AgriSETA

PEST CONTROL SUB-SECTOR SKILLS PLAN 2018-2019

Prepared on behalf of the Sector by AgriSETA

April 2018

ABBREVIATIONS AND ACRONYMS

ABBREVIATION/ACRONYM	DESCRIPTION
AFASA	African Farmers Association of South Africa
AGOA	African Growth and Opportunity Act
AGRISETA	Agricultural Sector Education and Training Authority
APAP	Agricultural Policy Action Plan
ARC	Agriculture Research Council
ATI	Agricultural Training Institute
ATR	Annual Training Report
BMI	Business Monitor International
CoS	Centres of Specialization
DAFF	Department of Agriculture, Fisheries and Forestry
DEA	Department of Environmental Affairs
DHET	Department of Higher Education and Training
DRDLR	Department of Rural Development and Land Reform
DTI	Department of Trade and Industry
FETMIS	Further Education and Training Management Information System
GDP	Gross Domestic Product
HEMIS	Higher Education Management Information System
HSRC	Human Sciences Research Council
HTFV	Hard To Fill Vacancies
IGDP	Integrated Growth Development Plan
IDP	Integrated Development Plan
IPAP	Industrial Policy Action Plan
IRR	Institute of Race relations
KZN	KwaZulu-Natal
NAFU	National African Farmers Union
NAMC	National Agricultural Marketing Council
NDP	National Development Plan

NERPO	National Emergent Red Meat Producers Organization
NGP	New Growth Path
NEETS	Not in Employment, Education or Training
NPO	Non-Profit Organization
NQF	National Qualifications Framework
NSDS III	National Skills Development Strategy III
NSFAS	National Students Financial Aid Scheme
PCITA	Pest Control Industry Training Academy
PCO	Pest Control Officer/Operator
QLFS	Quarterly Labour Force Survey
QCTO	Quality Council for Trade and Occupations
RPL	Recognition of Prior Learning
SACAU	Southern African Confederation of African Unions
SADC	Southern African Development Community
SAIVCET	South African Institute for Vocational Continuing Education and Training
SAPCA	South African Pest Control Association
SAQA	South African Qualifications Authority
SARS	South African Revenue Service
SDA	Skills Development Act
SDL	Skills development levy
SIC	Standard Industrial Classification
SIP	Strategic Infrastructure Project
SSP	Sector Skills Plan
SIZA	Sustainability Initiative of South Africa
STATSSA	Statistics South Africa
TLUSA	Farmers Union
TVET	Technical Vocational Education and Training
WSP	Workplace Skills Plan
WTO	World Trade Organization

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EXECUTIVE SUMMARY

1. INTRODUCTION AND OVERVIEW

Whist the Pest Control Industry resorts under one SIC code "Pest Control", there are other operations that should be classified as pest control but falls outside the scope of Act 36 of 1947 which governs the industry. For purposes of this sector skills plan, three components of pest control are discussed:

- **Pest Control:** where formal operators perform pest control services mainly in the structured environment of office buildings, warehouses, factories and private households.
- **"Working for Water"**. This government project aims at eradicating alien plants, and whilst it includes the application of pesticides, it is not formally part of the organized industry.
- **Farming sector**. Farm workers are applying pesticides to plants and animals. Whilst the Pesticide Management Policy for South Africa (Government Notice 1120 of 2010) promotes awareness and proper training of those working with toxic substances, the registration of such operators on farms are not formalized.

Within the context of its formal definition, the pest control industry is small. The SARS database lists 236 pest control companies, whilst the South African Pest Control Association (SAPCA) has 309 enterprises registered with it. However, there are more enterprises as there are 4 000 registered Pest Control Operators (CPOs) and a further estimated 1 150 non-registered operators, many of whom run small businesses.

The pest control industry is in essence a small business industry. This is evidenced by the fact that only 58 enterprises are paying the levy (implying that the remainder are so small that they are exempt from paying the levy.

No clear economic data is available on the industry as it is not treated as a separate industry in official statistics (such as StatsSA). Using conservative figures on business turnover and relative usage of chemicals the value of the sector can be estimated at R3, 3 billion per annum. (This cannot be relied upon and at best is indicative).

Direct permanent employment in the sector is estimated at 10 000 employees (for formal recognized businesses). Unfortunately AgriSETA information cannot be relied upon as only 7 enterprises submit the WSP/ATR.

Pest control is a male dominated sector with more than 50% of its employees over the age of 35.

It is foreseen that over the next five years there will be an escalation of training activities in the pest control industry. This can be ascribed to four reasons:

- The Pest Control industry is moving in a planned manner towards e-learning. It is seen as a solution to small operators who cannot always attend or afford formal training courses, but have access to the internet via laptops and especially smart phones giving them immediate

access at the worksite to advice and learning. E-Learning will be implemented as soon as January 2018.

- It is expected that DAFF's intervention with unregistered operators will result in an increase in formalized training to prepare such operators to meet requirements for registration.
- It is expected that more "Working for Water" projects will be released by government which again will result in the need for training.
- Finally, it is expected that more pressure will be applied to ensure that farm workers who work with toxic substances are properly trained and certificated to do so. This can become a very large training need as there are approximately 35 – 40 000 commercial farming enterprises in South Africa. If only two workers per farm are trained, on average there will be a need to train as much as 70 000 – 80 000 commercial farm workers. This excludes the myriad of small scale and non-formal farming enterprises.

2. RESEARCH

A document review was conducted to establish the economic performance and trends of the Pest Control subsector, geographic concentration and employers. Government policy and strategy documents, as well as the key statistical and industry publications were reviewed and these are included in the bibliography. A thematic analysis was conducted to synthesize the key economic, policy and training issues affecting the Pest Control subsector, and to identify key skills issues.

The following summarizes the research process and methods used to develop this sub-sector skills plan:

Table 1: **RESEARCH PROCESS AND METHODS**

RESEARCH TOPICS	OBJECTIVES OF THE STUDY	RESEARCH METHODS	NATURE OF THE STUDY	SAMPLE SIZE	DATA COLLECTION TOOLS	TIMEFRAME OF THE STUDY	RESEARCH OUTPUTS
Sector Profile	Understanding the economy, enterprises and labour within the sector	Desktop research Key informant interviews	Analyze most recent information available on the sector	N/A	Internet data research Semi-structured interviews	October – December 2017	Chapter 1: Sector Profile
Occupational shortages & emerging skills needs	Establish occupational shortages & emerging skills needs of the Pest Control subsector	Qualitative method	Non-probability sampling method was employed to identify stakeholders from whom specific information was required	400 registered & unregistered Pest Control industry stakeholders	Key informant interviews (primary) & desktop data analysis (secondary)	September – November 2017	Chapter 2: Key Skills Issues Chapter 4: Sector Partnerships Chapter 5: Skills Priority Actions
Skills issues	Identify key	Quantitative	Gathering	25% were	The	September –	Chapter 2:

