment on farm level; excellent knowledge of agricultural marketing.</p>

Field	Grade 1 Agricultural Economist	Grade 2 Agricultural Economist	Grade 3 Agricultural Economist
	<p>Basic understanding of business forms (legal entities).</p> <p>Basic knowledge of security of tenure (rental, crop sharing and ownership).</p> <p>Basic knowledge of HR management and farm organisational structures.</p> <p>Basic project appraisal skills.</p> <p>Basic knowledge of Agricultural Tax (for example VAT).</p> <p>Basic understanding of legal concepts and acts.</p> <p>Basic computer skills (spreadsheets, word processing, Combud, FINREC, Internet)</p> <p>Basic communication skills, public relations, persuasive skills</p> <p>Basic language and report writing skills</p> <p>Integration of information into a business plan</p> <p>Basic research skills</p>	<p>Good understanding of business forms (legal entities).</p> <p>Good knowledge of security of tenure (rental, crop sharing and ownership).</p> <p>Good knowledge of HR management and farm organisational structures.</p> <p>Good project appraisal skills.</p> <p>Good knowledge of Agricultural Tax (for example VAT).</p> <p>Good understanding of legal concepts and acts.</p> <p>Good computer skills (spreadsheets, word processing, Combud, FINREC, Internet)</p> <p>Good communication skills, public relations, persuasive skills</p> <p>Good language and report writing skills</p> <p>Integration of information into a business plan</p> <p>Good research skills</p>	<p>Authority on business forms (legal entities).</p> <p>Authority on security of tenure (rental, crop sharing and ownership).</p> <p>Excellent knowledge of HR management and farm organisational structures.</p> <p>Excellent project appraisal skills.</p> <p>Authority on Agricultural Tax (for example VAT).</p> <p>Excellent understanding of legal concepts and acts.</p> <p>Excellent computer skills (spreadsheets, word processing, Combud, FINREC, Internet)</p> <p>Advanced communication skills, public relations, persuasive skills</p> <p>Advanced language and report writing skills</p> <p>Integration of information into a business plan</p> <p>Advanced research skills</p>
4. Agricultural business and Marketing Economist	<p>Basic production economic skills</p> <p>Understanding of socio and economic environment, consumer needs and market</p>	<p>Basic production economic skills</p> <p>Good understanding of socio and economic environment, consumer needs</p>	<p>Good production economic skills</p> <p>Excellent understanding of socio and economic environment, consumer needs</p>

Field	Grade 1 Agricultural Economist	Grade 2 Agricultural Economist	Grade 3 Agricultural Economist
	<p>conditions</p> <p>Basic ability to translate above to marketing plans</p> <p>Basic analytical skills to analyse market trends, prices and quantities</p> <p>Basic understanding of the principals of product differentiation (e.g. organics, fair trade, etc.)</p> <p>Basic ability to transfer information in user-friendly manner</p> <p>Basic understanding and ability to apply institutional economics – ability to put supply chain together</p> <p>Basic knowledge of business forms (legal entities)</p> <p>Basic ability to appraise demand and supply regarding marketing infrastructure</p> <p>Basic research skills</p> <p>Basic ability to transfer business skills to agricultural businesses e.g. cooperative, etc.</p> <p>Good ability to source all types of market information from internet, commodity organisations</p>	<p>and market conditions</p> <p>Advanced ability to translate above to marketing plans</p> <p>Good analytical skills to analyse market trends, prices and quantities</p> <p>Good understanding of the principals of product differentiation (e.g. organics, fair trade, etc.)</p> <p>Advanced ability to transfer information in user-friendly manner</p> <p>Good understanding and ability to apply institutional economics – ability to put supply chain together</p> <p>Advanced knowledge of business forms (legal entities)</p> <p>Advanced ability to appraise demand and supply regarding marketing infrastructure</p> <p>Advanced research skills</p> <p>Good ability to transfer business skills to agricultural businesses e.g. cooperative, etc.</p> <p>Advanced ability to source all types of market information from internet, commodity organisations</p>	<p>and market conditions</p> <p>Excellent ability to translate above to marketing plans</p> <p>Advanced analytical skills to analyse market trends, prices and quantities</p> <p>Advanced understanding of the principals of product differentiation (e.g. organics, fair trade, etc.)</p> <p>Excellent ability to transfer information in user-friendly manner</p> <p>Advanced understanding and ability to apply institutional economics – ability to put supply chain together</p> <p>Excellent knowledge of business forms (legal entities)</p> <p>Excellent ability to appraise demand and supply regarding marketing infrastructure</p> <p>Excellent research skills</p> <p>Advanced ability to transfer business skills to agricultural businesses e.g. cooperative, etc.</p> <p>Excellent ability to source all types of market information from internet, commodity organisations</p>

Field	Grade 1 Agricultural Economist	Grade 2 Agricultural Economist	Grade 3 Agricultural Economist
	<p>Basic understanding of tender procedures in different public sectors</p> <p>Reasonable negotiation skills</p> <p>Basic ability to prepare for the development of business plans specifically for marketing Agricultural businesses.</p> <p>Basic ability to compile business plans for agricultural value - adding projects.</p> <p>Basic ability to facilitate of securing farm input availability</p> <p>Basic knowledge of import/export issues, processes, procedures, and requirements (ISO standards, Euro gap, SPS requirements, TBT barriers)</p> <p>Basic understanding of opportunities created by international trade agreements and how to access it.</p> <p>No involvement in tender procedures</p>	<p>Good understanding of tender procedures in different public sectors</p> <p>Good negotiation skills</p> <p>Good ability to prepare business plans specifically for marketing Agricultural businesses.</p> <p>Good ability to compile business plans for agricultural value - adding projects</p> <p>Good ability to facilitate securing of farming input availability</p> <p>Good knowledge of import/export issues, processes, procedures, and requirements (ISO standards, Euro gap, SPS requirements, TBT barriers)</p> <p>Good understanding of opportunities created by international trade agreements and how to access it</p> <p>Basic knowledge of tender procedures in different public sectors</p>	<p>Advanced understanding of tender procedures in different public sectors</p> <p>Excellent negotiation skills</p> <p>Advanced ability to prepare business plans specifically for marketing Agricultural businesses.</p> <p>Advanced ability to compile business plans for agricultural value - adding and projects.</p> <p>Excellent ability to facilitate securing of farming input availability</p> <p>Excellent knowledge of import/export issues, processes, procedures, and requirements (ISO standards, Euro gap, SPS requirements, TBT barriers)</p> <p>Excellent understanding of opportunities created by international trade agreements and how to access it.</p> <p>Good Knowledge of tender procedures in different public sectors. Advanced negotiation skills</p>
5. Resource Economist	<p>Basic knowledge of frameworks for assessing agricultural and/or environmental projects (project appraisal):</p> <ul style="list-style-type: none"> • Cost Benefit Analysis 	<p>Proven experience in implementation of frameworks for assessing environmental and/or agricultural projects (project appraisal):</p>	<p>Leadership in implementation of frameworks for assessing environmental/agricultural projects (project appraisal)</p>

Field	Grade 1 Agricultural Economist	Grade 2 Agricultural Economist	Grade 3 Agricultural Economist
	<ul style="list-style-type: none"> Multi Criteria Decision Analysis <p>Basic knowledge of analytical techniques for economic valuation of natural resources and environmental services</p> <p>Sound knowledge of general economic theory:</p> <ul style="list-style-type: none"> General macroeconomics (Fiscal and monetary policy, national accounting framework) Microeconomics (welfare and development economics, production factors) Public Finance Political economy <p>Farm planning (Assessment of resource, whole farm concept)</p> <p>Good understanding of legal concepts and acts, as well as environmental/agricultural policy and environmental/agricultural laws and issues.</p> <p>Basic financial skills (cash flows, budgets, financial statements, accounting, investment analysis, financial viability criteria, financial risk indicators, understanding credit and resources available)</p> <p>Basic understanding of policy environment on farm level;</p>	<ul style="list-style-type: none"> Cost Benefit Analysis Multi Criteria Decision Analysis <p>Proven ability to apply analytical techniques for economic valuation of natural resources and environmental services</p> <p>Sound knowledge of general economic theory and proven ability to apply in field of work:</p> <ul style="list-style-type: none"> General macroeconomics (Fiscal and monetary policy, national accounting framework) Microeconomics (welfare and development economics, production factors) Public Finance Political economy <p>Sound knowledge of farm planning (Assessment of resources, whole farm concept)</p> <p>Proven understanding of legal concepts and acts, as well as environmental/agricultural policy and environmental/agricultural laws and issues.</p> <p>Proven financial skills (cash flows, budgets, financial statements, accounting, investment analysis, financial viability criteria, financial risk indicators, understanding credit and resources available)</p>	<ul style="list-style-type: none"> Cost Benefit Analysis Multi Criteria Decision Analysis <p>Expert ability to apply analytical techniques for economic valuation of natural resources and environmental services</p> <p>Expert knowledge of general economic theory and proven ability to apply in field of work:</p> <ul style="list-style-type: none"> General macroeconomics (Fiscal and monetary policy, national accounting framework) Microeconomics (welfare and development economics, production factors) Public Finance Political economy <p>Proven understanding of legal concepts and acts, as well as environmental/agricultural policy and environmental/agricultural laws and issues.</p> <p>Excellent financial skills (cash flows, budgets, financial statements, accounting, investment analysis, financial viability criteria, financial risk indicators, understanding credit and resources available)</p> <p>Expert knowledge of policy environment on farm level.</p>

