

**IMPROVING THE LIVELIHOODS OF WOOL PRODUCERS IN A SUSTAINABLE MANNER BY OPTIMIZING THE WOOLLED SHEEP PRODUCTION SYSTEMS WITHIN THE COMMUNAL FARMING AREA OF THE EASTERN CAPE. “A VISION THAT IS FUTURE DIRECTED”**

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**ABSTRACT**

*The main objective of the NWGA is to improve both the quality and quantity of wool produced in the communal wool sheep farming areas of South Africa. Shearing sheds in the communal area were divided into three performance categories namely top, average and bottom sheds. This finding has led to two questions: Why and where do they differ? Can something be done to improve the performance of the sheds? A total of five (5) top, five (5) average and seven (7) bottom sheds were selected to collect data from 179 respondents. The socio-economic data is always important to indicate clearly who the respondents are. The average age of respondents is 59.46 and 64% male and 36% females. There are more members in the top sheds than in the other two categories. Although a large number of respondents can read and write, the majority do have only a qualification at the lower level. A total of 83% of the respondents do have some years of experience in sheep farming. Respondents in the top shed have significantly more sheep, cattle and goats than respondents in the average and bottom sheds. Significantly more farmers attend the top shed meetings than farmer members in the other two categories. A total of 39% respondents indicated that good sheep health control will lead to higher wool production and the most common diseases as perceived by respondents are Sheep scab, Blue tongue and internal parasites. Burr/weeds and paints are the two most important objects of wool contamination. Significantly more sheep are sheared in the top sheds, they pack more bales and the weight of the bales is higher than in the average and bottom sheds. Farmer's most important needs are financial issues, farm infrastructure and they need more land. To improve the profitability and productivity of wool sheep farming at all shearing sheds within the communal farming area. A specific extension program addressing the specific needs will be presented to farmers in each of the three shearing shed groups.*

**Key words:** communal wool sheep farmers, farmer's needs, perception, knowledge, extension program

**1. INTRODUCTION**

A Production Advisory Service (formerly rendered by the Wool Board) was established by the National Wool Growers Association (NWGA) in 1997, providing a service to all wool producers (communal and non-communal). The service is provided on contract with Cape Wools and funded from the proceeds of the Wool Trust and through partnerships such as national-, provincial and local government institutions, AgriSETA, financial institutions,

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foreign donors, input suppliers and private companies. Shearer training forms part of the advisory service and the NWGA is an accredited service provider with the AgriSETA.

This advisory service focuses on the following:

- Predation Management (training and demonstrations)
- Farm Business Information System
- Code of best practice for wool production
- Genetic improvement
- Infrastructure development for emerging areas
- Market access for communal farmers
- Training and mentoring, focussing on shearing, wool classing, basic wool production, animal health, breeding, selection, management, etc.

Remarkable success has been achieved so far, especially in communal areas, where communal farmers marketed 222 610 kg of wool (valued at R1, 503 000) in 1997/98 before intervention. This increased to 3.8 million kg wool (valued at R137 million) during 2013/14. South Africa exports more than 90% of the national clip annually, resulting in an income that is earned largely from foreign currency (De Beer, 2015). The National Development Plan (2012) clearly indicates in Chapter 6 (p 219) to provide and give special attention to the communal farmers in the former homelands.

The main objective of the NWGA is: To improve both the quality and quantity of wool produced in the communal wool sheep farming areas of South Africa and there is 1224 Wool Grower's Associations (shearing sheds) in SA and according to D'Haese & Vink (2003), the shearing shed provide the platform for extension to cultivate the knowledge of farmers regarding new technologies. A total of 900 shearing sheds deliver the wool to the formal market.

A group of wool sheep specialists were requested to undertake a statistical analysis of the performance of the shearing sheds in the communal area and the sheds were divided into three performance categories:

- The bottom third – under resourced
- The average third – scarcely resourced
- The top third – better resourced

This finding has led to two questions: Why and where do they differ? Can something being done to improve the performance of the sheds?

Previous research studies indicated the role of the independent, dependent and intervening variables on farmers' adoption behaviour. In the study: "The influence of intervening variables and subjective norms on the adoption behaviour of small scale farmers in South Africa and Lesotho" (Annor-Frempong, 2013: v-vi) identified five intervening variables namely prominence, awareness, need compatibility, efficiency perception and need tension, that were constantly found to be highly significantly associated with the adoption of recommended practices. The results also show that need, perception and knowledge related variables mediate between intentions, personal variables and the environment and decisions on adoption. According to Matiwane & Terblanche (2012:81) indicated the importance to address farmer needs and the role of training to ensure a better performance by farmers. The size of land appears to have an effect on the adoption behaviour of small scale farmers. Farmers with small farm land tend for instance not to adopt new technologies (Diale,

2011:82). Research done in Tanzania (Msuya & Düvel, 2007:109) indicated a much stronger and more consistent relationship that intervening variables have compared to the independent variables (socio-economic variables), supporting the assumption that the intervening variables are the direct precursors of adoption behaviour.