& demands	occupational shortages, demands & supply with regard to unskilled, skilled, generic Pest Control subsector occupations and emerging skills needs in the agricultural sector	method	empirical evidence using primary data sources, as well as undertaking theoretical, desktop research using secondary data sources	small and emerging farmers and 75% were commercial farmers	quantitative survey gathered data on the unskilled, skilled and generic occupational shortages & skills gaps	November 2017	Key Skills Issues Chapter 3: Occupational Shortages and Skills Gaps
Sector Partnerships	Identify key AgriSETA partnerships	Desktop research Interviews	Identify AgriSETA aligned partnerships but also intra sub-sector partnerships	N/A	Internet data research Semi-structured interview Previous SSPs	October – November 2017	Chapter 1: Sector Profile

3. SCARCE AND PIVOTAL LIST FORMULATION

The scarce skills, skills gaps and pivotal skills lists were arrived at through both secondary data analysis and the numbers made available in previous Sector Skills Plans. Unfortunately WSPs and ATRs could not be used as the number submitting are too small and there are incorrect enterprise allocations. Primary data analysis obtained at the two-day AgriSETA stakeholder conference (30-31 August 2017), interviews and data collection forms the basis of the formulation of the PIVOTAL list.

4. SUMMARY OF KEY FINDINGS

Priority skills in the Pest Control industry are:

- **Business Acumen.**
  - It is firstly proposed that the sector work closely with AgriSETA and interrogate the NVC 2 and NVC 4 curricula. If relevant, these qualifications must be tailored to meet the needs of the Pest Control Industry and become a foundation programme to develop new entrants covering aspects such as identifying and starting a new business, basic business plan such as setting targets, resource planning, financial and operational plans. Consideration should be given to the need to implement the full NVC programme or only elements thereof as a part qualification.
  - Tailored short skills programmes focusing on financial planning, production planning, etc. These are foreseen as one to three day programmes.

- **Technical Skills.** Technical skills programmes are largely in place, however efforts must be made to engage with those who are operating illegally, those working in the Working for Water programme and especially the thousands of farm workers who engage on a daily basis with pesticides, who manage chemical stores and who are involved in the transportation and application processes. The Act 36 of 1947 is quite clear that all persons applying herbicide, pesticide or any Agricultural remedy must be registered. This registration can only be obtained by doing a course and to qualify. Chemicals can have a disastrous effect on the lives of people and the environment if not managed correctly.

- **Mentoring**. It is necessary to develop a pool of mentors who can assist PCOs in their development as professional operators and to create sustainable businesses. There is a practical element that has to be addressed during the training program to finally obtain the qualification. The PCO needs to do on average 6 months' work-place practical under a registered PCO.

- **CPD**. Short programmes which focus on disseminating new product information and ensure that existing operators are trained to correctly use and apply new products. The fundamental intent of CPD is to implement continuous training programs that will educate and uplift the Pest Control Operator in all aspects of the line of his work.

  The following are critical issues to be address:
  1. New developments in the industry and technology.
  2. New methods of application of pesticides.
  3. Bring PCOs up to speed with new developments, technology and practices in the industry.
  4. Obtain the necessary points needed for the re-registration on a 3 year cycle of all registered Pest Control Officers (PCO's). They will need to have a minimum 90 points over the 3 year cycle to retain their registered status.

CHAPTER 1: SECTOR PROFILE

1. INTRODUCTION

Chapter 1 of this report provides an overview of the agricultural sector, paying particular attention to the Pest Control subsector in South Africa. The first section of this chapter looks at the scope of the Pest Control subsector's coverage. Followed by the second section, which outlines AgriSETA stakeholders and key role-players in the Pest Control sector. The third section looks at the economic performance of the overall agricultural sector, zooming into the contribution of Pest Control to the South African economy. The fourth section explores the employer profile, based on the AgriSETA WSP/ATR data submitted for 2017. Finally, the last section provides a labour market profile where the number and demographics of people employed in the sector is explored. Essentially, chapter one of this document is intended to set the scene for the skills issues delved into in the subsequent chapters.

1.1 SCOPE OF COVERAGE

The scope of AgriSETA covers the agricultural sector, from input services to the farm, activities on the farm and first level processing activities from the farm. The Pest Control subsector is classified into a single economic activity. The table below outlines the formal demarcation of the Pest Control sub-sector.

Table 2: **ACTIVITIES WITHIN THE PEST CONTROL SUBSECTOR BY SIC CODE**

SUBSECTOR	SIC CODE	SIC DESCRIPTION
Pest Control	**99003**	Pest Control

Source: AgriSETA, 2017

Even though all pest control activities are clustered into one SIC code, the table below illustrates that the subsector is comprised of three 3 major sections;

- **Pest Control** where formal operators perform pest control services mainly in the structured environment of office buildings, warehouses, factories and private households.
- **"Working for Water"**. This government project aims at eradicating alien plants and whist it include the application of pesticides, it is not formally part of the organized industry.
- **Farming sector**. Farm workers are applying pesticides to produce and animals. Whilst the Pesticide Management Policy for South Africa (Government Notice 1120 of 2010) promotes awareness and proper training of those working with toxic substances, the registration of such operators on farms are not formalized.

The following table assigns formal definitions to each of the 3 major sections of the pest control industry in South Africa.

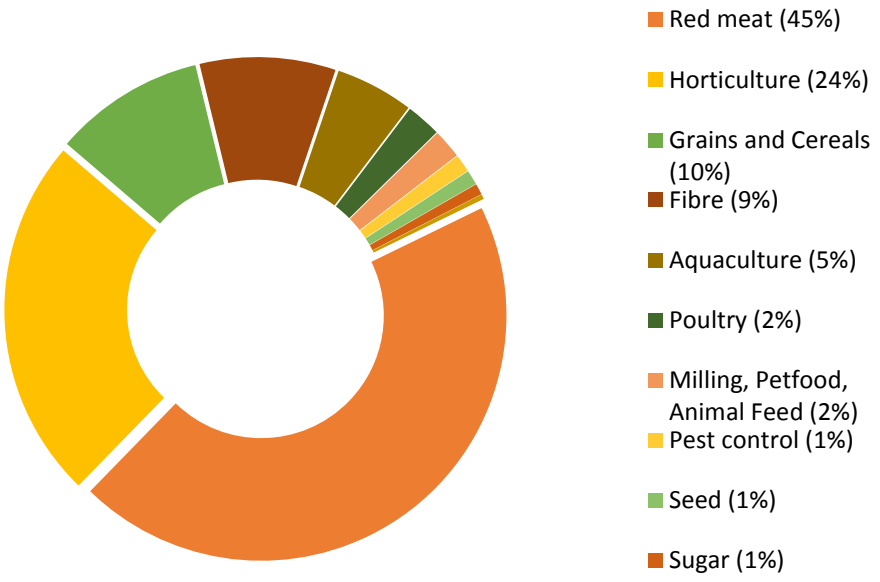
Table 3: **PEST CONTROL LIST OF DEFINITIONS**

PEST CONTROL	DEFINITION
Pest control	Servicing the commercial, industrial and domestic sectors of the economy and is governed by Act 36 of 1947.
"Working for Water"	This, a project of the Department of Environmental Affairs (DEA) with two main aims namely to eradicate invasive alien plants (especially in river beds and dams) and it also serves as a job creation project for youth. The problem is that it does not allow for any job creation after the project these projects have a very short lifespan and is limited to a relatively small geographical zone.
Farming sector	In the farming sector farm workers apply pesticides, fertilizers and herbicides, very frequently without any restriction whatsoever, no qualifications and no accreditation. Workers use highly toxic products and often unskilled labour are used to do this work. This does have an effect on the food chain and the quality that is put on the table.