Field	Grade 1 Agricultural Economist	Grade 2 Agricultural Economist	Grade 3 Agricultural Economist
	<p>Security of tenure (Rental, ownership etc.);</p> <p>Risk management (break-even analysis; sensitivity analysis, insurance, understanding of climate, soils, animals and plants)</p> <p>Basic disaster assessment skills, Basic Impact assessment skills</p> <p>Basic research skills:</p> <ul style="list-style-type: none"> • Quantitative and qualitative • Critical interpretation • Integration of knowledge from different sources • Dissemination of results • Formulation of policy advice <p>Computer skills:</p> <ul style="list-style-type: none"> • Experience in core MS Office applications • Exposure to GIS (e.g. ArcView) <p>Basic communication skills:</p> <ul style="list-style-type: none"> • Verbal • Scientific report writing • Presentation • Communication and policy advice <p>Basic exposure to multi-disciplinary research with role players (botanists,</p>	<p>Sound knowledge of policy environment on farm level.</p> <p>Sound knowledge of security of tenure (Rental, ownership etc.);</p> <p>Proven experience in risk management (break-even analysis; sensitivity analysis, insurance, understanding of climate, soils, animals and plants)</p> <p>Proven disaster assessment skills</p> <ul style="list-style-type: none"> • development and implementation of disaster management strategies <p>Proven research skills:</p> <ul style="list-style-type: none"> • Quantitative and qualitative • Critical interpretation • Integration of knowledge from different sources • Dissemination of results • Formulation of policy advice <p>Computer skills:</p> <ul style="list-style-type: none"> • Proven experience in core MS Office applications • Experience in GIS (e.g. ArcView) <p>Proven communication skills:</p> <ul style="list-style-type: none"> • Verbal • Scientific report writing • Presentation 	<p>Proven experience on security of tenure (Rental, ownership etc.)</p> <p>Proven experience in risk management (break-even analysis; sensitivity analysis, insurance, understanding of climate, soils, animals and plants)</p> <p>Proven disaster assessment skills</p> <ul style="list-style-type: none"> • development and implementation of disaster management strategies <p>Excellent proven research skills:</p> <ul style="list-style-type: none"> • Quantitative and qualitative • Critical interpretation • Integration of knowledge from different sources • Dissemination of results • Formulation of policy advice <p>Computer skills:</p> <ul style="list-style-type: none"> • Proven experience in core MS Office applications • Experience in GIS (e.g. ArcView) <p>Excellent proven communication skills:</p> <ul style="list-style-type: none"> • Verbal • Scientific report writing • Presentation • Communication and policy advice, as well as input in the decision-making process • Negotiation skills

Field	Grade 1 Agricultural Economist	Grade 2 Agricultural Economist	Grade 3 Agricultural Economist
	ecologists, agronomists, nature conservationists, etc.)	<ul style="list-style-type: none"> • Communication and policy advice, as well as input in the decision-making process • Negotiation skills • Report writing skills <p>Proven track record in multi-disciplinary research with role players (botanists, ecologists, agronomists, nature conservationists, etc.)</p>	<ul style="list-style-type: none"> • Report writing skills <p>Proven track record in multi-disciplinary research with role players (botanists, ecologists, agronomists, nature conservationists, etc.)</p>
6. Rural Development Specialist	<p>Basic socio-economic resource planning skills using one or more tools such as:</p> <ul style="list-style-type: none"> • ARMS programme • Typology analysis • Micro Combud • Linear programming <p>Computer literacy (basic skills with GIS, spreadsheets and linear packages)</p> <p>Socio economic research skills to the extent of interpreting community dynamics and to report on these.</p> <p>Basic ability to match community desires with resource potential.</p> <p>Ability to communicate with communities preferably in their own language</p> <p>A clearly identifiable interest in project management and evaluation.</p>	<p>Advanced socio-economic resource planning skills using one or more tools such as:</p> <ul style="list-style-type: none"> • ARMS programme • Typology analysis • Micro Combud • Linear programming <p>Computer literacy (basic skills with GIS, spreadsheets and linear packages)</p> <p>Socio economic research and communication skills to the extent of interpreting community dynamics, influencing communities and to report on these.</p> <p>An advanced ability to match community desires with resource potential and to persuade communities to optimally utilize resources.</p> <p>A strong ability to communicate with communities preferably in their own</p>	<p>Proven socio-economic resource planning skills using one or more tools such as:</p> <ul style="list-style-type: none"> • ARMS programme • Typology analysis • Micro Combud • Linear programming <p>Computer literacy (basic skills with GIS, spreadsheets and linear packages)</p> <p>Socio economic research and communication skills to the extent of interpreting community dynamics, influencing communities and to report on these.</p> <p>A proven ability to match community desires with resource potential and to persuade communities to optimally utilize resources and to apply the proposed development system.</p> <p>A proven ability to communicate with</p>

Field	Grade 1 Agricultural Economist	Grade 2 Agricultural Economist	Grade 3 Agricultural Economist
	A clear understanding of cost-benefit analysis with due consideration of the social dimension of agricultural development within subsistence farming systems.	<p>language</p> <p>Proven project management experience that will enable the assignment of bigger projects.</p> <p>An ability to interpret cost benefit analysis at an early stage of agricultural development projects, to propose remedial steps well in advance and to identify expansion possibilities.</p>	<p>communities preferably in their own language</p> <p>Proven project management experience that will enable the assignment of bigger projects and the allocation of financial delegations.</p> <p>A proven ability to interpret cost benefit analysis at an early stage of agricultural development projects, to propose remedial steps well in advance and to identify</p>

Source: Provincial Representative Task Team (2007).

16 Annexure 10: Summary of research findings from ka Makhaya (2014) regarding university AE training gaps

The following summarises the main results from ka Makhaya's (2014) research (which included a survey of 28 AE graduates to obtain feedback on skills developed and AE curriculum/degree skills and knowledge gaps degree graduates from all 8 universities). Key university training/curriculum gaps identified with the training received by AE graduates are show in table 16-1 below.

Table 16-1 Gaps observed by respondents within their AE training

Computer skills <ul style="list-style-type: none"> - Econometrics - Economic modelling
Soft skills <ul style="list-style-type: none"> - Leadership skills - Preparation for general employment - Lack of BSc agricultural background for B.Com students - Insufficient exposure to conducting presentations - Practical training - Visits to companies and other agricultural organisations
Business skills <ul style="list-style-type: none"> - Market know-how - Research
Basic AE skills <ul style="list-style-type: none"> - International and practical experience - Mathematical analytical concepts in agriculture - Practical exposure at farm level - Practical skills - Application of agricultural case studies - Practical application of statistics in agricultural examples

Source: ka Makhaya (2014).

Gaps in AE university modules in relation to skills needed and most applied in the workplace are summarised below in Table 15-2:

Table 16-2 Modules not in university programmes and skills most applied in the workplace

Modules not present within the teaching programme	Skills most applicable in the workplace
Soft Skills	
<ul style="list-style-type: none"> • Leadership development • Communication 	<ul style="list-style-type: none"> • Teamwork • Communication • People solving skills • Time management • People skills

	<ul style="list-style-type: none"> Analytical and critical thinking Presentation skills
Computer Skills	
<ul style="list-style-type: none"> Advanced statistics SAFEX trading and exam 	<ul style="list-style-type: none"> Microsoft Excel Statistics
Business Skills	
<ul style="list-style-type: none"> Investment management Supply chain management Taxation Report writing Business writing GIS (Geo-informatics system) modules Accounting Economic modelling 	<ul style="list-style-type: none"> Understanding economic and business language Market analysis Financial Report writing
Basic AE Skills	
<ul style="list-style-type: none"> Agribusiness concepts Impact of different soil types to production and cost analysis Agricultural trade 	<ul style="list-style-type: none"> Technical applications of farming concepts Research skills International trade-information Technology and Communication (ITC) mapping

Source: ka Makhaya (2014).

The skills that are highlighted as requiring improvement in AE university training are shown in Table 15-3.

Table 16-3 Skills that require improvement at universities

Computer skills	Business skills
<ul style="list-style-type: none"> Teaching with technology – encouraging the use of iPad and more exposure to computers and online information technology Linear programming Statistical software Mathematics. 	<ul style="list-style-type: none"> Entrepreneurship skills Strategic management Economic modelling Supply chain management Finance and accounting skills Applied economics.
Basic AE skills	Soft skills
<ul style="list-style-type: none"> African market development Economics Production economics Technical skills Natural resource sciences Rural development Marketing agricultural products more efficiently. 	<ul style="list-style-type: none"> Analytical skills Problem-solving skills Communication People skills.