## **2. METHODOLOGY**

### **2.1 Questionnaire**

A questionnaire was constructed consisting of 104 questions and 384 answers. The questionnaire was divided into 3 main areas:

- a) The independent variables consisting of: Socio-economic data; management of sheds; and communication channels.
- b) The dependent variables consisting of: Good sheep health control; wool contamination; production; and best sheep management practises.
- c) The intervening variables consisting of: Farmers' aspirations, perceptions and needs

### **2.2 The selection of shearing sheds and shearing shed members**

The selection of shearing sheds and shearing shed members (farmers) was done with the support of statisticians from the University of Pretoria. The following sheds were selected:

- a) TOP SHEDS – 17 identified and 5 selected for the study- 70 farmers selected to be interviewed.
- b) AVERAGE SHEDS – 20 identified and 5 selected – 48 farmers selected to be interviewed.
- c) BOTTOM SHEDS – 19 identified and 7 selected– 61 selected to be interviewed
- d) Total number of participants: 179.

### **2.3 Data collection, capturing and analysis**

- NWGA Production Advisors and Departmental Extension staff were trained and executed the task;
- Each farmer was personally interviewed;
- Each questionnaire was checked and changed in the format requested by the Statisticians; and
- The data was captured by the Department of Statistics at the University of Pretoria and analysed.

## **3. STUDY FINDINGS**

### **3.1 Socio-economic data (Independent variables)**

The socio-economic data is always important to indicate clearly who the respondents are and the following variables have been used: age, gender, members in a shed, educational qualification, size of farm land, livestock owned, sheep farming experience, other work experience and source of income.

- a) Age, gender and number of members in a shed  
In Table 1 below the age, gender and number of shed members in a shed are presented.

**Table 1:** The mean age, gender and mean number of members according to the respondents in the three shearing sheds categories

Socio-economic variables	Top shed	Average shed	Bottom shed	All sheds
Mean age	58.64	58.57	60.88	59.36
Gender:	n %	n %	n %	n %
Male	36 59	31 66	47 67	114 64
Female	25 41	16 34	23 33	64 36
Total	61 100	47 100	70 100	178 100
Mean number of members in a shed	77.21	30.12	25.27	44.2

According to the table there is no difference between the mean ages of members in the three shearing sheds. The table clearly indicates that there are less female members than male members in all three sheds. The mean number of members in a shed however indicated significant differences namely:

- a) Between the top and average shed ( $p < .0001$ );
- b) Between top and bottom shed ( $p < .0001$ ); and
- c) Between average and bottom shed ( $p < .0001$ ).

The question one asks: Is there a specific reason why less people are members of the bottom sheds?

- a) Educational qualification, sheep farming experience and other work experience

- i) Education qualification

A total of 66% (119) of the respondents indicated that they can read and write; 58% (103) indicated a lower level of qualification (Grade 1 – 7); 25% (44) a qualification of Grade 8 and higher; and 18% (44) did not indicate any qualification.

Although a large number of respondents can read and write, the majority do have only a qualification at the lower level and extension /production advisors need to take it in consideration when planning a capacity building program for the farmers.

- ii) Sheep farming experience

The experience in sheep farming, indicated by respondents in the three shed groups revealed that 83% of the respondents do have some years of experience in sheep farming. There are no significant differences between the three shed categories. A total of 39% of the respondents indicated more than 20 years of experience, while 34% indicated between 1 – 9 years and 27% between >9 – 20 years of experience in sheep farming.

- iii) Other work experience

The study finding indicated that a number of respondents do have other work experience and the most important fields of work experience are the following:

- Mining – 29% (52) – years of experience: 14
- Unskilled hand labour – 24% (43) – years of experience: 12
- Other work – 20% (36) – years of experience: 16
- Farm worker – 13% (24) – years of experience: 16

- b) Size of farm, livestock owned and sources of income

- i) Size of the farm

One of the most disappointing answers received is, that only 12 respondents (7%) were able to answer the question on the size of the farm. The wool sheep farmers participating in this study do not know the size of the land, in hectares, available for them to farm on!

ii) Livestock owned

Respondents were requested to indicate the number of sheep, cattle and goats that they are farming with. The data are presented in the table below.