Source: Feedback from Pest Control SSC members

Overall, the agricultural sector comprises of 11 sub-sectors, each organized into a Sub-sector committee tasked to represent their industry's interest to AgriSETA. These are: Red Meat; Horticulture; Pest Control; Fibre; Poultry; Milling, Pet food and Animal feed; Seed; Sugar; Tobacco; Grains and Cereals, and Aquaculture. The Pest Control subsector constitutes 0, 9% of the overall number of levy paying entities to the AgriSETA. The graph below outlines the relative size of membership number by subsectors, as captured in the AgriSETA member database of 2016.

Figure 1: **DISTRIBUTION OF AGRICULTURAL ENTITIES BY SUBSECTOR**



Source: AgriSETA member database, 2016

Note: Tobacco is not reflected as it reflects "0%" (although large, the total sector consist only of a very few enterprises)

1.1.1 Revenue from Skills Development Levies

In 2017, the value of SDL paid by the Pest Control sub-sector was R1 913 937 of which (80%) R1 531 149 flowed to the AgriSETA. This levy was collected from 58 levy payers of whom only 7 submitted the WSP/ATR – this is understandable as this is largely a SMME sector and relatively very few small companies submit the WSP/ATR as the effort does not justify the mandatory grant to be received from the SETA.

In summary, the Pest Control industry represents less than 1% of levy paying enterprises in AgriSETA and contributes even less than 0, 5% of levy income. This, however, does not mean that the sector is not important and can be ignored or sidelined. To the contrary, whilst very small and consisting mainly of SMMEs, it has a very important role to play and its role in the primary agriculture sector could be dramatically expanded once the notion of having properly certificated farm workers applying toxic substances is established and enacted.

It is important for AgriSETA to look into the splitting of the Cleaning Sector (currently demarcated to the Services SETA) as many companies are registered with that SETA. Therefore the contribution to the AgriSETA is not a true reflection of the industry.

1.2 KEY ROLE PLAYERS

There are a number of public and private key role-players in the agricultural sector which contribute towards its functioning, including: national government departments, sector representatives and industry bodies. For the sake of brevity, the table below groups these role-players according to their strategic contribution to the sector. Please note that while as comprehensive as possible, this list is not exhaustive.

Table 4: **KEY AGRICULTURAL ROLE-PLAYERS**

Strategic contribution	Department or organisation	Relevance to agricultural skills development
Skills Development and Research	Department of Basic Education	Quality of education of entrants to labour market, career awareness programmes to expose agriculture as a possible career choice
	Department of Higher Education and Training	Responsible for TVETs, HETs, agricultural colleges and skills development. Sets the national skills development agenda through regulation of SETAs.
	Statistics SA	Provision of updated statistics on agricultural sector economics & labour force.
	Agricultural Research Council	Scientific research on agricultural production issues.
Strategy and Policy	Department of Trade and Industry & Provincial Departments of Economic Development	Industrial strategy, international trade agreements, agricultural sector strategy and policy implementation desk.
	Department of Agriculture Forestry and Fisheries	Sector regulatory framework, strategy and leadership, provision of extension services, Broad Economic Empowerment funding of development interventions including provision of bursaries for scarce skills.
	National Treasury & SARS	Financial planning, incentives, accountability of Land Bank, skills levies.
Planning	Department of Labour	Labour legislation, wage determinations, employment equity
	Department of Economic Development	Sector economic strategies
	National Planning Commission	Identification of inter-departmental overlaps and gaps
	Department of Environmental Affairs	Policy and guidelines on environment protection and natural resource management, partner in environmental education
	Department of Transport	Planning for transport needs in rural areas
Rural Development and	Department of Rural	Partnering with AgriSETA in mobilising funds

Strategic contribution	Department or organisation	Relevance to agricultural skills development
Land Reform	Development and Land Reform	for capacity building of claimants.
	Department of Cooperative Governance and Traditional Affairs & Municipalities	Linking agricultural and rural development to IDPs and LED, infrastructure and services to agricultural enterprises
Services	Department of Water Affairs	Water Boards manage local irrigation schemes
	Department of Energy	Strategy to supply electricity to rural areas
	South African Police Service	Collaboration with agricultural community to address issues of farm security, including attacks, stock and property theft
Credit and assistance	Land and Agricultural Development Bank of South Africa	Financial services to commercial farming sector, agribusiness, and emerging farmers.
	Micro-Agricultural Financial Institutions of South Africa (MAFISA)	Production loans to smallholder operators
Union and Sector representatives	Agri South Africa (AgriSA)	Agricultural Union serving some 32 000 large and small commercial farmers.
	National African Farmers' Union of South Africa (NAFU)	Represents black farmers to level the field in all agricultural matters.
	The African Farmers' Association of South Africa (AFASA)	Represents commercial African farmers to bring black commercial farmers into mainstream agribusiness.
	Transvaal Agricultural Union South Africa (TAU SA)	A national agricultural union serving commercial farmers
	Food and Allied Workers Union (FAWU)	Representing unionized farm and food processing workers
Agribusiness	Agricultural Business Chamber	Fosters a favorable agribusiness environment
	Grain SA	Conglomerate organization providing commodity strategic support and services to South African grain producers to support sustainability.

Source: 2015 GCIS Handbook, Agriculture and AgriSETA SSP 2011-2016

Whilst the above is relevant to the agricultural sector at large, certain key role players need special mentioning when considering the Pest Control sub-sector:

Table 5: **KEY PEST CONTROL ROLE-PLAYERS**

Strategic contribution	Department or organisation	Relevance to agricultural skills development
Compliance and Skills Development	Department of Agriculture, Forestry and Fisheries – Act 36 of 1947	Registering Pest Control officers Identifying non-compliant PCOs and assist in becoming compliant Take a leading role in making farm workers working with pesticides compliant
	Department of Environmental	Ensuring that participants in the Working for

Strategic contribution	Department or organisation	Relevance to agricultural skills development
	Affairs	Water Project are properly trained, equipped and compliant.
Advocacy	SAPCA, AgriSA, TLUSA, AFASA, NAFU, Crop Life	Engage with farmers, create awareness of the importance of compliance, promotion of dedicated skills development interventions relating to pest control on farms

1.3 ECONOMIC PERFORMANCE

1.3.1 Overview

Overall, agriculture contributes 2, 4% to South Africa's gross domestic product (GDP) and 4, 4% of total employment (IRR, 2016). Notwithstanding the relatively small share of the total GDP, primary agriculture is an important sector in the South African economy; the value of primary agricultural production in South Africa was R263, 2 billion in 2016, while its contribution to the GDP was estimated at R72. 2 billion in 2015 (DAFF, 2016). In addition, the sector plays an important role in job creation, especially in the more rural parts of the country.