Source: ka Makhaya (2014).

Another skills training area and need with respect to current university curriculum identified by ka Makhaya relates to the need for students to be exposed to the work place and for AE courses offered by various universities to include a practical work place component (currently only about 4 of the universities did this at the time of the survey). As he states: "It has been recommended that universities include a year of practical work or experience within the three and four year degrees. Practical experience will be very helpful in securing jobs post-graduation. Although four departments say they offer students practical experience, a remark was made that the programme is not extensive and requires better implementation and structure to better serve the needs of the students." (ka Makhaya, 2014: 53).

ka Makhaya's (2014) research culminated in the following recommendations regarding possible improvements to the AE curricula design and teaching offered by universities in South Africa (these recommendations may not be relevant or apply equally to all eight universities):

- "More emphasis should be put on using technical tools to analyse agricultural policies.
- The majority of respondents strongly suggest incorporating practical knowledge within the three year and four degrees of AE. The practical experience can be in the form of going to visit agribusinesses, using relevant farm examples and applied case studies within the curriculum.
- More focus should be given to the use of Microsoft Excel. The respondents expressed the importance of having extensive knowledge of Excel in the workplace, and they felt that it has not been given enough attention at university level.
- The respondents further recommended that within the BCom Agricultural degrees, the program directors should consider adding more AE subjects within the first year of study. This can be in the form of introduction to AE or a basic concept of agriculture economics. This will give students the opportunity to know what will be expected from them as they continue with their degree.
- The respondents recommend that there be an advanced statistics or compulsory econometric subject within the degree years. This will assist them with further studies as statistics is greatly used in research and data capturing. Exposing graduates to this course at an early stage will be valuable to them completing their postgraduate studies more effectively, and be qualified to perform analytical tasks in the workplace.
- Respondents feel there is an insufficient computer skills development course within the universities. Most AE departments do not have a separate computer course, as the university offers these skills to the students. However, it would be beneficial to the students for AE department to include a standard of requirements for students wishing to undertake advanced computer skills development that encompass statistical tools related to AE.
- The respondents strongly suggested that SAFEX training and the trading exam should be incorporated in the syllabus, there are currently only a few universities that offer this course to students.

- The suggestion of having the BSc Agric four year degree shortened to three years was expressed by numerous respondents. They suggest that some of the first year modules which they found least useful should not be included in the program. They would prefer to have a practical I year of on-the-job training included." (ka Makhaya, 2014: 75-76)

17 Annexure 11: Detailed overview of WCDoA Programme 6 including services provided

Programme purpose

Programme 6 comprises 2 sub-programmes (each with two further components):

- Sub-Programme 6.1: Agri business support and development; and
- Sub-Programme 6.2: Macro-economics support.

The purpose of each of these two sub-programmes is set out below, together with their strategic objectives and objective statements:

Table 17-1 Programme 6 sub-programmes: purpose, strategic objectives and objective statements

Sub-programmes 6.1: Agri-Business Support and Development	
Sub-programme purpose	To provide Agri-Business support through entrepreneurial development, marketing services, value adding, production and resource economics.
Strategic objective	Provide agricultural stakeholders with agricultural economic advice.
Objective statement	To provide agricultural stakeholders with economic advice in support of sustainable agricultural and agri-business development to increase economic growth.
Sub-programmes 6.2: Macroeconomics Support	
Sub-programme purpose	To provide macroeconomic and statistical information on the performance of the agricultural sector in order to inform planning and decision making.
Strategic objective	Information activities performed to support sound decision-making.
Objective statement	The uncertain global economic environment due to unstable exchange rates, commodity prices, unpredictable weather conditions require proper risk management tools and research to assist the agricultural firms and industries with strategic and decision-making information. To conduct this type of research availability of data is of importance to ensure proper and improved baseline information to be able to make informed decisions.

Source: WCDoA (2016).

Programme 6 services provided and service users

The specific set of services provided under the WCDoA's Programme 6 to various clients or service users are outlined in the following table.

Table 17-2 Services and users of the WCDoA's Programme 6: AE Services

Component	Services
Macro-Economics Support: Macro and Resource Economics	<ul style="list-style-type: none"> • Economic modelling and economic impacts of policies • Sector level analysis • Multi-sector analysis • Policy analysis • Demographic and labour market analysis • Trade analysis • Resource • Disseminate agricultural macro/ policy/ trade information/ research results through published articles • Present papers at conferences/ events • Participate in other media events/ channels.
Macro-Economics Support: Statistics	<ul style="list-style-type: none"> • Agriculture trends (e.g. price and financial trends) • Data sourcing (primary surveys; secondary data) and agriculture statistics.
Agri-business Support & Development : Production economics	<ul style="list-style-type: none"> • Viability studies. • Farm level Impact studies • Business planning appraisal, development and evaluation. • Budgeting (e.g. whole farm, enterprise budgets) • Production economics research and farm management advice • Promote farm-level risk and disaster analysis • Provide financial advice & Facilitating access to finance • Training farmers and cooperatives with financial record keeping • Evaluate land tenure arrangements.
Agri-business Support & Development : Marketing and agri. business	<ul style="list-style-type: none"> • Market research/ analysis/ information • Market identification • Facilitating market access • Analysis of (market access) infrastructure needs • Conduct surveys for infrastructure development.

Source: WCDoA Programme 6 officials, personal communications, 3-4 September 2015.

Table 17-3 Sub-programme: Macro-Economics Support; Component Macro and Resource Economics: Service descriptions

Services	Service description
<p>Economic modelling and economic impacts of policies: Sector level analysis; Multi-sector analysis. This includes:</p> <ul style="list-style-type: none"> • Policy analysis • Demographic and labour market analysis • Trade Analysis 	<p>The purpose of this division is to develop the necessary mathematical frameworks and to evaluate the impact of various local and international environmental and policy measures on the economy of the Province (WCDoA. 2016).</p>
<p>Resource economics (e.g. water, biodiversity, climate change, renewable energies, carbon foot print analysis, green portal)</p>	<p>The unit informs users on how to better use their resources with information organised by key issues such as climate change, renewal energy, carbon footprint.</p> <p>A carbon footprint can be developed for a farm to indicate the ways to improve the use of resources and maximise profit</p> <p>The unit has established the "Green Agri Portal" (http://www.greenagri.org.za) to "be a one-stop portal for all farmers, researchers, private and non-governmental agencies interested in smart agricultural practices, initiatives and research and in getting involved in the green economy space. The portal will also allow for industry participants to communicate interactively on all smart agricultural matters. By so doing it will allow greater awareness and understanding of smart agricultural practices and the green economy space in the WC."</p> <p>The unit has implemented integrated waste systems on the research farms and conducted training on background of climate change, the impacts on agriculture, how to do record keeping of waste systems on the farm and integrate information in carbon footprint.</p> <p>The unit conducts an annual workshop on latest developments in the area and how to change behaviour towards more</p>

Services	Service description
	<p>sustainable practices.</p> <p>There is an increase in farmers asking for 'green practice' information and on how to sustain their competitiveness.</p>
<p>Disseminate agricultural macro/ policy/ trade information/ research results through published articles.</p> <p>Present papers at conferences/ events.</p> <p>Participate in other media events/ channels.</p>	<p>WCDoA's MEC for Agriculture, as well as it's officials, make presentations and inputs at a wide range of events, as well as participate in a range of internal (to the Provincial Government) and external institutional mechanisms to raise awareness of its services as well as disseminate relevant information and knowledge. The WCDoA also has a weekly slot on a community radio programme to discuss issues of topical interest.</p>

Source: WCDoA Programme 6 officials, personal communications, August, 2016; WCDoA (2016b).

Table 17-4 Sub-programme: Macro-Economics Support; Component: Statistics: Service descriptions

Services	Service description
<p>Agriculture Trends (e.g. price and financial trends).</p>	<p>This unit has 200 databases that have information on specific sectors. The unit responds to specific requests and wherever possible creates a database for each enquiry received. Examples of database include:</p> <ul style="list-style-type: none"> • identifying the location and contact details of a business using GIS • Price databases: cattle prices in different categories, • List of festivals. • Average land prices for specific types of farms. <p>The unit has a tool for extension offices which provides three year historical time series for commodities such as prices (The database can have 30 years of information for that commodity, but the tool provides it only for three years). Other service providers do not have this long term historical data, but may have more current commodity data.</p>

Services	Service description
	<p>Example reports include weekly price trend reports on beef cattle as well as a report on game auction prices is available on the WCDoA web-site. Analysis of Statistics South Africa publications such as the monthly Producer Price Index is also provided.</p> <p>The unit receive enquiries from various clients (mainly academia, researchers and consultants, and internal WCDoA and other Provincial government officials) and is a demand driven service. Wherever possible, a database is created for each specific enquiry.</p> <p>Aggregated data can be shared, but more detailed information must be accessed through written request (including why needed, assurance that it will not be shared/sold).</p>
Data sourcing (Primary surveys; Secondary data) and agriculture statistics.	A range of surveys are undertaken for example to determine how people feel about sustainable farming practices and to map their uptake and identify barriers and possible support needed including funding needs.

