



**INVESTIGATING THE INCREASE IN
APPRENTICESHIP DEMAND IN THE SOUTH
AFRICAN AGRICULTURAL SECTOR**

FULL REPORT

APRIL 2022

EXECUTIVE SUMMARY

Various skills are critical to the expansion of infrastructure, economic growth, and the general development of the country. Artisan skills are one of the specific skills required for economic development. Apprenticeships are a work-based pathway to certification for learners who want to engage in a practical, technical field and become qualified artisans. Apprenticeships are aimed at developing trade-specific skills. In South Africa, several industries desperately need skilled artisans. and pathways for young people into the world of work, hence it's important that they are accessible and are of the highest quality possible.

The most important benefit of having an apprentice in a business is having an additional labour force at a lower cost (due to current stipend rates). This reduces some financial burdens on some companies. South African industries are now paying attention to apprenticeships. This is seen as the opportunity to replace the aging skilled artisans. These could be contributing factors to the increased demand for apprentices in South Africa. The reasons for increased demand for apprentices in the agricultural sector are limited and not conclusive.

Therefore, the purpose of this study was to investigate whether there has been an increased demand for apprentices and the reasons for the rising demand for apprenticeships in the South African agricultural sector. A convenience sampling method was used whereby a semi-structured questionnaire that was captured on google forms was sent to the entities that were taking apprentices in the previous years according to the AgriSETA database. A total of 34 entities participated in the survey questionnaire. The study representatives included the 9 agricultural sub-sectors, namely; Aquaculture, Grains and cereals, Horticulture, Milling, Pet Food and Animal Feed, Poultry, Pest Control, Red Meat, Seed and Sugar.

The results indicated that there are agriculture entities that took more than six months to fill some apprentices' positions due to various reasons which include, lack of relevant qualification, experience, suitable job location, and poor remuneration.

The study revealed that in the previous three years there was an increase in demand for fitter and turners, boilermakers, welders, electricians, plumbers, millers, millwrights, Agri-infrastructure maintenance, diesel mechanics and refrigeration mechanics in the

agricultural sector of South Africa. There are trades that will be in demand in many agricultural entities due to the dynamic

changes in the sector. These trades include millwright, mechanic, tractor and earth moving equipment trades, construction and forestry and refrigeration mechanics.

Various reasons lead to the increased demand for apprentices in the agricultural sector of South Africa. The prevalent causes of increased demand for apprentices include (i) Importance of apprentices and opportunities recognised, (ii) insufficient training, (iii) Nature of work, (iv) emigration of artisans, (v) aged workforce of artisans, (vi) current market wage, (vii) Expanding agricultural industry and (ix) technological advancement.

Apprenticeship is one of the routes to becoming a qualified artisan. After the completion of an apprenticeship, the candidate then takes a trade test to become a qualified artisan. The increased demand for apprentices might be due to the shortage of artisans in South Africa.

The results of this study indicate that there is a shortage of artisans in the South African agricultural sector. The shortage of artisans in the agricultural sector results in low production, thus resulting in low income (revenue). Shortage of skills leads to downtime in service delivery to customers. Furthermore, the training of apprentices becomes too slow due to the unavailability of senior artisans.

It is recommended that further studies with a larger sample size and higher response rate are conducted to confirm the findings of this study. Given that there is evidence of increased apprentice demand and a shortage of artisans, a research study to determine whether the labour market has the potential to fully absorb new artisans is recommended. Furthermore, Information on apprenticeship programmes and different routes to becoming a qualified artisan should be well promulgated amongst the youth of South Africa. A partnership with TVETs, artisan training providers, and the entities that offer apprenticeships in the agricultural sector is recommended. The candidates will then be able to move straight from the college to the workplace to acquire experience through an apprenticeship programme

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1. BACKGROUND

Various skills play an important role in the expansion of infrastructure, economic growth, and overall development of the country, because if the country had more skilled artisans, it would also help industry who often have to look outside the country to find the right skillset (Career planet, 2020 and Skills portal 2018). One of the specific skills required for economic development is artisan, which can be obtained through an apprenticeship programme as one of the routes outlined by the National Artisan Development Strategy and Implementation Plan (2017).