The Pest Control Sub-sector, although being very important, is in economic terms a very small element of the agricultural contribution to GDP and minute in the context of the National GDP.

1.3.2 Economic Outlook of the Sub-sector

No organized, official data is available on the size of the pest control industry – it is not treated as a separate, identifiable sub-sector within the economy. However using the available information it is possible to create some indication of the industry in economic terms.

> If it is assumed that 4 000 of the estimated 4 600 PCOs are active and generate a turnover of only R60 000 per month, the monthly turnover of the industry can be estimated at R240 million or approximately R2, 8 billion per annum.
>
> Should one estimate that the cost of chemicals is about 15% of turnover, it means that the value of chemicals consumption is in the region of R36 million per month or R432 million per annum.
>
> These figures combined means that the value of the sector is approximately R3, 3 billion per annum.

Not much reliance should be placed on the above figures as:

- They represent very crude calculations.
- They exclude very large components of the industry (such as pest control on farms, commercial and under resourced, and any special projects such as Working for Water.

It does, however, indicate that the pest control industry is miniscule in the context of the South African economy.

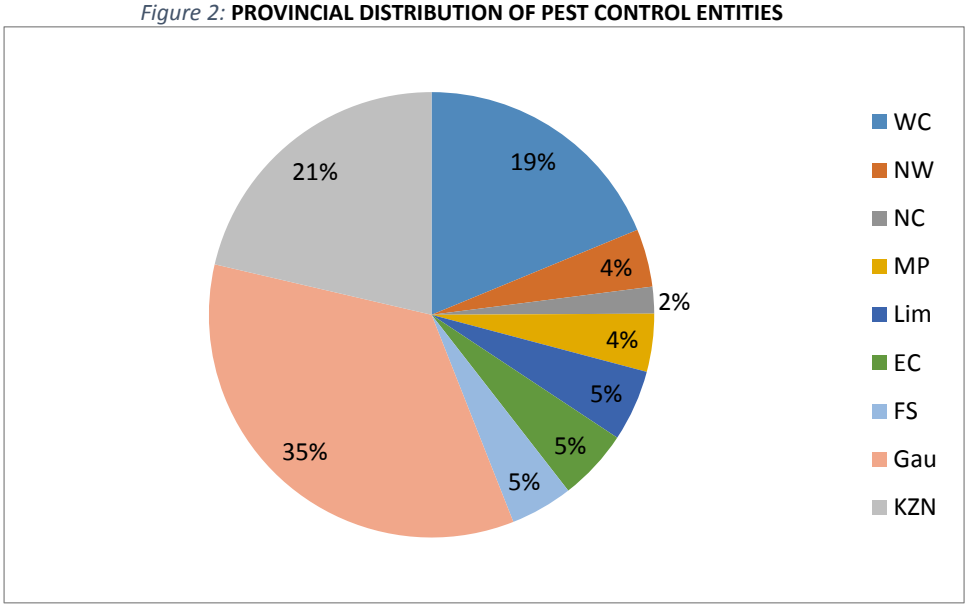
1.4 EMPLOYER PROFILE

Different to other sub-sectors, it is not possible to draw reliable information from the WSP/ATRs received by AgriSETA from the industry. According to SAPCA there are a total of 309 enterprises registered with them, the SARS database identifies 236 enterprises and the AgriSETA has knowledge of 58 levy payers. Of the levy payers, only 7 submit WSP/ATRs. It is also estimated that SAPCA represents only one-third of official employers. It can therefore be assumed that there are most likely more than 1 000 formal enterprises and many more non-registered or informal operators.

For planning purposes, it is clear that the above sample (3%) of whom detailed information is available (via WSP/ATRs) is too small to draw reliable deductions from. Due to the small nature of the industry good information is also not available from sources such as StatsSA or Quantec.

Using the membership of SAPCA as a proxy for provincial distribution of enterprises, it is clear that 75% of enterprises are located in three provinces namely Gauteng (35%), KwaZulu-Natal (21%) and Western Cape (19%).

Figure 2: **PROVINCIAL DISTRIBUTION OF PEST CONTROL ENTITIES**



Source: SAPCA membership register, 2017

The above does not include the Working for Water operators nor those applying pesticides on farms.

1.5 LABOUR MARKET PROFILE

Given that the Pest Control economy is represented by approximately 300 enterprises, it is estimated that they are employing an estimated 4 600 registered PCOs (Pest Control Officers). It is also estimated that a further 20% or 1 150 PCOs are not registered and operate as one-man businesses which can be regarded as illegal. The DAFF is actively trying to "catch up" with these operators and either close them down or assist them to become legally registered.

It should be noted that due to the very low rate of submission of WSP/ATRs, information on the labour market profile is tentative and vague in nature.

In general the sector employs males in the age category 25 – 40 years and education levels are low – the average education of a Pest Control Officer is Grade 10 and for other workers it is generally less than Grade 6.

The average pest control technician salary in 2017 is R113 605 per annum (payscale.com) and it ranges between R55 000 to R151 000 per annum.

1.5.1 Provincial Distribution of Employees

SAPCA's provincial membership distribution is illustrated in Figure 2 above. According to SAPCA there are 4 600 PCOs formally registered in the industry whilst the AgriSETA information reflects 747 employees. (AgriSETA information is limited to those submitting the WSP/ATR – only 7 enterprises.) Furthermore it should be realized that the industry employs more workers than just PCOs. However, PCOs are at the core of the business of Pest Control Companies. The SAPCA membership was again used as a proxy to allocate PCOs provincially.