Source: WCDoA Programme 6 officials, personal communications, August, 2016; WCDoA (2016b).

The Sub-Programme: Agri-business Support & Development; Component: Production Economics provides farm management advice in four main areas:

1. Production management
2. Financial management
3. Marketing management
4. Credit management

This component researches and analyses "the relative competitiveness of local farming systems and management practices in relation to international best practice. Due emphasis is also placed on resource issues with prominence given to alternative and sustainable uses of scarce natural resources" (WCDoA, 2016c).

Table 17-5 Sub-Programme: Agri-Business Support & Development; Component: Production Economics: Service descriptions

Services	Service description
Viability studies.	<i>WCDoA to provide further information.</i>
Farm level impact studies.	Farm level impact studies are undertaken from a carbon footprint point of view to identify the potential impact on farming activities when the carbon footprint comes into effect and potential activities that can be implemented to reduce the carbon

Services	Service description
	<p>footprint. This is linked to potential risk analysis.</p>
<p>Business planning appraisal, development and evaluation.</p>	<p>The unit evaluates business plans and analyses financial statements (e.g. ratio analysis is conducted using an excel spreadsheet) to check business viability.</p> <p>The service is not publicly marketed and is free of charge. The same service is also provided by the commercial banks (same work). Other institutions may be do a more detailed analysis.</p> <p>A report is provided to the farmer as well as a power-point presentation with the implications and an opportunity to ask questions to try and make the ratio and economic analysis accessible to the farmer.</p> <p>Business plans include: background, production plan, marketing plan, financial, recommendations.</p>
<p>Budgeting (e.g. whole farm, enterprise budgets).</p>	<p>Enterprise budgets are developed based on interviews with a minimum of five farmers in an area that farm with the commodity as well as speaking to specialists in the production chain to determine the norms for cost items and experts within the department who can give insights into the product.</p> <p>Farm budes are developed for both small holder and commercial farmers, WCDoA colleagues, financial institutions, Casidra, well as students. There is no formal application process.</p> <p>Cooperatives and industry/ commodity bodies also provide budgets, but the budgets will differ. Their budget will explain specifically which chemicals or brands were used in the analysis. Commercial farmers will request information from the cooperatives where they get funding.</p> <p>Budgets are used by new farmers in the process of business planning for the cash flow statement with the help of the district economics.</p> <p>The Combud system is in the process of being re-established after the system crashed in 2013 and data was lost. Data has been compiled in excel from 2013 onwards to slowly recapture what was there before. In September 2016 the first book will be published that will be provided for each district and this will also be published online. The prices are updated to reflect the last year's data, and the same with input cost (obtained from chemical companies, prices comes from the markets).</p>
<p>Production economics</p>	<p>This involves advice to farmers on issues such as the following:</p> <ul style="list-style-type: none"> • How much must I plant?

Services	Service description
research and farm management advice.	<ul style="list-style-type: none"> • What kind of stock must I keep and how many animals? • What methods must I follow to farm correctly? • Where and when must I buy seed, fertilizer, etc.? • Where and when must I sell my products?
Promote farm-level risk and disaster analysis.	<i>WCDoA to provide further information.</i>
Provide financial advice & Facilitating access to finance.	<p>Farmers apply to MAFISA and a service provider is contracted to assess their viability. Monitoring takes place on a monthly basis regarding paying back the loan.</p> <p>The unit also provides platforms where farmers may meet with financial providers per district where they can understand the opportunities available (e.g. "Farmers Day").</p> <p>The unit has compiled a sources of finances book – including all information from different agencies and government departments (updated on an annual basis).</p>
Training farmers and cooperatives with financial record keeping.	<p>The service was established to assist farmers to improve financial record keeping to improve their ability to access/ apply for finance. The unit contracted an accounting firm to do the training.</p> <p>There are two services:</p> <ol style="list-style-type: none"> 1. Minor record keeping: teach basics in record keeping, why important, how to do it, basic book keeping, petty cash management. 2. Business administration service: Farmers who want to formalise, register for income tax and PAYE, e-filing, workplace compensation. <p>For 2016 this year the service was provided free, but if the farmer use the service provider in fulfilling these obligations, they will need to pay the relevant fee.</p> <p>Documents are sent to the accounting service provider, who compile management statements and annual financial statements and explain the end financial statements to the farmer to interpret the implications of the statements.</p> <p>Most farmers come into the programme because they have manual record keeping and want to graduate to electronic record keeping.</p>
Evaluate land tenure	<i>WCDoA to provide further information.</i>

Services	Service description
arrangements.	

Source: WCDDoA Programme 6 officials, personal communications, August, 2016; WCDDoA (2016b).

The Sub-Programme: Agri-business Support & Development; Component Marketing and Agri Business assists with facilitating market access as well as promoting empowerment. Services include: access to markets and information; fair participation; retaining and repositioning into sustainable markets. The focus is skewed towards the identification of market opportunities and risks through research, packaging and dissemination of such information through appropriate channels. While the research conducted focuses on traditional markets, there is also research conducted for niche and differentiated products and industries that need to be developed and exploited. Facilitation of market access to ensure uptake of identified opportunities at both local and international markets is also one of the services provided. This component also aims to improve the bargaining power of farmers, sharing of expertise and collective pooling of resources through facilitation of co-operative development. The division also promotes agribusiness support through value-adding, provision of advisory services to unlock opportunities provided by Agricultural Black Economic Empowerment Charter, facilitation of partnerships and acquisition of funding for increased investment in the sector." (WCDDoA Programme 6 official, personal communications, August, 2016).

Table 17-6 Sub-Programme: Agri-Business Support & Development; Component: Marketing and Agri Business: Service descriptions

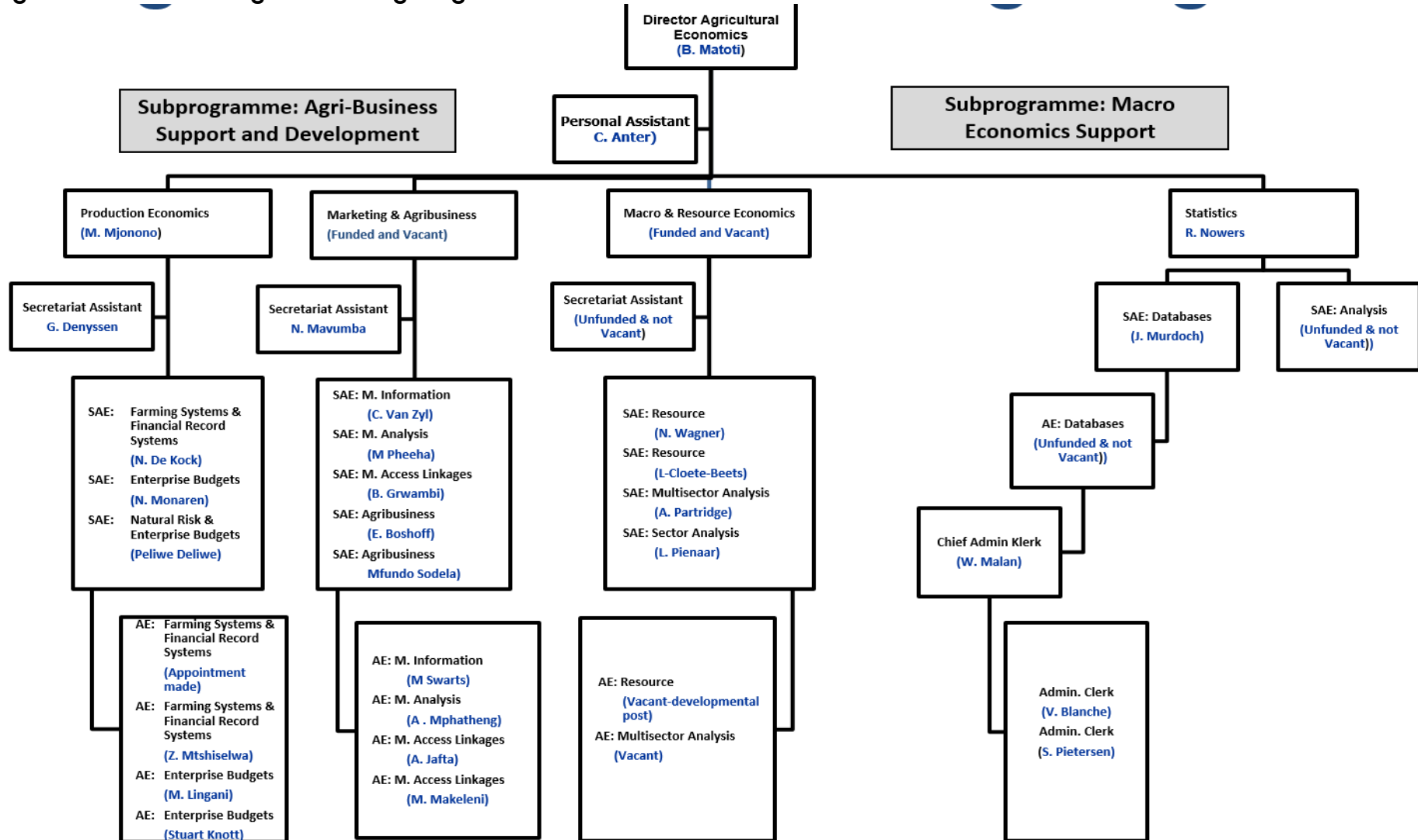
Services	Service description
Market research, analysis, identification and facilitation of market access.	<p>Market Research:</p> <p>Provides market research on potential markets in terms of import and or exports using databases such as Quantec regional statistics, International Trade Centre Market Access Maps and Trademaps etc.</p> <p>Farmers are the main service users but requests are also received from students, exporters and other researchers.</p> <p>Commodity organisations also provide similar information but in different formats. The WCDDoA can tailor the information provided to be specific to the request. In some cases, the information requested may not always be readily available and requires primary research by the WCDDoA to assist them users.</p> <p>Market research reports are compiled on a monthly basis and shared with farmers and extension officers on a mailing list. The reports contain price and volume trend analysis. The latest market research reports are on vegetables and grain and are also available on the WCDDoA website.</p>