**Table 2:** The number of sheep, cattle and goats respondents is farming within the top, average and bottom shearing sheds

Type of livestock	Top Shed Mean	Average shed Mean	Bottom shed Mean	Average all sheds
Sheep	<b>107</b>	56	48	70
Cattle	<b>18</b>	12	9	13
Goats	22	11	12	15

According to the study findings there are significant differences between some of the three shed categories and the mean number of livestock namely:

- Sheep: between the Top and Average shed (p= 0.014)
- Sheep: between the Top and Bottom shed (p= 0.0008)
- Cattle: between the Top and Bottom shed (p= 0.031)

iii) Sources of income

The income sources according to the respondents that contribute to their income are the following:

- Farming as the biggest contributor: 21% (37 respondents)
- Farming as second biggest contributor: 30% (54 respondents)
- Old age pension as biggest contributor: 32% (57 respondents)
- Old age pension as second biggest contributor: 15% (26 respondents)
- Social grants as the biggest contributor: 23% (42 respondents)
- Social grants as the second biggest contributor: 8% (14 respondents)

### 3.2 The management of sheds

Management in general is often described as planning, organising, leading and control and it is important to determine what the situation is within the three shed categories with regard to the following aspects:

- Availability of a written constitution: 87%
- Keeping minutes of meetings: 93%
- Attendance register: 61% always
- Recording apologies: 69% always
- Attendance of meetings indicated by respondents is presented in Table 3.

**Table 3:** The mean attendance percentage of shearing shed meetings according to respondents

Attendance %	Top shed	Average shed	Bottom shed	All sheds
0 – 49%	15%	50%	38%	33%
50 – 79%	77%	50%	52%	60%
80% +	8%	0%	10%	7%
<b>Mean %</b>	<b>63.62%</b>	<b>56%</b>	<b>56.82%</b>	<b>59.05%</b>

According to the above table there is a significant difference ( $p < 0.05$ ) between the top shed and the average and bottom sheds. Significantly more farmers attend the top shed meetings. A total of 73% of the respondents indicated that the chairperson is responsible to arrange meetings.

### 3.3 Communication channels

#### i) Meeting with the NWGA Production Advisor

Respondents were requested to indicate the number of times they have met the NWGA Production Advisor during the past 12 months at the shed. The findings are following:

- Top sheds: mean number of times met: 4.54
- Average sheds: mean number of times met: 3.06
- Bottom sheds: mean number of times met: 3.12

The T-test indicated a significant difference ( $p = 0.007$ ) between the top and average sheds as well as a significant difference ( $p = 0.028$ ) between the top and bottom sheds. There are significant more meetings between production advisors and shed members at the top sheds.

#### ii) Contact with neighbouring sheds

Respondents were requested to indicate if they do have contact with neighbouring sheds and if yes why do they have contact. The findings are:

- **Top sheds:** 84% have contact with neighbouring sheds and the main reasons for contact are to improve: wool production; sheep quality; and animal health.
- **Average sheds:** 65% have contact with neighbouring sheds and the main reasons for contact are to improve: wool production; sheep quality and animal health.
- **Bottom sheds:** only 35% have contact with neighbouring sheds and the main reasons for contact are to improve: wool production; animal health and wool classing.

According to respondents the main reasons for having contact are to improve wool production and animal health.

#### iii) Communication with other role players at the shearing sheds

There are a number of other role players involved in the agricultural and other development activities in the communal areas. Respondents were requested to indicate if they do have contact with them at the shearing sheds. The findings are presented in Table 4.



**Table 4:** Communication with other role players according to respondents in the three shearing sheds

<b>Other role players:</b>	<b>Top shed</b>	<b>Average shed</b>	<b>Bottom shed</b>	<b>All sheds</b>
<b>Extension officers Provincial Department</b>	<b>41%</b>	<b>45%</b>	<b>42%</b>	<b>42%</b>
Brokers	18%	9%	8%	13%
Veterinary services	10%	14%	8%	11%
Others	12%	6%	11%	10%
Municipality officials	7%	16%	7%	10%
Reps pharmaceutical	10%	5%	9%	8%
Other departments	1%	2%	8%	4%
NGO's	1%	2%	7%	3%

It is clear from the above table that the extension officers, from the provincial department, are an important role player. Disappointing aspect is the lack of participation by the Veterinary services (11%) and the brokers (13%).

iv) Other communication channels

There are today a number of other communication channels available to share knowledge and information with the farming community. Respondents were asked to indicate their experience with some of these channels to improve their knowledge.