Table 6: **DISTRIBUTION OF PCOs BY PROVINCE**

PROVINCE	%	REGISTERED	NOT-REGISTERED	ESTIMATED TOTAL
Western Cape	19%	874	218	1 092
Eastern Cape	5%	230	58	288
Northern Cape	2%	92	23	115
Free State	5%	230	58	288
KwaZulu-Natal	21%	966	241	1 207
North West	4%	184	46	230
Gauteng	35%	1 610	402	2 012
Mpumalanga	4%	184	46	230
Limpopo	5%	230	58	288
TOTAL	**100%**	**4 600**	**1 150**	**5 750**

Source: SAPCA membership used as a basis to construct this table

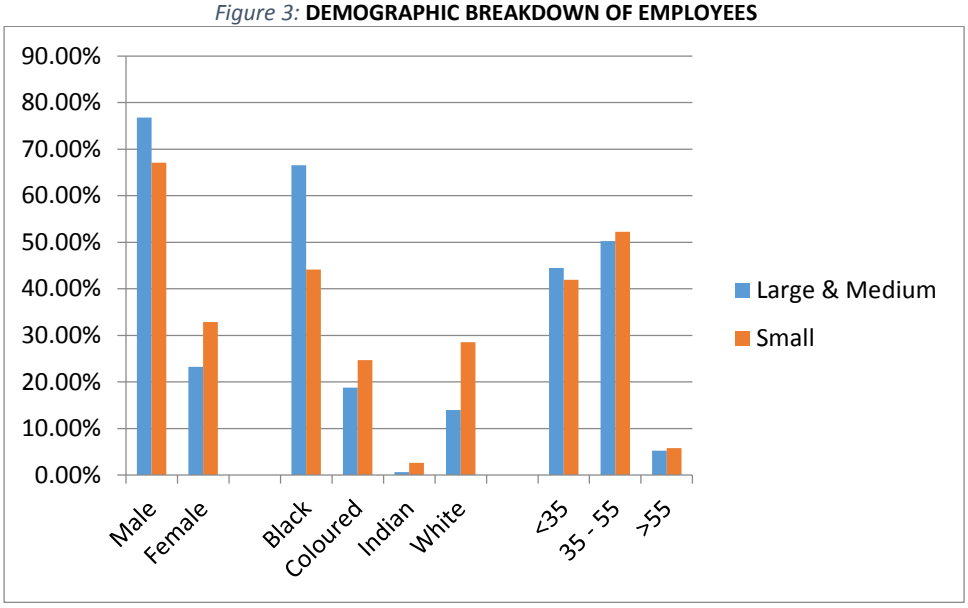
Naturally, using the same proxy (SAPCA membership) the distribution of employees is the same as for enterprises, meaning 75% are employed in the three provinces of Gauteng, KZN and Western Cape.

It is also noted that one can assume that generally each PCO work with a laborer.

1.5.2 Gender, Race and Age

The following section is based on the 7 WSP/ATRs received. It cannot be relied upon, but at least it provides some insight into labour in the sector.

Figure 3: **DEMOGRAPHIC BREAKDOWN OF EMPLOYEES**



AgriSETA WSPs, 2017

It is noted that the pest control sector:

- Is male-dominated.
- Is employing mainly blacks (62% African and 20% coloureds).
- Slightly more (51% of employees) are in the middle age group of 35 – 35 and 44% are young people (below the age of 35).

1.5.3 Occupational categories

No official information on key occupational categories are available. However, the industry lists the following five occupations (in order of priority):

Table 7: **KEY PEST CONTROL OCCUPATIONS**

PRIORITY	OCCPATION CODE	OCCUPATION
1	2017-684401	Pest Control Operator/Officer
2	2017-335904	Pest Management Officer
3	2017-821401	General worker/garden worker/trainee PCO
4	2017-243301	Sales representative (industrial products)
5	2017-134903	Small business manager

1.6 CONCLUSION

Pest control is the smallest sub-sector demarcated to AgriSETA. There are in the region of 300 formally registered pest control enterprises employing approximately 4 600 PCOs, which is the key occupation in the sector. There are a further (estimated) 1 150 unregistered PCOs. However, whilst small it is a critically important industry and whilst the vast majority of persons working with pesticides are not (and do not have to be) registered, farm workers, it is a matter that needs attention.

CHAPTER 2: KEY SKILLS ISSUES

2.1 INTRODUCTION

This chapter focuses on the alignment of skills planning to national strategies insofar as it has relevance to Pest Control and it will also focus on factors driving change in the sector, thus influencing particular skills needs.

2.2 ALIGNMENT OF SKILLS PLANNING TO SUB-SECTORAL STRATEGIES AND PLANS

The following section draws attention to the national strategy and planning documents that frame AgriSETA's mandate for skills development. All of these legislative and policy frameworks speak to

AgriSETA's Constitutional mandate, as a Public Institution governed by the Public Finance Management Act, to develop and facilitate the implementation of learning interventions in accordance with the Skills Development Act, (1998), the Skills Development Levies Act (1999), and the National Qualifications Framework Act (2008).

There are two seminal strategic documents that underpin AgriSETA's mandate for skills planning, namely: the White Paper on Post School Education & Training (2013) and the National Skills Development Strategy III (NSDS III) (2011 – 2016). Both of these documents highlight the SETAs roles in developing clear, sector specific linkages between education and the workplace through an analysis of the demand and supply of skills in their sector. These documents call for credible institutional mechanisms for skills planning, programmes that are occupationally oriented, and responsive higher and further education and training institutions. Furthermore, attention should be given to the needs of local, community enterprises, co-operatives and the like, with a focus on developing their skills capacities to meet the needs of their particular environments, thereby closing the gap between the rural and urban South African economies.

Within the pest control industry there is a requirement for those applying pesticides to be registered. This requirement exists to, firstly, protect the individual him/herself as they are working with highly toxic substances but secondly to ensure that pesticides are applied correctly so that it has a minimal effect on other living organisms, animals and humans other than that targeted by the application. Registration is a legal requirement in terms of Act 36 of 1947. Registrations are categorized under the following main categories:

- Weed control.
- Fumigation.
- Structural pest control.
- Plant pests.
- Aerial application.
- Wood preservation.
- Termite control.

All of these seven categories are equally important for skills development purposes.

From an alignment perspective it is foreseen that over the next five years there will be an escalation of training activities in the Pest Control industry for four reasons (across all 7 categories listed above);

- The Pest Control industry is moving in a planned manner towards e-learning. It is seen as a solution to small operators who cannot always attend or afford formal training courses, but have access to the internet via laptops and especially smart phones giving them immediate access at the worksite to advice and learning. E-Learning will be implemented as soon as January 2018.
- It is expected that DAFF's intervention with unregistered operators will result in an increase in formalized training to prepare such operators to meet requirements for registration.
- It is expected that more "Working for Water" projects will be released by government which again will result in the need for training.

- Finally, it is expected that more pressure will be applied to ensure that farm workers who work with toxic substances are properly trained and certificated to do so. This can become a very large training need as there are approximately 35 – 40 000 commercial farming enterprises in South Africa. If only two workers per farm is trained, on average there will be a need to train as much as 70 000 – 80 000 commercial farm workers. This excludes the myriad of small scale and non-formal farming enterprises.

Top on the priority list of skills needs in the sector is to enable – especially new and small operators – to run successful and sustainable businesses. Many of these small businesses start up but fail within a relatively short period of time. The focus should be on:

- Business start-ups,
- Planning, and
- Financial management.