Services	Service description
	<p>Market Identification:</p> <p>The WCDoA maintains a database of potential buyers of fresh produce and farmers who are ready to harvest produce can contact the WCDoA for assistance to find a buyer.</p> <p>Market Access:</p> <p>The WCDoA is working with a group of farmers (fruit, vegetables and livestock in Beaufort West) as a pilot since 2010 and funding is received from CASP (for infrastructure upgrading) to assist farmers with technical production inputs and compliance with standards (with DAFF assistance with pre-audits and record keeping) as well as participation in farm trade events.</p> <p>Agribusiness proactively approach farmers to market their produce on existing markets. These buyers will provide technical advisors on condition that the farmer's produce is sold to them. The department actively tries to develop the farmers, but agribusiness capacity building focuses more on the production level, not the other stages. Support is provided on a fixed term contract for 5 years. The expectation is that people will graduate with full understanding of the production value chain after five years.</p>
Analysis of infrastructure needs.	<p>CASP funding is accessed for farm-level infrastructure.</p> <p>Service providers are appointed to develop business plans and infrastructure and skills development needs are included in such business plans.</p>
Conduct surveys for infrastructure development.	<p><i>WCDoA to provide further information.</i></p>

Source: WCDoA Programme 6 officials, personal communications, August, 2016; WCDoA (2016b).

18 Annexure 12: Organograms of selected Provincial DoA Programme 6s

Figure 18-1 WCDoA Programme 6 organogram



Source: WCDoA (August 2016).

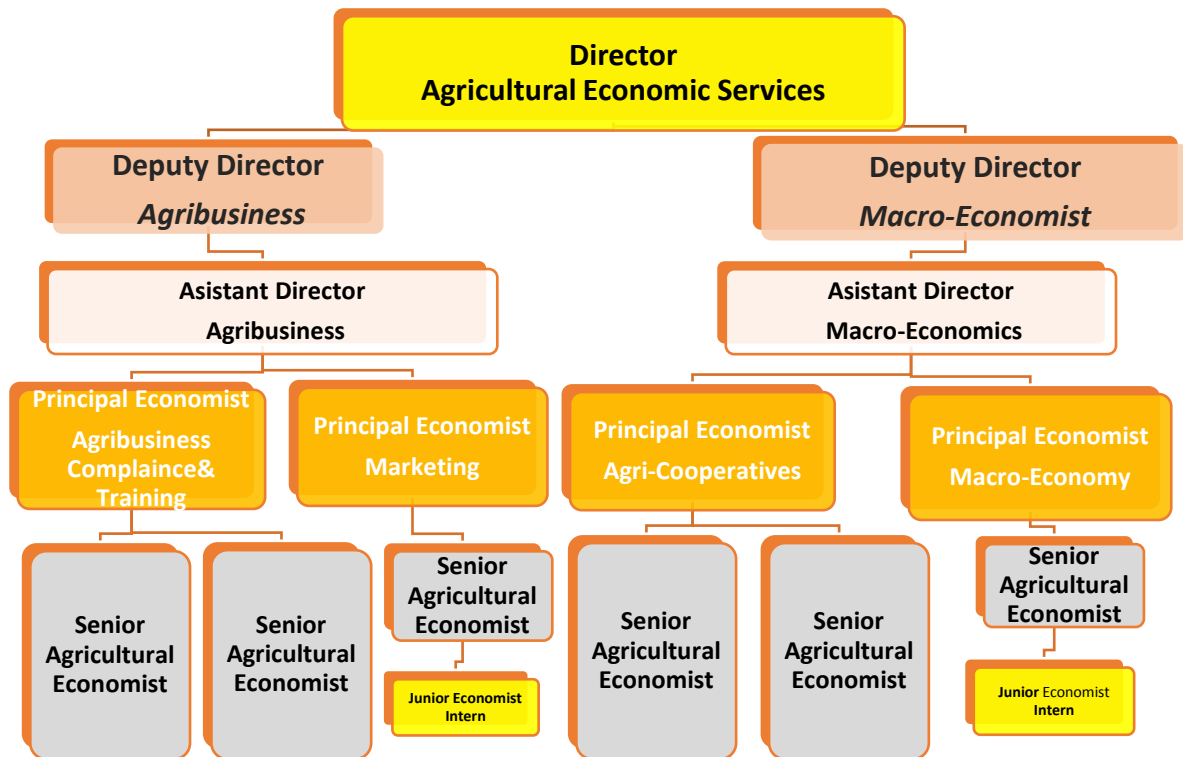
WC Level 8 Agricultural Economist Job Description Extract: Key Performance Areas

- a) Continuous in-depth study/research of developments/patterns/trends in a specific agricultural environment (e.g. resources, production, farm management, agricultural business etc.).
- i. Resources (spending, allocation, access, utilization, cost benefit, etc.):
 - Human resources (labour, entrepreneurship, etc.)
 - Natural resources (land, water, environment, etc.)
 - Capital resources (equipment, finance, infrastructure, technology, etc.)
 - Intermediate inputs (consumables)
 - ii. Production (performance, viability, efficiency, profitability, etc.)
 - iii. Agrarian reform (business development, entrepreneurial development, etc.)
- b) Analyse/identify economic questions/challenges in a specific environment/situation (specific districts/areas, a specific industries, specific events/circumstances)pertaining to legislation/ strategy/ policy/ initiatives/ interventions:
- i. Environmental scanning
 - ii. Monitoring and evaluation of the impact of threats and opportunities (variables /non-variables)
 - iii. Consultation with stakeholders
 - iv. Performing feasibility and viability studies
- c) Undertake/conduct analysis, apply, adapt and/or develop models based on the current situation to forecast/project possible scenarios. This will entail, inter alia, the following: -
- i. Identify and prioritise the opportunities and threats (variables/non-variables) impacting on the possible scenario.
 - ii. Collect, verify, interpret and evaluate data (historical/current/possible future - local and international) on opportunities and threats (variables/non-variables) in relation to the specific scenario
 - iii. Validate the reliability of economic models in relation the specific scenario
 - iv. Forecast/project possible outcomes within a specific environment/situation
- d) Compile the final output e.g. reports, position papers, information documents, policy documents, populated databases etc.
- e) Provide advice to internal & external stakeholders on the impact of forecasts for decision-making, initiatives and/or interventions within a specific environment. This will entail advice on, inter alia, the following fields: -