To understand the nature of apprenticeship and artisan in South Africa, it is important to outline these two terms. An apprenticeship is a work-based route to qualification for learners who are interested in working in a practical, technical field so that they can become certified artisans. An apprenticeship is similar to a learnership, except that it is always focused on trade (Bridge, 2020). Most of the training is done on the job while working for an employer who helps the apprentices learn their trade. It involves a legal agreement as to the duration and conditions of the training (Career planet, 2020). Apprenticeships are aimed at developing trade-specific skills (SAQA,2014). In South Africa there are several industries that desperately need skilled artisans. and pathways for young people into the world of work, hence it's important that they are accessible and are of the highest quality possible (Seifsa, 2021)

Apprentices attend formal instruction sessions at a Technical and Vocational Education and Training (TVET) College or other training institution to acquire the trade-related knowledge and theory and practical hand skills and also spend some time in a workplace working under the guidance of a qualified artisan to become proficient in the trade (GTAC, 2019). Therefore, for an entity to have an apprenticeship program, it must provide hands-on training, teach lessons, offer compensation and administer a nationally accredited certificate (Patriot, 2016). After completion of the apprenticeship programme, the apprentices who are ready can apply to do trade tests at an accredited trade test centre. If they are successful, they will be certified as artisans.

The term artisan is derived from the *Latin* word “*artire*” which means to instruct through arts (Breier and Erasmus, 2009). Artisans work in technical fields doing work such as plumbing, electrician, welding, mechanic, fitter and turner, plaster, rigger, millwright,

etc (Career planet, 2020). The Skills Development Act, 1998 (Act No.97 of 1998) defines an artisan as a person who has been certified as being competent to perform a listed trade. There are 125 trades listed in South Africa in terms of Government Notice 35625 issued on 31 August 2012. Only 8 trades are demarcated to argiSETA (AgriSETA, 2021) Each trade can be identified by a special code, referred to as the “Organising Framework for Occupations” (OFO) code. A person has to follow several steps to be certified as an artisan. These steps include the completion of a theory component, a practical training component, structured workplace training and trade testing. For the purposes of this report, the terms Apprenticeship, apprentices and artisans will be used interchangeably.

South Africa is currently experiencing a shortage of skilled artisans and therefore, apprenticeships are in high demand to bridge the gap (Career portal, 2019). According to ILO (2019), the most important benefits of having an apprentice in a business is having additional labour force at the lower cost. This reduces some financial burden to some companies. Seifsa (2021) indicated that, South African industries are now paying attention to apprenticeships. This is seen as the opportunity to replace the aging skilled artisans. Furthermore, the expansion of most industries and technological advancement increases the need for more artisans and apprentices.

Artisans are important in the agricultural sector. They apply highly developed manual skills using their hands and technical equipment to complete time sensitive projects. Furthermore, they assist and fix important machineries and equipment that are crucial for production and in not well maintained, income may be affected (Mbeki et al., 2014)

The government of South Africa has revealed a shortage of skilled artisans as early as the year 2008. This forced the country to import skilled artisans from various countries to complete time-sensitive projects (DHET, 2019; Xpatweb, 2018; Government gazette, 2015). The shortage of skilled trade workers is confirmed by a Talent Shortage Survey conducted in May 2015. It was found that, for the fourth consecutive year, vacancies for these workers continue to be the most difficult to fill (DHET, 2017). Furthermore, Artisan appears in occupations in high demand every year (DHET, 2020). Career planet (2021) indicated that there is a massive shortage of artisans in South Africa. This is also supported by the Xpat Web 2020/21 critical

skills survey report which indicated that artisan is among the most in demand skills (top 10) that businesses are struggling to recruit.

Skills shortage occurs when the demand workers for a specific occupation exceed the availability of qualified employees, who are available and willing to work under the current market conditions (Shah and Burke, 2003). According to Shava and Maramura (2016), shortage of skills may be attributed to the following; (i) Lack of technical skills, (ii) the poor labour market (iii) lack of post-school experience, (iv) rapid population growth, (v) advancement in technological innovation. Tshele and Agumba (2017) indicated that the contributing factors to artisan shortages in South Africa include (i) insufficient practical exposure (apprenticeships), (ii) unattractiveness of work, (iii) experienced artisans retiring (iv) poor transfer of skills (v) lack of succession plan (vi) foreign influx of artisans and (vii) current market wages

There are jobs to be filled and not enough skilled and qualified people to fill them. Large developmental and engineering projects are on the cards but the lack of artisans in South Africa could force these jobs to be filled by outsiders (Career planet 2021). At the moment, the trades that are needed by most of the sectors to grow include: Bricklayer, Electrician, Millwright, Boilermaker, Plumber, Motor Mechanic, Diesel Mechanic, Carpenter and Joiner, Welder, Rigger, Fitter and Turner, Mechanical Fitter and Pipe Fitter (Careerplannet, 2021; BusinessTech, 2021). Except for carpenter and joiner, all of these trades are relevant to the agricultural sector, and AgriSETA is supporting them (AgriSETA,2021).Career plannet (2021) also indicated that most of the artisans labour market consist of old people. The average age for an artisan is 55 years. This means in a few years time when these artisans retire, the shortage of artisans will only get worse.