The **second focus area** is that of technical skills. Operators are working with highly toxic material and need to understand not only how to use it, but also the impact it has on humans, animals and the environment. Coupled with this is the fact that pesticides are evolving constantly and new products enter the market. With the growth of the concept of "the Green Economy" there is pressure on the industry to migrate more and more towards environmentally friendly products which will not be harmful at primary level (where and when applied) but also at a secondary level (those that are affected whilst not the original aim, e.g. birds coming in contact with pesticides). Thus, whist this is not a highly complex sector, there is a high requirement to upgrade skills on a continuous basis and the need for practical training. Well planned, industry wide CPD programmes are essential.

Thirdly, it is important to note that PCOs must renew their P-certificates every three years – in many cases this renewal will be preceded by a refresher course. This forms part of CPD of PCOs.

2.3 CHANGE DRIVERS

In this section key themes and issues driving change and influencing skills demand and supply in the pest control sector are addressed. These change drivers were identified through a thematic synthesis of internal stakeholders' views, policy documents, existing research and stakeholder engagement. It was ensured that sufficient engagement, via focus groups, were placed on the needs of the under-resourced sector.

2.2.1 Land and Agrarian Reform

As land reform progresses so does the need to develop new entrants into the primary agricultural production arena. However, a relatively small SETA such as the AgriSETA has, by no means, sufficient funding to address the needs of the under-resourced sector. Each and every focus group (irrespective of them farming with animals or plants or both) raised the matter of pest control knowledge and management as one of their priority skills needs.

2.2.2 Agricultural Structures

It was reported by BMI that 80% of farmers in sub-Saharan Africa are smallholders. It is argued that, in the long term, African farming will have to move away from subsistence agriculture to be competitive and profitable in the genetically modified farming sector (BMI, 2016). For this reason, "partnerships with food companies, the development of co-operatives and greater access to credit" are needed to develop the sector more generally (BMI, 2016).

However, one of the major drivers of change is the formation of new agricultural farming structures. These range from CPAs, to trusts, private companies and co-operatives. All these structures have one common denominator: farming collectively. If not well managed it creates tension and conflict. Thus, whilst this SSSP focus on the Pest Control sector, initiatives cannot be implemented without addressing governance matters first.

2.2.3 Commercial Agriculture

Good Agricultural Practices (GAP), Hazard Analysis Critical Control Points (HACCP) and many other protocols as enforced by large food retailers (locally such as Pick 'n Pay and Woolworths and internationally such as Waitrose and Marks & Spencer's) require from farmers to be compliant and responsible across many areas of operation – this includes working with, storing and applying toxic substances.

Thus from a pest control perspective, commercial agriculture will have to progress from the current non-registered and minimally trained farm workers to properly trained and certificated PCOs.

2.2.4 The Green Economy

There is an increasing emphasis on the "green economy" in government policy documents (see, NDP, NGP). In the agricultural sector, this refers to the use of environmentally sustainable farming practices. These sustainable practices require new knowledge and skills that cut across farming enterprises of all sizes. The need for green knowledge is conveyed through industry specific training interventions across different subsectors. Whilst there is a tendency to limit discussion on the Green economy to renewable and efficient energy, the Green economy has also embraced the progression to environmentally friendly pesticides which are less harmful to man and its environment.

2.4 IMPLICATIONS FOR SKILLS PLANNING

In this chapter we have seen that the legislative and policy frameworks established by government, coupled with the contextual change drivers and industry specific perspectives on skills development point to the following 5 skills implications that need to be addressed in the Pest Control Sub-Sector Skills Plan.

5 Skills Implications:

1. Develop a pool of experienced pest control practitioners to assist new entrants into the industry (including those that were traced and legalized by DAFF) in establishing sustainable small businesses.

2. Focus on entrepreneurship and enterprise development programmes in conjunction with mentoring services.
3. Expand pest control officer training to Working for Water Project participants and farm workers.
4. Focus specifically on the training of under resourced farmers in the application and management of pest and disease control.
5. Develop specific CPD programmes to ensure that the industry (and specifically PCOs) are moving with developments in the industry and become more sensitive towards the Green economy. CPD is embedded in the requirement that each PCO must renew his/her registration every three years.

2.5 CONCLUSION

The fact that such large elements of pest control are unregulated is a matter of concern. It is necessary that other initiatives such as "Working for Water" (where large numbers of young people work with pesticides) and the plethora of farm workers in South Africa (commercial and under-resourced) be exposed in a structured and regulated manner to pest control. It may not be necessary that each and every person working with pesticides are formally qualified as PCOs, but elements thereof must become non-negotiable.

It is necessary that the industry develops mechanisms to ensure continuous CPD and engage mentors to assist new entrants to the industry. Much has already been done of which the new e-learning platform is innovative and will make access to training so much easier.

CHAPTER 3: OCCUPATIONAL SHORTAGES AND SKILLS GAPS

3.1 INTRODUCTION

Chapter 3 reflects skills demand and supply in the Pest Control Industry. Contrary to other Sub Sectors, using WSP and ATR information was not possible as very few (7) have been submitted – this is too small to draw any reliable conclusions from it. Furthermore, the Pest Control industry is not recognized as an economic sector within formal statistics – it is seen as an integral part of other economic sectors, therefore no reliable quantitative information on skills demand and supply is available. Therefore much of the information reflected in this chapter is qualitative and indicative in nature.

The key themes emerging from this chapter corroborate the skills implications identified at the end of Chapter 2.

The pest control industry is relatively easy to enter and unfortunately there are quite a number of unregistered operators whose actions and practices are not governed. DAFF is in a process to enforce compliance.

3.2 EXTENT AND NATURE OF SKILLS DEMAND

In general it is not difficult to fill vacancies in the Pest control industry. However, whilst a vacancy can be filled, the quality and skills levels are frequently questionable. This is especially true for PCOs. In order to fill the gap between a qualified and a highly competent PCO, the need exists for a period of professional mentorship – professional mentors are scarce and as a result the practical training and mentoring become costly. There is a need to invest in a pool of professional mentors in the sector, spread across the country.

Table 8: **GENERAL PRIORITY SKILLS FOR THE PEST CONTROL INDUSTRY**

Constituency	General priority skills for the Pest Control Sub-sector
Existing Formal Pest Control Businesses	• Training PCOs to comply with registration requirements • CPD short courses focussing on new technologies and environmentally friendly products.
New Formal Pest Control Businesses	• Business acumen • Mentorship • Technical PCO skills
Working for Water Project	• Safe handling of toxic substances • Apply effective weed control
Farm Workers	• Safe handling of toxic substances • Application of pesticides in different contexts • Chemical store keeping – good practices

3.2 SCARCE AND TOP-UP SKILLS

As mentioned earlier, it is generally not difficult to fill vacant posts, however the quality thereof is frequently questionable. It therefore implies that there is a need for to-up skills – those skills which will enable the incumbent to perform better and be more productive.

Pest Control Officers

Pest control officers are at the core of the Pest Control Sub-sector. Once recruited they are trained as PCOs and registered with DAFF. This implies that effectively one cannot apply pesticides without being registered and in turn this implies one has to be trained to meet the legal requirements of a PCO.