- Radio program presented by Cape Wools:
- Only 58 (32%) of the respondents indicated that they listen to this program to improve their knowledge.
- Other radio programs
- A total of 96 (53%) respondents do listen to other radio programs to improve their knowledge.
- SABC 2 TV Agricultural program
- Only 28% (49) respondents watch this program on TV and 30% of all respondents do not have a television and 42% do not watch the program.
- The cell phone as communication channel
- A total of 88% of the respondents do have a cell phone but only 18% indicated that they did receive agricultural information on the cell phone.  
 11% of the respondents indicated that they received information from the NWGA and 11% received information from the brokers. The cell phone today is a communication channel that needs to be fully implemented and utilised!

v) The role of the NWGA Executive as communication channel

In the management structure of the NWGA a position was established for a NWGA Executive that is democratically elected annually by NWGA members in each district municipalities (regions) and in each province.

The prime role of the Executive and respondents perceptions of the role is presented in the next table. The respondents (Table 5) clearly indicated that the identifying of problems and to deal with the appropriate authorities is the most important role and significantly more Top shed respondents (80%), against 55% of Average shed and 54% Bottom shed respondents indicated it as the most important role. The organisation of farmer, demonstration and regional congress

days were perceived as the second most important role. An interesting finding is that more Bottom shed respondents (25%) than Top and Average shed respondents indicated the role of the Executive to care for farmers.

**Table 5:** Respondents perception of the prime role of the NWGA Executive

Prime role of Executive:	Top shed		Average Shed		Bottom shed		All Sheds	
	n	%	n	%	n	%	n	%
Identify problems and deal with appropriate authorities	37	80%	22	55%	28	54%	87	63%
Organise farmer days, demonstrations and regional congresses	3	7%	12	30%	8	15%	23	17%
Care for farmers	4	9%	4	10%	13	25%	21	15%
Other roles	2	4%	2	5%	3	6%	7	5%
Total	46	100%	40	100%	52	100%	138	100%

### 3.4 Good sheep health control

The term primary animal health care (PAHC) services is generally used to describe basic animal health services at local level aimed at improving the health and wellbeing of animals (Moerane, 2013:1). The implementation of a PAHC program is intended to empower farmers to deal with most of the animal health and production challenges. It is envisaged that farmers would assist veterinary services in the country in controlling and preventing further spread of animal diseases (Moerane, 2013:11).

Respondents were asked what does good sheep health control mean to them and the findings are presented in Table 6 below.

**Table 6:** Respondents perception and knowledge of good sheep health control

Good sheep Health Control:	Top shed		Average Shed		Bottom Shed		All sheds	
	n	%	n	%	n	%	N	%
Lower sheep mortality	18	10%	12	7%	15	8%	45	25%
Row %								
Column %		30%		25%		22%	-	
Higher wool production	20	11%	21	12%	28	16%	69	39%
Row%								
Column%		33%		44%		41%		
Higher financial income	13	7%	10	6%	21	12%	44	25%
Row %								
Column %		22%		21%		30%		
More lambs produced	9	5%	5	3%		3%	19	11%
Row%								
Column%		15%		10%		7%		
Total column %	60	34%	48	27%	69	39%	177	100%

A total of 39% of all respondents indicated that good sheep health control will lead to higher wool production, 25% indicated there will be lower sheep mortality and 35% indicated a higher financial income. The most common diseases as perceived by respondents in order of priority: 1) Sheep scab (26%); 2) Blue tongue and Internal parasites (19%); 3) Pulpy kidney



(16%); 4) External parasites (10%); 5) Foot rot (7%); 6) Rift Valley Fever and Pasteurella (3%). Respondents were also requested to indicate how they will treat the above mentioned diseases. The findings indicated that respondent's knowledge about how to treat these diseases is insufficient. Their knowledge on how to prevent these diseases was also insufficient whereby only 62% indicated that one prevents internal parasites by means of dosing. The majority (72%) of respondents indicate that they do not have a dip tank to dip their animals against external parasites.

### 3.5 Wool contamination

Wool contamination and its effect on the quality of wool is an important aspect and respondents were requested to indicate which objects are responsible for wool contamination. The findings are presented in the next table.