This clearly shows that there is a continuous need for suitably qualified artisans to sustain industries and support economic growth in South Africa. Artisan development has therefore been elevated as a priority area for skills development in the country. Chapter 9 of the Government's National Development Plan (NDP) and the White Paper for Post-School Education and Training indicates that by 2030 the country should be producing 30 000 qualified artisans per year. Other policies that emphasise the need for more artisan training and development include;

1. National Artisan Development Strategy and Implementation Plan 2017

2. National Artisan Development Funding regulations
3. National register of Artisans Regulations, 2018
4. Skills Development Act, 1998 (Act 97 of 1998)

According to DHET (2021), the country is currently producing on average 18 000 qualified artisans per year. The number has to increase drastically in the next 10 years leading up to 2030 for the country to meet the NDP target (DHET, 2021). DHET (2020) reported that the number of learners entering artisanal learning programmes was 16 218 2019/20 financial year, of which 77.2% of these artisans were in Special Infrastructure Projects (SIPs) scarce skills. A total of 24 050 learners completed their artisan programmes during the 2019/20 financial year, of which 34% of them were SIPs scarce skills (i.e. occupations that are part of the official list of artisan occupations as per Schedule 2 Gazette 35625, 31 August 2012).

To address this gap, the Quality Council for Trades and occupations has established new occupational qualifications which will become an integral part of TVET college offerings. The new occupational qualifications require some work experience for certification. While there may be some flexibility in designing different qualifications, there is no doubt that the system requires better and more systemic workplace-based learning arrangements to inspire confidence among employers in the programs and improve student employment outcomes. The TVET colleges and SETAs (21) are considered key drivers in promoting artisanship in the country and are expected to play a pivotal role in artisan training.

The evidence on apprentices' increased demand and causes of increased demand in the South African Agricultural sector have not been extensively investigated and not conclusive. As a result, AgriSETA commissioned a research to look into the empirical evidence on the increased demand, the reasons for the rising demand for apprenticeships in the South African agricultural sector, as well as the implications for the SETA artisan strategy.

This report presents the findings of the study which was conducted to understand the causes of increased demand for apprentices in the South African agricultural sector.

2. PROBLEM STATEMENT

There is a shortage of artisans in South Africa (Government Gazette, 2015; Heutter, 2020). According to Intergrate-immigration (2021), South Africa has shortfall of approximately 40 000 artsians . Most sectors in South Africa suffer from a shortage of apprentices and craftspeople, which has a negative impact on their performance, growth, skill transfer, and profit (Golbraham and Chetty, 2017; Tshele and Agumba, 2017; Rasool and Botha, 2011). Information whether there is an increased demand and the causes of increased demand for apprentices in the South African agricultural sector is limited and not conclusive. Such information would be useful for artisans development strategies in the South African agricultural sector.

3. AIM AND OBJECTIVES OF THE STUDY

The main aim of this study is to investigate if there is an increase in the demand of apprenticeships and the reasons behind the increased demand for apprenticeships in the South African agricultural sector.

The objectives of the study are to;

- i. Assess the increased apprenticeship demand in the South African agricultural sector.
- ii. Determine the causes for the increased apprenticeship demand in the South African agricultural sector.
- iii. Determine the specific type of apprentice that are in shortage in the South African agricultural sector.
- iv. Determine if there is a shortage of artisans in the agricultural sector and the effect on the core business of agricultural entities.

4. METHODOLOGY

4.1 Study area

The study was conducted in South Africa across all the Nine provinces. The study representatives included the 9 agricultural sub-sectors, namely; Aquaculture, Grains and cereals, Horticulture, Milling, Pet Food and Animal Feed, Poultry, Pest Control, Red Meat, Seed and Sugar.

4.2 Population, sampling and data collection

The targeted population was approximately 104 entities that offer apprenticeship programmes and artisan development in South Africa and are also the AgriSETA artisan database. A convenience sampling technique was adopted in this study. A semi-structured questionnaire captured on google was sent to all the entities taking apprentices via email. Only 34 entities completed the questionnaire and submitted it. In this study, the number of questionnaires received was enough to reach robust conclusion. The data for the study was collected during a period of August 2021-February 2022

4.3 Data analysis

The collected was analysed using Microsoft Excel 2021. Analysis was mainly done through descriptive.

5. RESULTS AND DISCUSSION

5.1. Demographic details of respondents

This section summarizes the findings in terms of participant demographics. The main reason for obtaining this information was to ensure that the study included a diverse range of perspectives from the participants. The demographics section included the operational province, company size, sub-sector, and the core business.

5.1.1. Provincial distribution of respondents

The results in Table1 indicate the distribution of participants across all the provinces of South Africa. The results show that most of the participants are operating nationally (21%), followed by participants who operate in more than one province but not in all the provinces (15%). The Free State province had the smallest representation (3%) while there were no representative that are only located in the Eastern Cape province.