- i. Agricultural growth (e.g. farm management - all commodities, farmer and industry support etc.)
 - ii. Sustainable agricultural development (e.g. provision of production economics or farm management economics advice to co-operative and commodity groups, public private partnerships etc.)
 - iii. Resources
 - iv. Production
 - v. Legislation, strategy and policy
 - vi. Social framework
 - vii. Agrarian reform (e.g. redress of external influences – non-agricultural/ international, etc.)
 - viii. Financial advice (e.g. budgeting, financial record keeping, specialized practical financial management training etc.)
 - ix. Risk and disaster management
- f) Develop and evaluate business plans through, inter alia:
- i. Conduct project appraisals
 - ii. Conduct viability and feasibility studies
 - iii. Mobilise human resources for implementation of projects
 - iv. Oversee the execution of projects (on farm/enterprise level) by extension officers:
 - Evaluate existing farm/enterprise systems
 - Decide on appropriate economic business model
 - Perform gap analysis to determine applicable interventions to achieve desired outcome
 - Measure level/extent of success throughout the course of the project
 - (v) Monitoring and evaluating of the impact on project beneficiaries
- g) Establish and maintain a network for liaison with economic/agricultural analysis institutions through, inter alia, the following: -
- i. Benchmarking
 - ii. Methodologies
 - iii. Partnerships
 - iv. Inter-sectoral collaboration (nationally & internationally)
- h) Perform administrative and related functions which would, inter alia, entail the following: -
- i. Give input towards policy
 - ii. Provide inputs for budget planning
 - iii. Compile and submit reports
 - iv. Guidance to internal clients, co-workers e.g. interns etc.
 - v. Participate in developing the annual work plan.
 - vi. Comply with the Public Service prescripts and departmental policies.
 - vii. Develop, implement and maintain databases

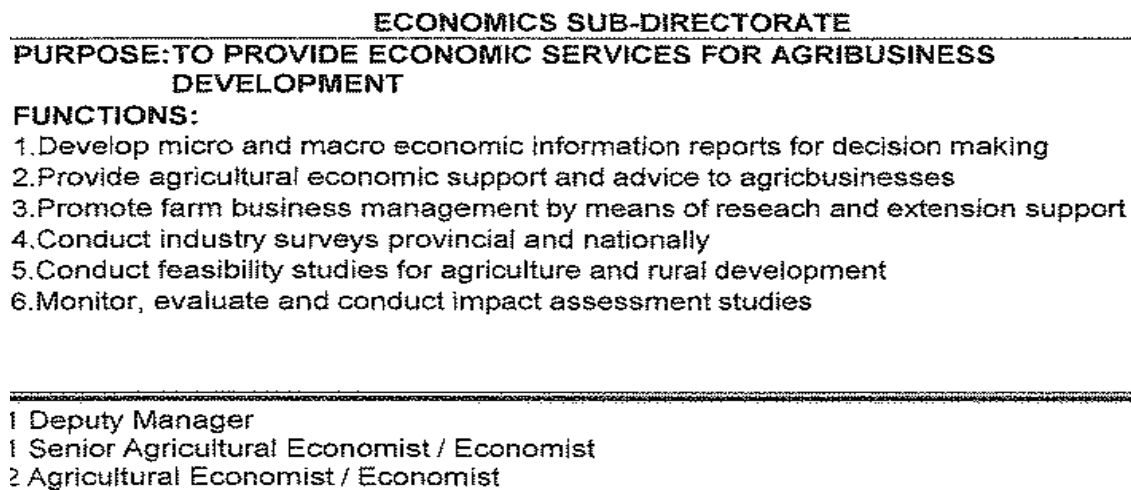
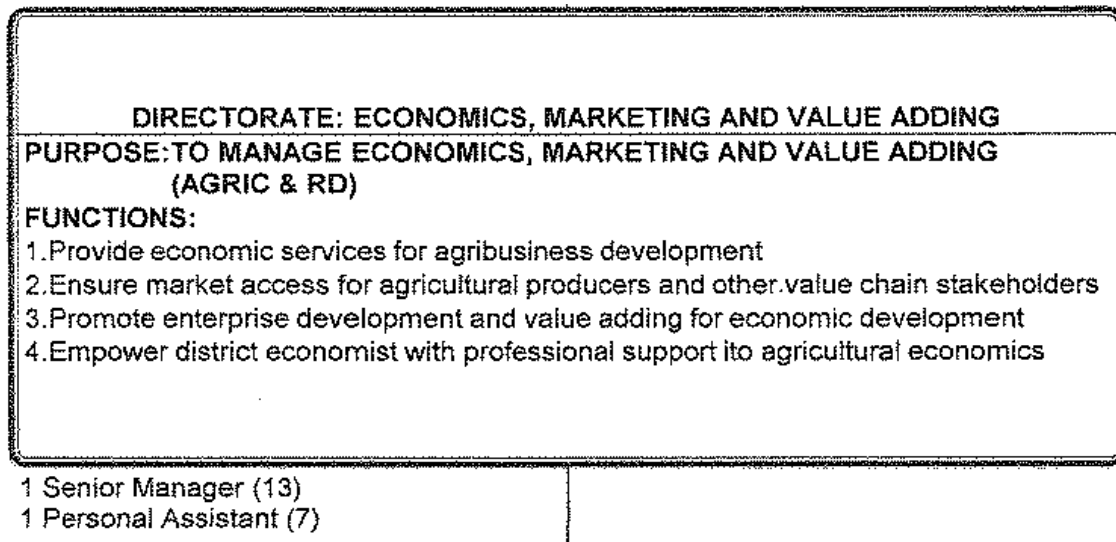
Source: WCDaA (August 2016).

Figure 18-2 Gauteng Province: Programme 6 organogram



Source: Gauteng Provincial Government official, personal communication, August, 2016.

Figure 18-3 Kwazulu-Natal Province: Programme 6 Organogram



ENTERPRISE DEVELOPMENT AND VALUE ADDING SUB-DIRECTORATE
PURPOSE: TO PROMOTE ENTERPRISE DEVELOPMENT AND VALUE ADDING SERVICES FOR ECONOMIC DEVELOPMENT

FUNCTIONS:

1. Conduct research and product development
2. Develop and implement agro-processing and value adding strategy
3. Promote compliance to food safety and quality standards
4. Disseminate information and technology transfer on agro-processing facilities
5. Build capacity for logistics and market access for agro-processed products
6. Research and develop models for sustainable rural enterprises
7. Promote an integrated value chain approach on commodity development
8. Promote compliance to food safety and quality standards

- 1 Deputy Manager
2 Senior Agricultural Economist / Economist
4 Agricultural Economist / Economist

MARKETING SUB-DIRECTORATE

PURPOSE: TO ENSURE MARKET ACCESS FOR AGRICULTURAL PRODUCERS AND OTHER VALUE CHAIN STAKEHOLDERS

FUNCTIONS:

1. Provide agricultural market information
2. Facilitate development of commodity groups and marketing cooperatives
3. Guide agricultural market research and development
4. Facilitate training and market access certification for agricultural products
5. Identify agricultural product market opportunities locally and internationally
6. Facilitate linkages for rural enterprises to local and international markets

- 1 Deputy Manager
1 Senior Agricultural Economist / Economist
2 Agricultural Economist / Economist

Source: Kwazulu-Natal Provincial Government official, personal communication, August, 2016.

Limpopo Province: Programme 6 Organogram

Head Office Structure

1. Programme 6 Sub-Programmes

AE Services programme is comprised of two sub-programmes, namely, Agribusiness Support and Development and Macroeconomics Support

Operationally the whole programme is managed and coordinated by two Directorates, namely Agricultural Enterprise Development and Agricultural Economic Support Services. The two directorates manage and coordinate the functions of AE Services within the department's three spheres (head office, district and municipalities), they provide specialist support services in different field identified as key for AE and agribusiness development.

The two directorates report to the Chief Director: Agricultural Support Services

2. Directorates

Directorate: Agricultural Economic Support Services

AIM: To provide AE and statistical services

FUNCTIONS:

- To provide specialist AE Services along the commodity value chains, namely, horticulture crops , livestock and field crops (mainly research and markets) To provide Agricultural Statistic and Production Economics Support Services to the sector for planning and decision making (macroeconomic support)