**Table 7:** Objects responsible for wool contamination as perceived by respondents

Objects responsible for wool contamination:	Top Shed		Average Sheds		Bottom Sheds		All Sheds	
	n	%	n	%	n	%	n	%
Foreign objects	25	4%	25	4%	39	7%	89	15%
Row %								
Column %		14%		15%		17%		
Twines	17	3%	18	3%	25	4%	60	10%
Row %								
Column %		10%		11%		11%		
Branding	14	2%	14	2%	18	3%	46	8%
Row %								
Column %		8%		8%		8%		
Burr/weeds	54	10%	42	7%	58	10%	154	27%
Row %								
Column %		31%		25%		25%		
Paint	37	6%	29	5%	44	8%	110	19%
Row %								
Column %		21%		17%		19%		
Cross breeds	13	2%	13	2%	19	3%	45	7%
Row %								
2. Column 5		7%		8%		8%		
Fertilizer	7	1%	14	2%	10	2%	31	5%
Row %								
Column %		4%		8%		4%		
Feed bags	9	2%	12	2%	16	3%	37	7%
Row %								
Column %		5%		7%		7%		
Total column %	176	31%	167	29%	229	40%	572	100%

The respondents in the Top, Average and Bottom sheds perceived Burr/weeds and paints as the two most important objects of wool contamination. The number of possible answers in this multiply question is 1432 however there was only 572 (40%) answers. This is a clear indication that there is a lack of knowledge about the objects responsible for wool contamination.

### 3.6 Wool production

Respondents did not have the answer of the kilogram wool sheared at their sheds. The mean number of sheep sheared, bales pack and weight of bales in the last shearing season, are the following:

- Mean number of sheep sheared
  - Top sheds: 3603.5
  - Average sheds: 2440.0
  - Bottom sheds: 1408.2

According to the above mean number of sheep sheared there are no significant differences between the top and average sheds and between the average and bottom sheds. There is however a significant difference between the top and bottom sheds (p 0.0001) whereby significantly more sheep were sheared at the top sheds than at the bottom sheds.

- a) Mean number of bales packaged
  - Top sheds: 77.5
  - Average sheds: 29.7
  - Bottom sheds: 19.9

The differences between the top and average (< .0001), between the top and bottom (<.0001) and between the average and bottom (<.0002) sheds are significantly. Significantly more bales are packed at the top sheds!

- b) Mean weight (kg) of the bales
  - Top sheds: 126.5
  - Average sheds:113.3
  - Bottom sheds: 119.8

### **3.7 Best sheep management practices**

- a) The term “genetics

Respondents were requested to indicate their understanding of the term “genetics”. The findings are presented in Table 8 below. The majority of all respondents indicated that the term genetics mean good quality rams. This is an important aspect but all the elements mentioned in the table are important and part of the term genetics. As mentioned in the introduction of the NWGA advisory service focus areas is genetic improvement and a specific program is to provide wool sheep farmers in the communal areas with rams. A total of 49% of the respondents indicated that they did get rams through the ram project.

**Table 8:** Respondents understanding of the term "genetics"

The term "genetics":	Top Sheds		Average Sheds		Bottom Sheds		All Sheds	
	n	%	n	%	n	%	n	%
Good quality rams	41	25%	25	15%	34	21%	100	61%
1. Row %								
2. Column %		71%		54%		58%		
Selection of ewes	1	1%	3	2%	1	1%	5	4%
1. Row%								
2. Column%		2%		7%		2%		
Better quality wool	9	6%	7	4%	8	5%	24	14%
1. Row%								
2. Column%		16%		15%		14%		
Better progeny	2	1%	8	5%	12	7%	22	13%
1. Row%								
2. Column%		3%		17%		20%		
More wool production	3	2%	2	1%	4	2%	9	6%
1. Row%								
2. Column%		5%		4%		7%		
Animal better adapted to the environment	2	1%	1	1%	0		3	2%
1. Row%								
2. Column%		3%		1%				
Total column %	58	36%	46	28%	59	36%	163	100%

b) The sheep mating and lambing season

The sheep mating and lambing seasons are indicated in Table 9 and 10 below. According to 43% of the respondents the mating season is in summer while 26% indicated it to be in winter.

**Table 9:** The sheep mating season according to respondents in the three shed categories

Mating season:	Top Sheds		Average Sheds		Bottom Sheds		All Sheds	
	n	%	n	%	n	%	n	%
Summer	25	14%	15	9%	35	20%	75	43%
Row%								
Column%		41%		33%		53%		
Winter	17	10%	12	7%	16	9%	45	26%
Row%								
Column%		28%		26%		24%		
Autumn	2	1%	1	1%	1	1%	4	3%
Row%								
Column%		3%		2%		2%		
Spring	9	5%	13	8%	7	4%	29	17%
Row%								
Column%		15%		28%		11%		
Other	8	5%	5	3%	7	4%	20	11%
Row%								
Column%		13%		11%		11%		
Total column %	61	35%	46	27%	66	38%	173	100%