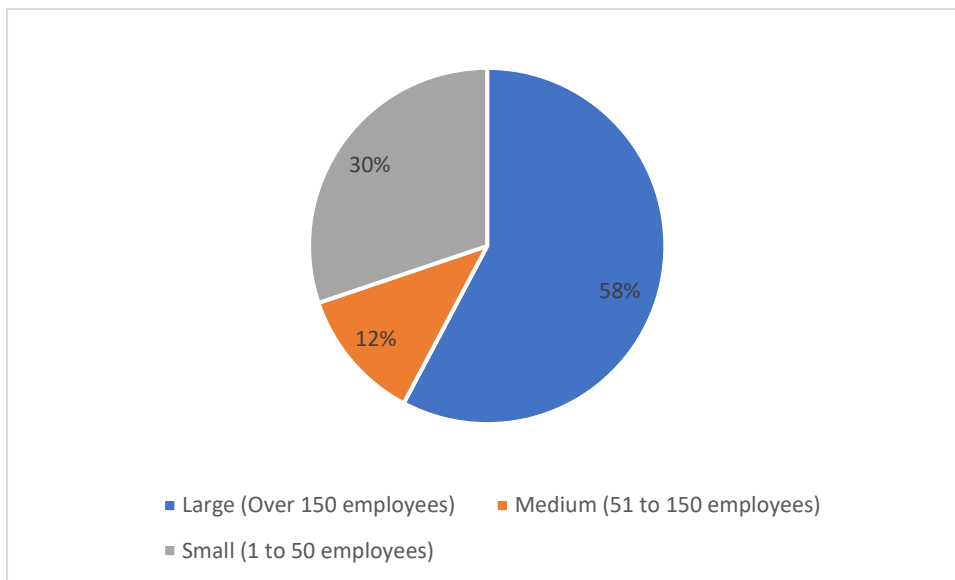
Table 1: Provincial distribution of respondents

Province	Frequency	Percentage
Free State	1	3%
Gauteng	4	12%
KwaZulu-Natal	2	6%
Limpopo	5	15%
Mpumalanga	2	6%
North West	2	6%
Northern Cape	2	6%
Western Cape	3	9%
National	7	21%
More than one province (but not nationally)	5	15%
Total	33	100%

5.1.2 Analyses of Company Size

The results on figure1 below illustrate the composition of respondents in terms of company size. The results show that majority of respondents were coming from large entities (58%), followed by small companies (30%) while medium entities had the lowest representatives (12%). This does not imply that the agricultural sector has more large entities than medium and small. According to the AgriSETA Employer database (2021/22) of employers registered with SARS, there are more small-sized entities in the South African Agricultural Sector.

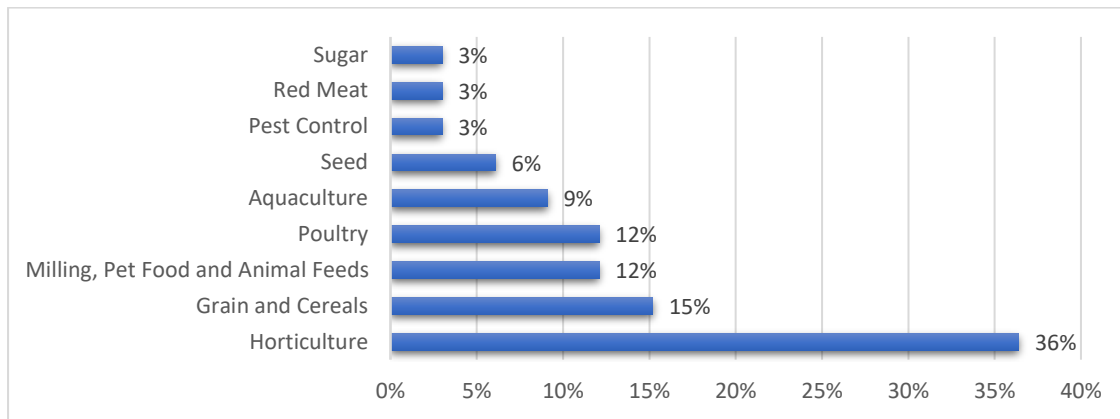
Figure 1: Company Size



5.1.3. Analyses of Sub-sectors representation

The research participants were asked to specify their sub-sector for their respective companies. Figure 2 below shows that most of the respondents represented the Horticulture sub-sector (36%), followed by Grain and Cereals (15%). The Red Meat, Pest control and Sugar sub-sector had the lowest representative of 3%, respectively. Fibre and Tobacco had no representatives in the study.