Directorate: Agricultural Enterprise Development

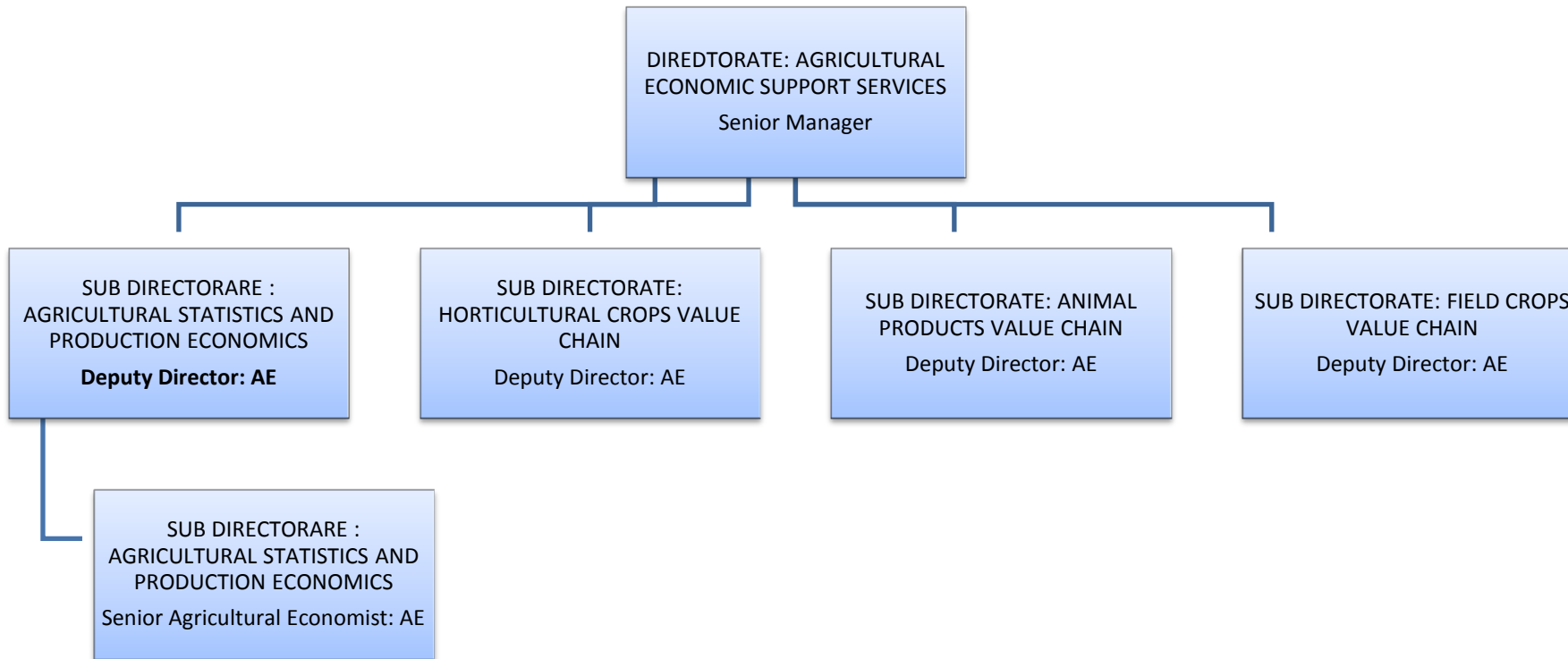
AIM: To promote entrepreneurship and business development in agriculture.

FUNCTIONS:

- Facilitate enterprise, partnership and cooperative development
- Facilitate access to agricultural development finance
- Promote agri processing and value addition initiatives

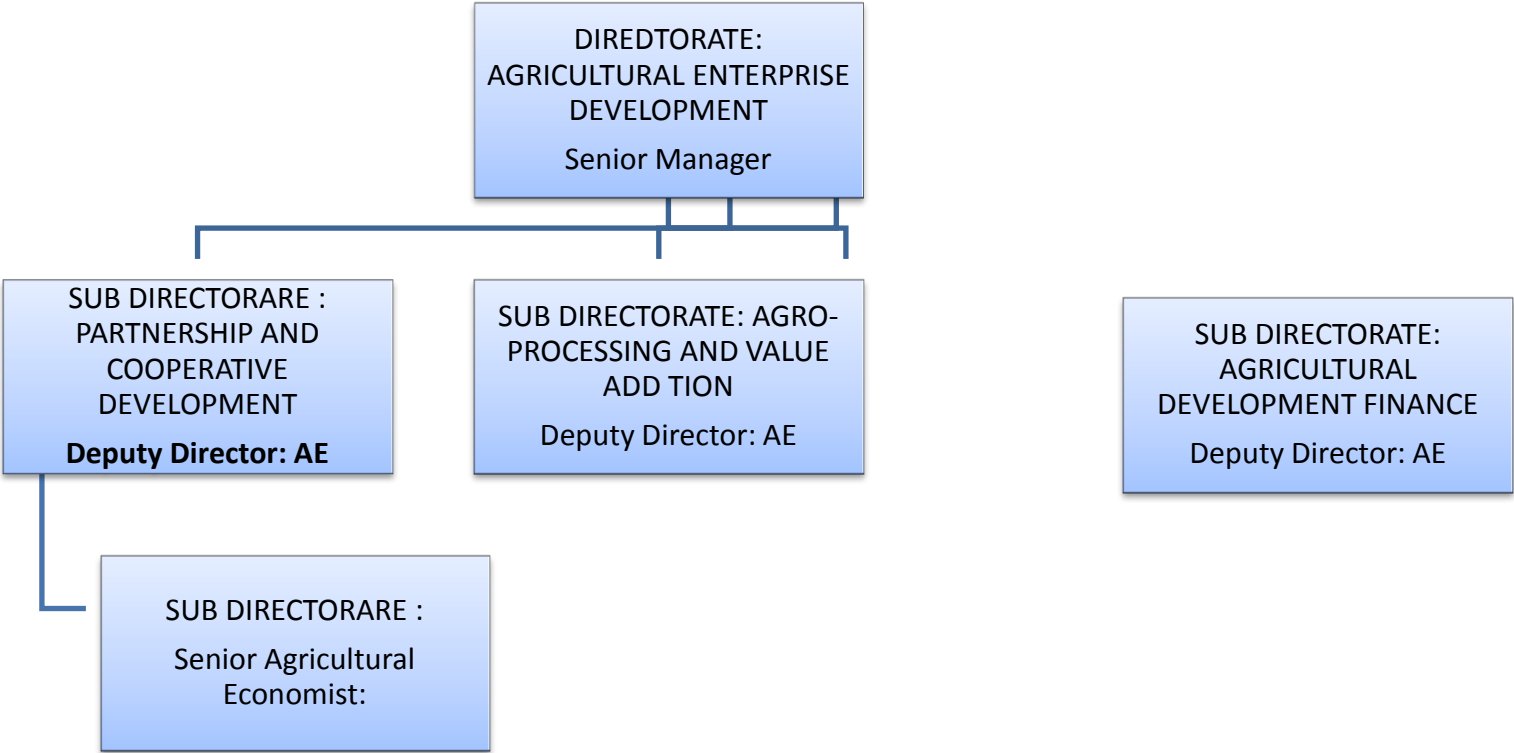
Source: Limpopo Provincial Government official, personal communication, August, 2016.

Figure 18-4 Limpopo Province: Programme 6 organogram



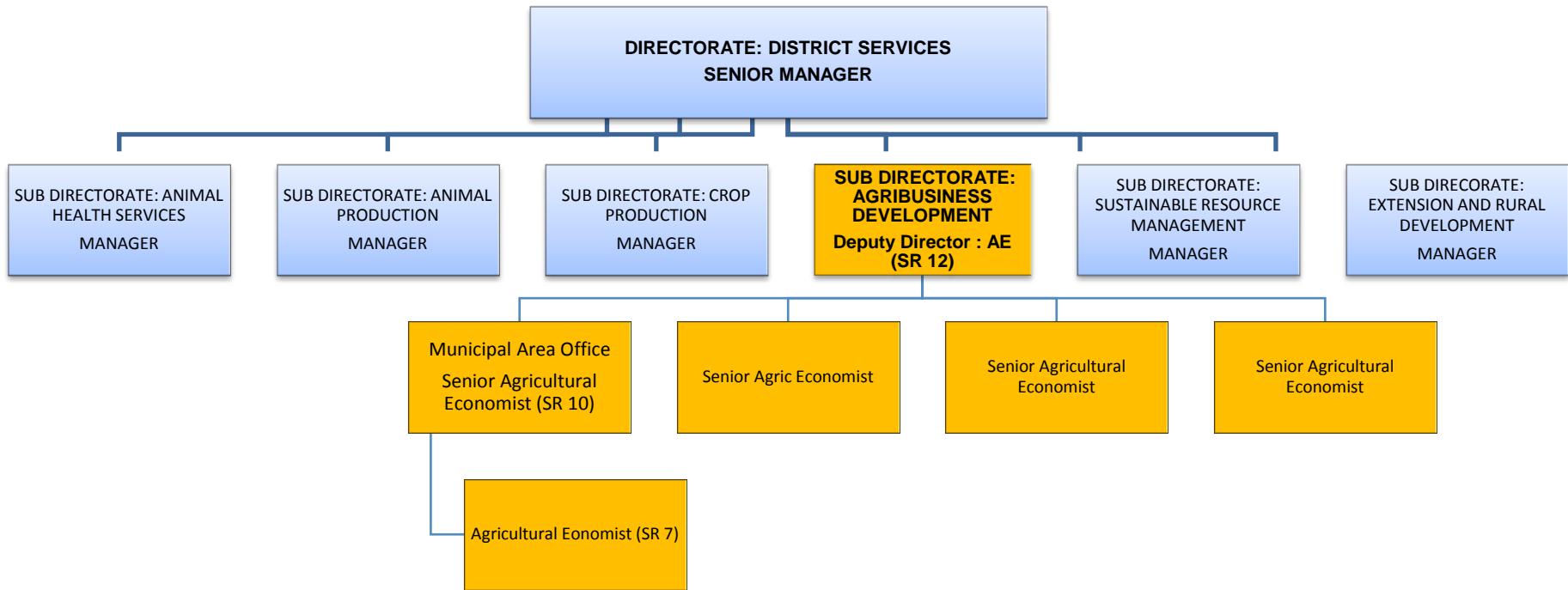
Source: Limpopo Provincial Government official, personal communication, August, 2016.