**Table 10:** The sheep lambing season according to respondents in the three shed categories

Weaning season	Top Sheds		Average Sheds		Bottom Sheds		All Sheds	
	n	%	n	%	n	%	n	%
Summer								
1. Row%	4	2%	1	1%	3	2%	8	4%
2. Column%		7%		2%		4%		
Winter								
1. Row%	34	19%	38	22%	44	25%	116	66%
2. Column%		58%		79%		64%		
Autumn								
1. Row%	8	4%	1	1%	12	7%	21	12%
2. Column%		13%		2%		17%		
Spring								
1. Row%	13	7%	7	4%	6	3%	26	15%
2. Column%		22%		15%		9%		
Other								
1. Row%	0		1	1%	4	2%	5	3%
2. Column%								
Total column %	59	34%	48	27%	69	39%	176	100%

The most important lambing season is in the winter – a very difficult time of the year with serious grazing and feeding problems for the lambs!

c) Mean lambing and weaning percentages

The mean lambing and weaning percentages are presented in the next table.

**Table 11:** Mean lambing and weaning percentages as perceived by respondents in the three shed categories

Shed categories	Mean lambing %		Mean weaning %		Difference %
	n	mean%	n	mean%	
Top sheds	57	75.6140351	54	58.6666667	16.947369
Average sheds	36	62.6666667	34	50.3235294	12.343137
Bottom sheds	57	70.8771930	54	58.3518519	12.525342

According to the above table between 13 and 17% lambs died before weaning. A worrying factor is that more lambs in the top sheds died than in the average and bottom sheds. There is a serious need to determine the best time for mating lambing and weaning in the communal areas of the Eastern Cape!

d) Feeding practices

A total of 48% (83) of all the respondents depends only on natural pastures as a feeding practice, (60% are members from the bottom sheds) while 29% (50) depends on natural pastures as well as planted pastures. When asking them what prevents them to improve the feeding systems an average of 71% (121) indicated that the reason for it is insufficient funds.

e) Record keeping

Significantly more top shed members (51%) keep records than average (27%) and bottom shed members (32%). A total of 48% of all respondents keep production records and 43% financial records. Record keeping is the main instrument to help the farmer to plan for the next season, to compare it with the previous season and to identify problems. Only 32% (42) indicated that they use the records to plan for the

next season while 48% indicated that they use it to compare with the previous season and 20% use it to identify problems. A total of 26% respondents did not even answer the question on how they use the records.

f) Marketing

The majority of respondents (97%) use the formal market to sell their wool and 62% indicated that they get reliable market information from the NWGA production advisors. According to 85% of the respondents the brokers collect the wool at the sheds and transport it to the market.

### 3.8 Farmer’s aspirations, perceptions and needs.

A number of questions were asked to determine farmer’s perceptions, aspirations and needs to improve wool sheep production.

i) Add value to the wool produced

Respondents were requested to indicate their opinion/perception of how to add value to the wool clip (Table 12).

**Table 12:** Farmer respondent’s perception of how they can add value to the wool

Activities to add value to wool	Top Sheds		Average Sheds		Bottom Sheds		All Sheds	
	n	%	n	%	n	%	n	%
Introduce good quality rams Row% Column%	42	9%	33	7%	45	10%	120	26%
		29%		28%		24%		
Select ewes for mating Row% Column%	15	3%	13	7%	17	4%	45	10%
		10%		11%		9%		
Practice good Sheep health control Row% Column%	36	8%	31	7%	45	10%	112	25%
		25%		26%		24%		
Ensure better wool Classing Row% Column%	16	4%	12	3%	28	24%	56	12%
		11%		10%		15%		
Less bin bales Row% Column%	9	2%	6	1%	14	3%	29	6%
		6%		5%		7%		
Increase weight of bales Row% Column%	9	2%	6	1%	15	38%	30	6%
		6%		5%		8%		
Ensure better feeding Row% Column%	17	4%	18	4%	26	6%	61	14%
		12%		15%		14%		
Total column %	144	32%	119	26%	190	42%	453	100%

The table above clearly indicate that according to the respondent’s perception better quality rams and animal health care will add value to their wool production. However all the above activities can add value to the wool clip. It is clear that the

selection of ewes for mating is not important as well as to ensure better feeding practices.

- ii) Add value to the meat produced  
 Only 34% answers were received a possible indication that meat production is not high on the agenda of the respondents and 46% indicated that they do not produce any meat. Only 23% indicated that to practice good sheep health control will add value, and 21% of the respondent's perception is that the introduction of good quality rams, can improve the value of meat.
- iii) Wool traits that determine the price of wool  
 Respondent's perception of the importance of wool traits and its effect on the wool price is presented below. A scale of 1= most important to 6= least important was used.