Figure 2: Sub-sectors representatives in the study

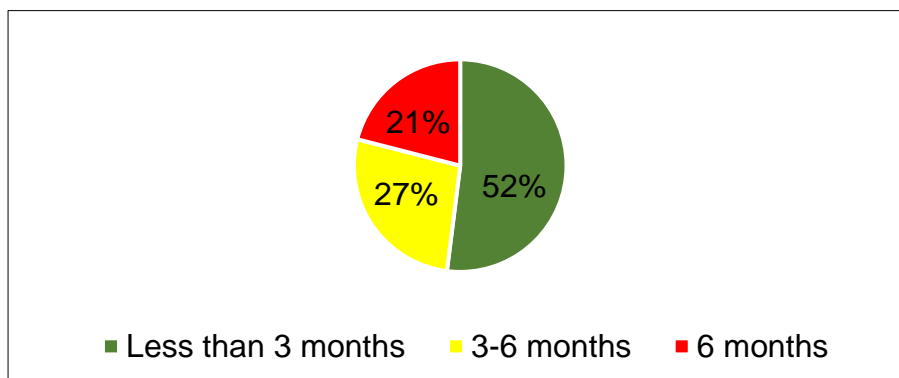


5.2. Primary Data Analysis

5.2.1. The period it takes to fill an apprentice vacancy.

The respondents were asked to indicate the period it takes to fill an apprenticeship vacancy with an aim of understanding if they are Hard to Fill as a sign of occupations in High demand. Figure 3 below indicates the period it takes for entities to fill an apprentice vacancy. The majority of entities (52%) indicated that it takes less than 3 months, while 27% indicated that it takes 3 to 6 months. About 21% of entities indicated that it takes more than 6 months, mainly due to reasons indicated in table 2. According to the DHET, an occupation that takes longer than 6 months is considered as a Hard to Fill Vacancies, and the results shows that only 21% of the respondents indicated that they had difficulties in finding a suitable apprentice candidate.

Figure 3: The period it takes to fill an apprentice vacancy



5.2.2. Vacancies that took more than 6 months and reasons

The respondent were asked to indicate reasons for vacancies that took more than 6 months to fill. Table 2 presents the apprentice vacancies that took more than 6 months to fill and the reasons thereof. The apprentices that take longer to fill included, plumber, millwright, fitter and turner, mechanic, electrical and maintenance, and millers. These findings are in line with the AgriSETA SSP (2022-2023). The AgriSETA SSP (2022-2023) indicates that diesel mechanics, plumbers, millwrights, fitter and turners, millers and electricians are hard to fill vacancies in the agricultural sector of South Africa. The DHET list of occupations in high demand (2020) also reported that there is a high demand for welders, boilermakers, mechanical fitters, electricians and Millwright in South Africa.

Table 2: Apprentices that take more than 6 months to fill and reasons

Apprenticeship Vacancies that took over 6 months to fill	Reasons
Plumber	<ul style="list-style-type: none"> • not enough accredited training centres that offer Plumber trade • Not enough training was provided for a plumber • Apprentice plumbers with N2 certificate not available.
Millwrights	<ul style="list-style-type: none"> • No appropriate experience
Fitter & Turner	<ul style="list-style-type: none"> • No relevant experience
Mechanic (diesel and motor)	<ul style="list-style-type: none"> • Remuneration package wanted • Geographical reasons. Students do not want to go to rural areas • Do not have an N2 certificate
Tractor Mechanic & Maintenance	<ul style="list-style-type: none"> • Other tractor dealers do not train enough apprentices.
Electrical and maintenance	<ul style="list-style-type: none"> • Lack of qualified candidates
Millers	<ul style="list-style-type: none"> • Lack of skilled delegates in remote and rural areas • Difficult to obtain apprentices with the correct qualifications • Not enough applications that meet our standards and requirements for the program

The most prevalent reasons that respondent included for hard to fill included:

- Lack of relevant experience
- Poor remuneration
- Unsuitable job location (Students do not want to go to remote and rural areas)
- Lack of relevant qualifications (Difficult to obtain apprentices with relevant qualifications)

5.2.3. Increase in the demand for apprentices in the previous 3 years

The participants were asked to indicate if the demand for apprentices in the South African agricultural sector has increased in the last three years. Figure 4 below indicates that 70% of respondents indicated that the demand has increased, while 30% indicated that the demand did not increase.

The respondents were further asked to indicate the apprentices that have increased demand in the past three years. Table 3 indicates that there was an increase in the demand for fitter and turners; boilermaker and welders, electricians, plumbers, millers, millwrights, Agri infrastructure maintenance, tractor/diesel mechanics and refrigeration mechanics in the South African agricultural sector.