Figure 18-5 Limpopo Province: Programme 6 Organogram: Directorate: Agricultural Enterprise Development



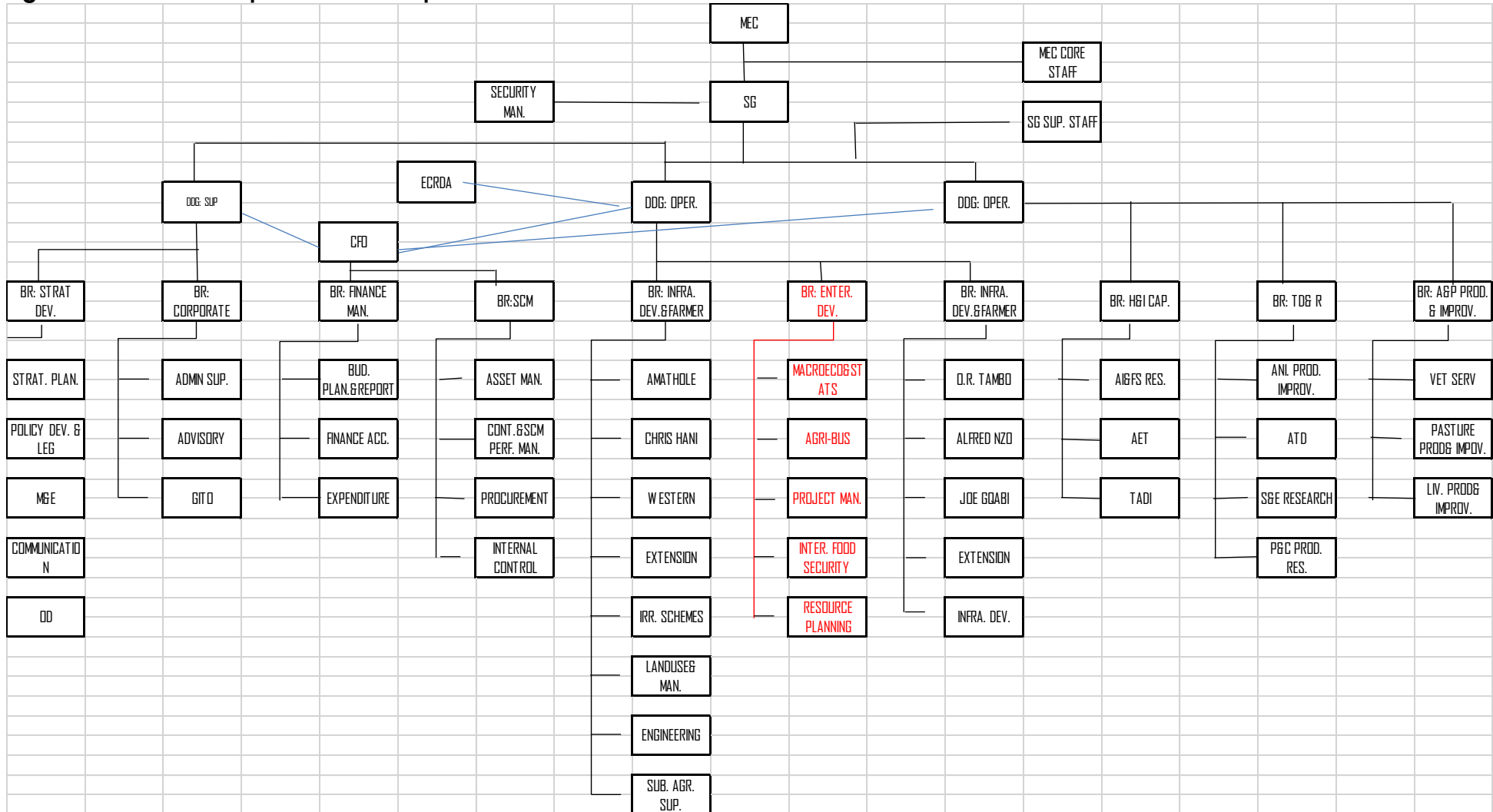
Source: Limpopo Provincial Government official, personal communication, August, 2016.

Figure 18-6 Limpopo Province: Programme 6 Organogram: district Structure



Source: Limpopo Provincial Government official, personal communication, August, 2016.

Figure 18-7 Eastern Cape Province: Departmental macro-structure



Source: Eastern Cape Provincial Government official, personal communication, August, 2016.

The Eastern Cape's DoA Programme 6 is divided into two sub-programmes:

1. 6.1. Agri-Business Support & Development
2. 6.2. Macroeconomics (& Statistics) Support

There are one Director and one Deputy Director for each of the two sub-programmes in head office.

There is also one Deputy-Director in each of the six districts and about 40 Agricultural Economists (Directorate: Statistics for officers) distributed throughout the province.

Source: Eastern Cape Provincial Government official, personal communication, August, 2016.

19 Annexure 13: Brief overview of Combud (computerised budgets)

Combud stands for computerised budgets (income/cost budgets for farm enterprises).

The Combud system is a set of data that comprises computerised budgets. The Combud system developed over time and served a number of important functions:

Various other farm-level operational tools, apart from the farm record system, were developed since the mid-1960s. These operational tools were widely used as building blocks on which economic/financial farm-level calculations were based such as for instance feasibility studies to evaluate investment in the sector, evaluation for agricultural credit application, general farm planning, etc. The introduction of the technique to compile enterprise budgets for farming enterprises added another dimension to agricultural economic services in the sector. This manual system was later also computerised by developing the Combud system (Ngqangweni et al. 2015), p. 53..

The Combud book consisted of a series of farm budgets for what was thought to be "typical" farms. Budget calculations were informed by knowledge of industry practices (e.g. that you would have a tractor of a certain size for a wheat farm and a smaller one for a fruit farm and how many hours the tractor worked in a year, what the average fuel consumption was, how often the tyres needed to be replaced, what the cost of each of these items came to, etc.). The Combud provided standard values for each of these factors so that the cost of production could be calculated for specific commodities using a common language.

Cost factors differ from one part of the country to the other, which is why the old National Department of Agriculture was divided into production areas (Western Cape rather than the Cape Province, Northern Transvaal rather than Transvaal, etc.) and the Combud worked out for each of these areas.

Hall (April 2009) sheds further light on the role of the Combud system and its role in informing business planning and the provision of finance

Business plans involve consideration not only of agricultural potential (What is the land good for?) but also of the production environment (What kind of enterprise will work, given available markets, skills, assets and capital?). Land use planning within these business plans is informed by assessments of technical feasibility, based on topography, soil types, rain-fall and water availability, among others, premised on certain types of production. Cash-flow projections informing business plans rely on a 'commercial budget' (Combud) for farming – the potential income from a given crop – periodically published by the DoA. The Combud combines expected output for a certain type of farming, varied by region, and expected prices per unit of output (i.e. gross margins) (Hall. , p. 38).

The Combud system required regular production cost survey data from farmers—such surveys largely ended due to the gradual deregulation of agriculture as part of the Marketing of Agricultural Products Act 47 of 1996 (Ngqangweni et al. 2015).

In the 1960s-1980s, there was a demand for farm budget information as the following examples show (personal communication with Professor Nick Vink from the University of Stellenbosch. January, 2017):

1. The grain industries were controlled under what were called single channel fixed price schemes: this meant that the state set the price of maize, wheat, sorghum, etc. annually. The basis for price setting was cost of production plus a profit margin. This involved political dynamics where the Maize Board wanted the cost of production to be as high as possible, the State wanted it as low as possible, while politicians wanted it high in election years and low otherwise. So the officials at the old Department of Agriculture thought it a good idea to introduce “science” into the measurement of production costs. This eventually resulted in the Combud system and was the main, but not the only driver, of this demand.
2. The Agricultural Credit Board acted as a lender of last resort to the agricultural sector, and was basically the bad debt book of the system. Farmers who could not borrow from the commercial banks or the Land Bank (directly), or the coops (i.e. from the Land Bank indirectly) qualified to borrow from the Credit Board, which was inside the DoA and run by civil servants who needed to know whether a farming operation could get itself out of trouble with the subsidies inherent in the Credit Board operations – so they needed cost of production data – output price data was much more accessible.
3. During the 1980s drought relief often consisted of debt relief measures – so the State (DoA) once again needed to know what went on inside a farming business to know what the extent of indebtedness was and whether the recipient business could survive.
4. Investment agencies – the Industrial Development Corporation, the Development Bank, etc. all had to base their work on realistic farm budgets, and so used the Combud as a basis.

Vink (personal communication, January, 2017) states that the Combud system ceased to be updated because the data was no longer required for official purposes by government and related agencies. The Credit Board has disappeared along with the Control Boards, so there is no longer a demand for such data from within the state (DoA). Such data would, however, be valuable to land reform and the Department of Rural Development and Land Reform.