**Table 13:** Respondents perception of the importance of certain wool traits and its effect on the wool price

	All sheds	Top sheds	Average sheds	Bottom sheds
Fineness	3	2	3	3
Length	1	1	1	1
Strength	5	6	5	5
A clean yield	2	3	2	2
Contamination	6	5	5	6
Quantity	4	4	4	3

According to the above table all respondents indicated that the length of the wool is the most important trait that influences the price of wool followed by a clean yield. Surprisingly is that contamination (dirty wool) was indicated as not so important which is in contradiction with their perception of a clean yield.

- iv) Respondents perception of good shearing facilities  
 Respondent's perception of good shearing facilities in a priority order is presented in the next table.

**Table 14:** Farmers perception of good shearing facilities in order of priority

Good shearing facilities:	All sheds	Top sheds	Average sheds	Bottom sheds
Work in clean environment	39%	44%	44%	31%
Clean wool obtained	20%	19%	25%	18%
Receive higher income	21%	17%	20%	25%
Saving in wool packs	10%	9%	9%	11%
Wool classing improve	10%	11%	11%	15%

The most important aspect of good shearing facilities is according to respondents to work in a clean environment (39%), followed by receiving a higher income (21%) and clean wool obtained (20%). It is clear that they under estimate the importance of professional shearing of sheep and classing of wool.



- v) Farmers perception of essential equipment necessary in a shearing shed ranked most to least important  
Eleven (11) essential equipments that is necessary in a shearing shed, has been identified. According to the respondents the four (4) most essential equipments are:  
Press (67%); Scale (45%); Sorting table (32%); and Sheep sheers (23%).  
Wool bins, a piece picking table, shearing shed scrapers and bale lifting hooks are somewhat essential, while the tripod, shearing boards and wool baskets are less essential according to the respondents. However all these equipment is essential and should be in the shearing shed.
- vi) Farmers perception of the importance of specific persons  
Farmer respondents were requested to rank the persons they regard to be necessary in a shearing shed from 1= the most important to 6= the least important person. According to their perceptions and ranking the following:  
a) Qualified shearers (54%)  
b) Qualified classers (50%)  
c) Fleece throwers (42%)  
d) Piece classers (40%)  
e) Cleaners (29%)  
f) Shearing team (23%)  
All of these persons must be available in the shed during the shearing, classing and packaging process.
- vii) Shearing shed members' aspirations  
Respondents were asked to indicate what they believe the number of bales will be produced in 5 years' time:  
Wool production (bales/shed) in 5 years' time versus current production:  
- Top sheds: Aspiration: 148 (current 77 bales – difference 71 bales): 48% increase  
- Average sheds: Aspiration: 84 (current 30 – difference 54 bales): 64% increase  
- Bottom sheds: Aspiration: 37 (current 20 – difference 17 bales): 46% increase  
According to the above finding respondents in the three shed categories aspire to increase the number of bales significantly.
- viii) The need for a mentorship program  
-84% indicated that they are willing to enter into a mentorship program. According to the NWGA 2004/2005 Progress Report (Terblanche, 2011) a mentorship program was implemented at a shearing shed and its income was compared with a shed without a mentor who actually lost R158, 990.00.
- ix) Farmers needs in rank order (most important = 1 to least important = 12)  
Respondents were requested to describe and rank their needs that should be addressed to enable them to farm effectively, efficiently and in a sustainable manner. The findings are presented in the next table.  
According to the table the most important needs are:  
1 = Financial issues; 2 = Farm infrastructure; and 3= Need more land

It is followed by production aspects, fodder crops and veld (natural grazing) management.

**Table 15:** Respondents needs to be addressed to enable them to farm in a sustainable manner

<b>Farmer needs:</b>	<b>All sheds</b>	<b>Top sheds</b>	<b>Average sheds</b>	<b>Bottom sheds</b>
Financial issues	1	1	2	1
Farm infrastructure	2	2	1	2
Production aspects	4	5	6	3
Social aspects	11	9	11	11
Political aspects	12	12	12	12
Need more land	3	3	3	5
Climate conditions	9	7	9	7
Land tenure system	10	9	9	10
Over-wintering	7	9	3	7
Fodder crops	5	6	7	4
Veld management	6	4	5	9
Access to input supplies	8	8	7	6