Figure 4: Increase in needs for apprentices in the previous 3 years

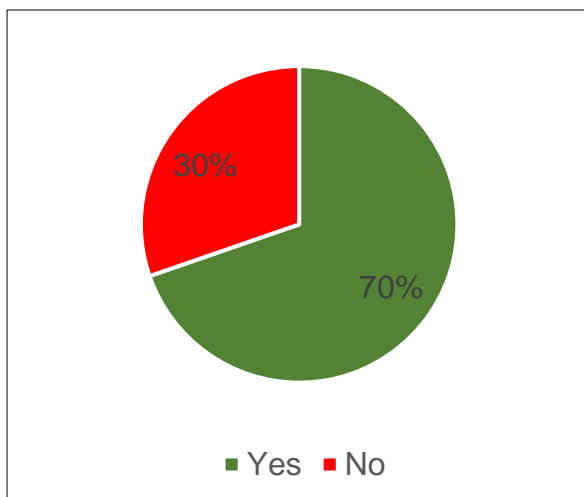


Table 3: List of Apprentices that were in high demand in the previous 3 years

1. Fitter and Turner
2. Boilermaker and Welders
3. Electrician
4. Plumbers
5. Millers
6. Millwrights
7. Agri infrastructure maintenance
8. Tractor/Diesel mechanics
9. Refrigeration mechanics

5.2.4. Causes of increased demand for apprentices in the South African Agricultural sector.

South Africa is currently experiencing a shortage of skilled artisans and therefore, apprenticeships are in high demand to bridge the gap (Career portal, 2019). According to ILO (2019), the most important benefits of having an apprentice in a business is having addition labour force at the lower cost. In addition, apprentices generally receive some form of remuneration during the training period which is mostly sponsored by some institutions like SETA. This reduces some financial burden to some companies. Seifsa (2021) indicated that, South African industries are now paying attention to apprenticeships. This is seen as the opportunity to replace the aging skilled artisans. Furthermore, the expansion of most industries in the country could lead to demand for apprentices and artisans in most companies.

As a result of the foregoing assertions, the causes of the increased demand of apprentices in South Africa's agriculture sector were investigated.

Table 4 below indicates the factors that contribute to the increased demand for apprentices in the South African agricultural sector. A Likert scale was used where the factors identified from literature were listed and the respondents responded on a scale of Agree, Neutral and Disagree. Majority of the respondents (65%) indicated that they agree that all the factors listed in table 4 contributed to the increased demand for apprentices in the agricultural sector. Even so, an average (24,3%) of the respondents are not certain of the impact of the listed factors on the increased demand of the apprentice in the South African Agricultural sector.

Table 4: List of factors contributing to increased demand for apprentices in the South African Agricultural sector.

Causes of increased demand for apprentices	Agree	Neutral	Disagree
Availability of information (importance of apprentice and opportunities recognised)	75.8%	24.2%	0%
Insufficient training	75.8%	15.2%	9,1%
Nature of work	48,5%	36.4%	15.2%

Emigration of experienced artisans to other countries	63.6%	15.2%	21.2%
The aged workforce of artisans	75.8%	18.2%	6.1%
Current market wage	45.5%	36.4%	18.2%
Expanding agricultural industry	72.7%	21.2%	6.1%
The availability of candidates who completed apprenticeships and have the relevant skills	75.8%	15.2%	9.1%
Technological advancement (4IR)	51.5%	36.4%	12.1%
Average	65%	24.3%	10,7%

5.2.5. Trades that will be in demand in future

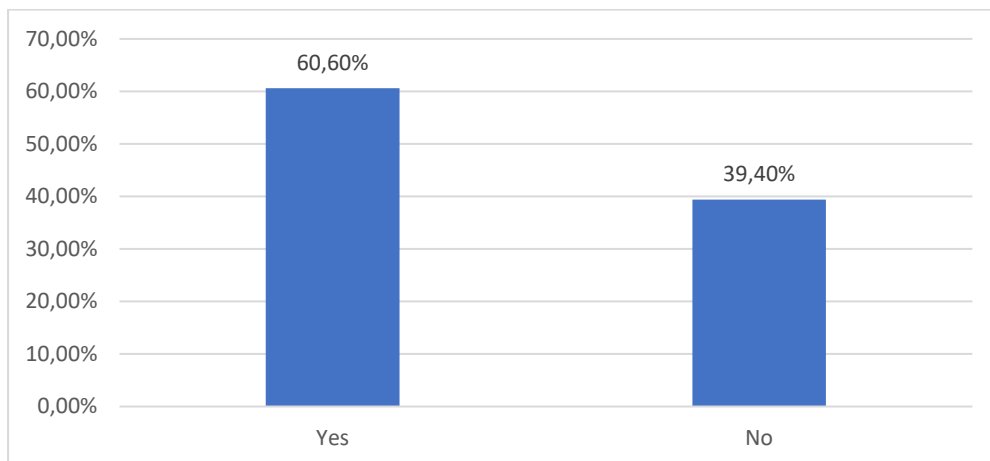
Participants indicated that the following trades will be in demand in many agricultural entities due to changes such as technological and environmental in the agricultural sector.