The training is not limited to compliance only. The pest control industry evolves and there are continually new products on the market. This happens mainly for two reasons. Pests become immune to existing pesticides and secondly, as elsewhere in the economy, the sector is becoming more and more sensitive towards the Green economy.

This training need is relevant to all 4 600 formally registered PCOs and over time will also include the 1 150 non-registered operators.

CPD is important. The pest control industry has developed a points system whereby every PCO must accumulate 90 points over a three year period prior to applying for renewal of his/her registration. These points must be accumulated at a rate of maximum 30 per annum. Various important courses as

identified by the industry in conjunction with the Registrar (at DAFF) and will carry different weights (points). As such a PCO will have to engage with a number of learning opportunities annually to accumulate the required 30 points and (over 3 years) 90 points. This therefore becomes a regulated top-up skills.

New Business Owners/Managers

Many new pest control businesses are not sustainable – the main reason being the inability to manage a business. There is a lack of business acumen with newly registered enterprises. It is therefore important to train new business operators in related skills such as planning and scheduling, financial management and control and the management of labour/personnel.

As a minimum those that are currently operating without the necessary registration and being tracked by DAFF and are the priority group to be focused on and could roughly be estimated at 1 150 people in need of business acumen related training.

Workers

The final category are those who work with pesticides but are not "covered" by legal requirements, i.e. those that are currently exempted. Although exempted, farm workers and those participating in the Working for Water project handle the same toxic substances and are exposed to the same dangers (and are exposing others) as those who have to be formally recognized by being registered as PCOs.

The need is to engage Working for Water participants and farm workers with short skills programmes to train them in the use and management of pesticides and chemical stores.

3.3 EXTENT AND NATURE OF SUPPLY

Young people are trained at Universities, Universities of Technology and more specifically at Agricultural Colleges and through privately accredited training providers at AgriSETA in matters relating to pest control.

At the higher levels (Universities, Universities of Technology and TVET Colleges) pest control training forms part of other, broader qualifications. In the case of private providers accredited with AgriSETA most will present the Unit Standard on Pest Control which is aimed at farm workers – this is very valuable for reasons discussed above (where it is stated that farm workers need to be exposed to appropriate training).

However the vast majority of training aimed at Pest Control beyond the agricultural sector is driven by the employer's body SAPCA and the work done by the training provider PCITA, which is also accredited by AgriSETA. The key courses provided are:

- Practical field training
- DAFF P-registration, Act 37 of 1947
- Structural pest control
- Food safety (HACCP)

- Application of Termiticides
- Technician/Client service
- Fumigation
- Weed control
- Termites
- Full WDO and Termite Management Course (NQF4)

A second established training provider in the industry is the Pest Management Academy providing services to the industry and focus on:

- e-Learning
- Various skills programmes such as bag, bulk and structural fumigation, weed control, structural pest management, termites
- FET Certificate in Pest Control Operations – NQF4 and NQF5
- Aerial application course – NQF4
- Field pest biologist – NQF5

A third notable provider is the Grain Training Institute (GTI) focusing on combating contamination in grain and deliver training in this regard to silos and grain mills.

Finally, AgriSETA has in access of 800 accredited training providers. Many of them are accredited to deliver on Unit Standards in the pest control environment.

3.4 CONCLUSION AND PIVOTAL LIST

Section 3.2 above lists the occupations with a need for to-up skills. The following table summarizes the occupations and the PIVOTAL programmes. Due to the nature of the industry most of the PIVOTAL programmes are skills programmes and short courses. However all these programmes are unit standard based and can be defined as “part qualifications”.

As there is no reliable statistical information available from the WSP/ATRs, the sector representatives were asked to estimate number of PIVOTAL programmes and participants to be supported by the AgriSETA. The figures reflected in this table summarizes the need for training – it is understood that it exceeds the capacity of the AgriSETA to support – especially in the light of the small contribution of the Pest Control sub-sector to the levy income of the SETA.

Pest control operators/officers is the key occupation in the industry – without this occupation the industry cannot exist and if legally operated, PCOs must renew their registration to operate every three years. There are approximately 4 600 registered PCOs in the country. Each year one-third should be supported in their CPD endeavors or to be registered for the first time.

Pest management officer is a post that will appear in medium to large enterprises where a number of PCOs are managed by a manager. Whilst official figures are not available it is estimated that there are approximately 60 medium to large firms in South Africa (this include those whom are incorrectly registered with the Services SETA). For purposes of this planning exercise it is assumed that across the

board there will be a total of 180 pest management officers in the country of whom 200 need to be exposed to NQF 4 and NQF 5 programmes

General workers. In the pest control industry the PCO's assistant (general worker) is the person who normally progress to become future PCOs. They require training to become registered and it is estimated that there is a need to train 10% annually to become PCOs whilst the balance will learn on-the-job. There is a need to amplify this figure with those that work on farms and the Working for Water Project. There is not sufficient information to estimate these figures and it is recommended that this matter be elevated to the AgriSETA research agenda.

Small business managers. As more illegal operators are identified by DAFF and legalised the need to train PCOs will increase. However, it is known that also many registered PCOs that operate as "one-man-businesses" are not viable nor sustainable – there is a need for training in business acumen and entrepreneurship. It is known that there are approximately 1 150 non-registered operators and if only one third are identified annually and trained in business skills a large contribution to the sector's stability will be made.

Table 9: **PIVOTAL PROGRAMMES**

OFO Code	Occupation	Specialisation/ Alternative Title	Intervention planned	NQF level	NQF aligned	# needed	# to be supported
2017-684401	**Pest control operator**	Pest Control Operator	Aerial application course – NQF4 and skills programmes at NQF3 CPD classified programmes for renewal of registration	4	Yes (some skills programmes not aligned	5 750	1 900
2017-335904	**Pest management officer**	Pest Management Technician	Occupational Certificate: Pest Management Officer NQF 5 Skills Courses E-learning, Correspondence courses. Practical training workshops	4 & 5	Yes	300	200
2017-821103	**General worker**	Scout or Trainee Pest Control Officer	Various pest control related skills programmes at NQF 3 such as practical field training, fumigation, termites, weed control	1 to 3	Yes	5 750	460

OFO Code	Occupation	Specialisation/ Alternative Title	Intervention planned	NQF level	NQF aligned	# needed	# to be supported
2017-134903	**Small business manager**	Owner Manager	NVC2 and NVC4 Short programmes on business acumen such as entrepreneurship, business planning and management, financial management, human resources management	2 to 5	Yes	1 150	350

Constructed from information provided by the SSC

CHAPTER 4: PARTNERSHIPS

4.1 EXISITNG PARTNERSHIPS

The Pest Control industry has partnerships with various structures and bodies. Four key partnerships were identified. Two are existing partnerships and two are new or emerging partnerships.