1. Millwright
2. Diesel mechanic
3. Tractor trades and Earthmoving equipment trades
4. Lawnmower and Golf course equipment technicians
5. Construction and Bricklaying
6. Refrigeration technicians

5.2.6. Shortage of artisans

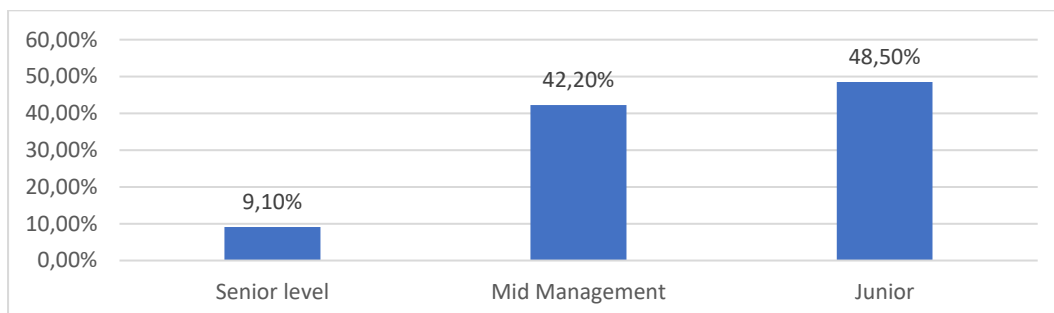
Respondents were asked to indicate if there is a shortage of artisans in the agricultural sector. Figure 5 indicates that there is a shortage of qualified artisans in the South African Agricultural sector. The majority of respondents (60,6%) indicated that there is a shortage of artisans, while the remaining 39,4% indicated that there is no shortage of artisans.

Figure 5: Shortage of Artisans in the South African agricultural sector



Respondents were further asked to indicate the shortage of artisans per level of employment. Figure 6 below indicates that the shortage of artisans is more acute at the junior level (48.5%) and mid-management (42,2%)

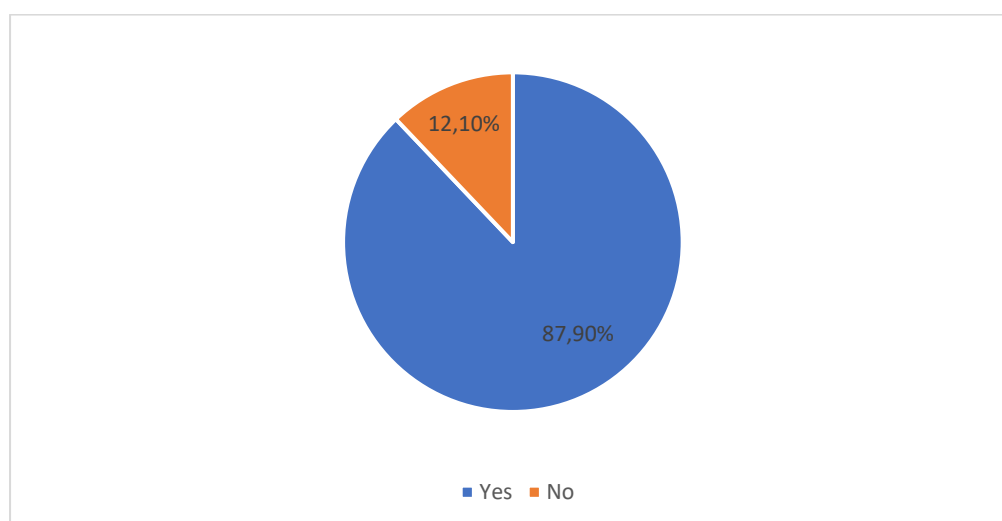
Figure 6: Shortage of Artisans per level



Most entities (87,9%) indicated that they support and encourage apprentices to write trade tests and become artisans, while the remaining 12,1% indicated that they do not support apprentices to write a trade test (Figure 7).

Tshele and Agumba, (2017) investigated the cause of artisan skills shortage in the South Africa construction industry. The authors reported that (i) closing of training schools, (ii) insufficient practical exposure, (iii) unattractiveness, (iv) Experienced artisans retiring, (v)Immigration of experienced artisans, (vi) poor skills transfer and (vii) current market wages contribute to the shortage of artisans in South Africa.

Figure 7: Support apprentices to write trade tests and become qualified artisans?



Respondents were asked to indicate if they support apprentices to do trade test and become qualified artisans. The entities give the support to apprentices in the following manner;

- v. Advise
- vi. Pay for training
- vii. Assist with transport, accommodation and cost if required
- viii. Giving theoretical knowledge and practical training
- ix. Help the apprentices to register for trade tests

5.2.7 Effect of shortage of artisan on the core business of agricultural entities

The respondents were requested to indicate the negative effects of shortages of artisans on the core business of agricultural entities. The following are responses that were given by respondents in the study;

- *“ It is detrimental to optimum production”*
- *“Lack of skills slows production”*
- *“unable to meet market contractual obligations”*
- *“Expert senior artisans are not available to help with the training of apprentices”*
- *“low productivity, which in turn creates low revenue”*
- *“It affects our productivity and downtime on service delivery to our customers”*

These findings are consistent with the findings of other researchers (Rasool and Botha, 2011; Tshele and Agumba, 2017). The artisan skilled workforce has a gap due to the early retirement of experienced labour (Jordaan and Barry, 2009). The quality

and productivity of work have both degraded because of the current shortage of artisan skills. Furthermore, due to a scarcity of artisans, employers have been obliged to raise rates and salaries to retain and attract artisans, which has had a significant negative impact on company earnings and organizational competitiveness (Rooyen et al.,2010)

The lack of experienced artisans results in tremendous delays in service delivery and increased costs on projects. While on the other side, the lack of skills at the management level has an impact on artisan training where the transfer of skills is not administered effectively (Tshele and Agumba, 2017). If the current artisan skills shortage problem continues it will be detrimental to the South African agricultural industry and the country's overall development as a whole (Mateus et al., 2014)

6. CONCLUSION AND RECOMMENDATION

Majority of participants were large-sized entities (Over 150 employees), followed by medium-sized (51 to 150 employees) and small-sized entities (150 to 50 employees). However, this does not imply that there are more large-sized entities in the agricultural sector of South Africa. Most of the respondents represented the Horticulture Sub-sector, followed by Grain and Cereals. Fibre and Tobacco had no representatives in the study

The results and discussions above have indicated that there is indeed high demand of apprentices and shortage of artisans in the agricultural sector of South Africa. The results indicated that there are apprentices that take more than six months due to various reasons which include, lack of relevant qualification, experience, suitable job location, and poor remuneration.

The study revealed that in the previous three years there was an increase in demand for fitter and turners, boilermakers, welders, electricians, plumbers, millers, millwrights, Agri-infrastructure maintenance, diesel mechanics and refrigeration mechanics in the agricultural sector of South Africa.

The following trades will be in demand in many agricultural entities due to changes such as technological and environmental in the agricultural sector; millwright,

mechanic, tractor and earth moving equipment trades, construction and forestry and refrigeration mechanics.

Various reasons lead to the increased demand for apprentices in the agricultural sector of South Africa. The prevalent causes of increased demand for apprentices include (i) Importance of apprentice and opportunities recognised, (ii) insufficient training, (iii) Nature of work, (iv) emigration of artisans, (v) aged workforce of artisans, (vi) current market wage, (vii) Expanding agricultural industry and (ix) technological advancement.

Apprenticeship is one of the routes to becoming a qualified artisan. After the completion of an apprenticeship, the candidate then takes a trade test to become a qualified artisan. The increased demand for apprentices might be due to the shortage of artisans in South Africa.

The results of this study indicate that there is a shortage of artisans in the South African agricultural sector. The shortage of artisans in the agricultural sector results in low production, thus resulting in low income (revenue). Shortage of skills leads to downtime in service delivery to customers. Furthermore, the training of apprentices becomes too slow due to the unavailability of senior artisans.

Therefore the following recommendations are made based on the findings and observations:

- i. The findings of the study are not conclusive because only a few entities participated in the survey. Further studies with larger sample size and higher response rate are recommended to confirm the findings of this study.
- ii. Given that there is evidence of increased apprentice demand and a shortage of artisans, a research to determine whether the labor market has the potential to fully absorb new artisans is recommended.
- iii. Information on apprenticeship programmes and different routes to becoming a qualified artisan should be well promulgated amongst the youth of South Africa. This can be done through career guidance tours or roadshows and using other social media platforms.
- iv. AgriSETA should form a partnership with TVETs, artisan training providers and the entities that offer apprenticeships in the agricultural sector. The candidates

will then be able to move straight from the college to the workplace to acquire experience through apprenticeship programme

- v. AgriSETA in partnership with the relevant stakeholders should revise the application of trade test or the fees charged to do the trade test as number of apprentices do not afford to pay out of pocket to write the trade test.

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