4.2 EXISITNG PARTNERSHIPS

DAFF

The Department of Agriculture, Fisheries and Forestry is a key partner of the industry. The registrar responsible for the registration of PCOs is situated within DAFF. The industry works closely, through SAPCA, with the department to ensure that the registration requirements remain aligned to the changing needs of the industry.

Together the Department and the industry are working on strategies to grow the possibilities of self-regulation where the industry takes on a large regulatory role. In this regard there is closer collaboration to legitimize all participants in the industry.

The Department is also aware and supportive of the industry's initiative to expand on e-learning as a platform to reach out to more of its members and in this manner contribute to the professionalism of the industry. These training programs are not exclusive and are not limited to members but are open to all persons registered under Act 36 of 1947.

AgriSETA

A strong relationship exist between the pest control industry and AgriSETA.

- The Pest Control industry is one of the 11 formally recognized SSUs in AgriSETA and it is an active participant in the strategic planning of the SETA.
- The SETA funds programmes of the industry as a whole as well as providing mandatory and discretionary grants to levy paying members and those who submit the WSP/ATR.
- There is an indirect relationship in that the SETA fund many pest control skills programmes in the agricultural sector.

4.3 NEW PARTNERSHIPS

DEA

The Department of Environmental Affairs is responsible for the Working for Water project which in essence is about the eradication of alien plants in rivers and dams. For this reason they engage many young people to participate as workers on the project.

Whilst no formal partnership between the pest control industry and DEA exist, it is the intention of the industry to engage with the Department to contribute to the proper training of those young people before they enter the programme. There is also a possibility that some of those young people can migrate into the pest control industry.

Agricultural employer bodies

No formal partnership currently exists with any agricultural employer body. The industry is however discussing how to engage with AgriSA, TLUSA, NAFU and AFCASA to contribute to the training of farm workers working with toxic substances. A formal arrangement will contribute largely to the professionalism in the agricultural sector and will assist the sector in meeting GAP requirements.

4.4 CONCLUSION

The pest control industry has an important role to play in the South African economy – even though it is relatively small it contributes to a healthy environment and the eradication of pests and diseases in

households, factories and other structures and in the production of food. It also impacts directly on the environment.

The industry cannot operate in isolation. Over time it has created key partnerships which are beneficial to both the industry and its partners. During the past year two future partnerships were identified (with DEA and Agricultural employer bodies) which will be pursued in the immediate future.

CHAPTER 5: SKILLS PRIORITY ACTIONS

5.1 INTRODUCTION

This chapter aims to synthesize the findings of the previous chapters and establish a set of skills priority actions for the sub-sector. The intention of these recommended skills priority actions is that they articulate the micro concerns of the pest control sector.

These recommendations are founded in national policy and sectoral change drivers (chapter 2), as well as the skills concerns identified by employers and training providers in terms of their skills needs (chapter 3). This chapter is not a strategic or operational plan, but rather serves to identify priorities that should be taken forward and further developed in the AgriSETA Strategic Plan and Annual Performance Plan and to reflect the needs of the Pest Control industry in those documents.

5.2 KEY FINDINGS

Chapter 1 illustrated that the pest control industry is not treated as a defined economic sector by any source such as StatsSA which makes it difficult to obtain economic and labour data.

Pest Control is a small economic sector, spread across the country and consist mainly of small enterprises. It is controlled in that PCOs must be registered under Act 36 of 1947 and every 3 years their registration needs to be renewed.

Chapter 2 illustrated that the irony is that whilst the formal part of the sector is regulated many people who engage in pest control such as those on the Working for Water project or the magnitude of farm workers who work on a daily basis with highly toxic substances are excluded from this legal requirement. This has to be addressed.

The industry is not complex and the key occupation is that of a PCO. Other important occupations are that of general workers (the assistant to the PCO who more often than not progress to a PCO), sales and marketing people and small business managers.

There are no real skill shortages in the sub-sector nor are there HTFVs (Chapter 3). It is rather a matter for authorities to ensure that those working with these substances (as described in Chapter 2), are properly trained and certificated to do so. Similarly there is a need to develop business acumen. In the case of pest control the PIVOTAL programmes will therefore have to focus on

- Pest control operators,
- Pest management officers
- General workers, and
- The development of small business managers/owners.

The industry has partnerships with AgriSETA (mainly on skills development funding) and DAFF (focusing on the regulation of the industry). There is a need to develop partnerships with DEA (formalizing the training of those on the Working for Water Project) and Agricultural employer bodies (to start a process to draw farm workers into the fold).

5.3 PRIORITY ACTIONS

Priority skills in the Pest Control industry are:

5. **Business Acumen.**
    a. It is firstly proposed that the sector work closely with AgriSETA and interrogate the NVC 2 and NVC 4 curricula. If relevant, these qualifications must be tailored to meet the needs of the Pest Control Industry and become a foundation programme to develop new entrants covering aspects such as identifying and starting a new business, basic business plan such as setting targets, resource planning, financial and operational plans.

    Consideration should be given to the need to implement the full NCV programme or only elements thereof as a part qualification.

    b. Tailored short skills programmes focusing on financial planning, production planning, etc. These are foreseen as one to three day programmes.

6. **Technical Skills.** Technical skills programmes are largely in place (see PCITA programmes), however efforts must be made to engage with those who are operating illegally, those

working in the Working for Water programme and especially the thousands of farm workers who engage on a daily basis with pesticides, who manage chemical stores and who are involved in the transportation and application processes.

7. **Mentoring**. It is necessary to develop a pool of mentors who can assist PCOs in their development as professional operators and to create sustainable businesses.

8. **CPD**. Short programmes which focus on disseminating new product information and ensure that existing operators are trained to correctly use and apply new products.

The priority actions for the AgriSETA to take note of in the Pest Control sub-sector are:

Table 10: **PROPOSED PRIORITY ACTIONS**

Priority Action	Reason	Intervention	PESTEL/SWOT KEY ISSUES
Practical training at NQF 2, 3, 4 & 5	The need to gain registration for those working with pesticides	Funding for internships, learnerships, graduate placements and short courses	To create alignment with current legislation (Act 36 of 1947)
CPD	Regular training to meet requirements of re-licensing.	Short courses on CPD matters identified from time to time by SSC	Alignment with legislation and moving towards the Green Economy
Limited Applicators (Working for Water)	Applicators need to be better skilled and need to meet legislative requirements	Learnerships, Short courses focusing on understanding chemicals	Alignment to legislation for safety and environmental reasons
Engagement with the formal agricultural sector	Start formalizing training of farm workers	Shot courses on pest control offered by duly registered pest control training institutions	Start aligning farm workers to legislative requirements, food safety, GAP and environmental requirements

5.3. CONCLUSION

The Pest Control sector needs to be treated as a defined economic sector by the authorities, and given necessary attention to fully contribute to economic growth of South Africa. Tailor-made developmental programmes and short courses should be developed and registered to assist the small scale farmers and business people to run their farms and businesses effectively.

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