#### 4. SUMMARY AND SOME RECOMMENDATIONS

- i) Age  
 The average age of respondents is 59. We need young people in agriculture (all careers). It is important that production advisors and farmers to engage with school children in shed activities.
- ii) Animal health  
 Animal health need serious attention at all sheds (top, average and bottom) specifically the prevention and treatment of all diseases.  
 Specific attention need to be given to lamb mortality.  
 The development and presentation of a practical animal health program for production advisors and farmers need to be investigated and implemented.
- iii) Wool contamination  
 All aspects to keep the clip clean need attention (Cape wools pamphlet).
- iv) Shearing facilities  
 Make sure that there is a management and upgrading plan available for each shed, its facilities and necessary equipment – give special attention to bottom sheds .There is a need for dipping facilities in all regions of the Eastern Cape Province.
- v) Communication and other stakeholders and role players  
 Make better use of the cell phone as communication channel.  
 Ensure engagement and coordination of all stakeholders and role players in the extension plan (work together – form a team!).  
 The shearing shed and its members is a farmer study group – it is the production advisor’s responsibility to mobilize them as a group to become effective and efficiently.
- vi) Best sheep management practices

Genetics – the ram project is playing an essential role to improve quality of sheep and wool – it is time to move on and give attention to the selection of ewes, mating and lambing season, and weaning percentage.

Feeding practices – there is a serious need to develop a fodder flow plan

Record keeping – need attention and the development of an easy record system is essential.

vii) Farmers aspirations, perceptions and needs

All farmers in all sheds clearly indicate that they aspire to produce significantly more wool in 5 years' time.

Farmers indicated the following as the four most important needs:

Financial support; poor or no infrastructure; more land; and access to input supplies. Farmers need training in the importance of all wool traits.

Farmers need specific advice on aspects that will add value to wool but especially to add value to meat. The identification and or the creation of a market for sheep meat are essential.

## 5. THE EXTENSION/ADVISORY PROGRAM FOR WOOL SHEEP FARMERS IN COMMUNAL AREAS

### 5.1 MAIN AIM:

To improve the livelihoods of wool producers in a sustainable manner by optimising the wool sheep production systems within the communal farming areas.

**OBJECTIVE 1:** To improve the profitability and productivity of wool sheep farming at all shearing sheds within the communal farming area. A specific extension program addressing the specific needs will be presented to farmers in each of the shearing shed groups (bottom; average and top).

Activities:

- To improve wool classing by focusing on reducing bin bales, improve clean yield and to improve on price/kg wool as a % of the market indicator.
- Training of wool producers to improve animal healthcare.
- The use of cell phones as communication channel, specifically for producers within the top performing shearing sheds, to supply them with relevant management information.
- The provision of training courses and information days on sheep management with the focus on sheep management; handling; classing; mating and lambing season; and natural resource management.

**OBJECTIVE 2:** To provide infrastructure equipment and dipping tanks to communities on request and per tender

**OBJECTIVE 3:** The genetic improvement of communal flocks by means of the distribution of at least 3 000 improved rams per annum from the group-breeding project.

**OBJECTIVE 4:** The continues and sustained improvement of wool production from the communal agricultural sector by focusing on all elements of total livestock production per shearing shed through the adoption of the whole farm approach.

- Activity: To identify one top shearing shed per region to be a demonstration shed for other sheds – where farmers can learn by doing.

*This extension/advisory program our vision that is future directed!*

## REFERENCES

- ANNOR-FREMPONG, C. 2013. The influence of intervening variables and subjective norms on the adoption behaviour of small scale farmers in South Africa and Lesotho. PhD Thesis, Department of Agricultural Economics Extension and Rural Development, Faculty of Natural and Agricultural Sciences, University of Pretoria, South Africa.
- D' HAESE, M. & VINK, N. 2003. Local institutional innovation and pro-poor agricultural - growth: The case of small-woolgrowers' associations in South Africa. Handbook. Garant publishers, Antwerp (Belgium).
- DIALE, N. R. 2011. Socio-economic indicators influencing the adoption of hybrid Sorghum: The Sekhukhune District perspective. *S.Afr. J. of Agric. Ext.*, Volume 39:75 – 85.
- MATIWANE, M. B. & TERBLANCHÉ, S. E. 2012. The influence of beneficiaries needs on project success or failure in the North West Province, South Africa. *S.Afr. J. of Agric. Ext.* Volume 40: 76 – 87.
- MOERANE, R. 2013. The impact of training using a structured primary animal health care model on the skills of rural small scale farmers. Masters dissertation. Faculty of Veterinary Science, Department of Production Animal Studies, University of Pretoria.
- MSUYA C. P. & DÜVEL, G. H. 2007. The role of independent and intervening variables in maize grower's adoption of seed spacing in the Njoba district of Tanzania. *S.Afr. J. of Agric. Ext.* Volume 36:109 – 123.
- NATIONAL PLANNING COMMISSION, 2012: National Development Plan – 2030 – “Our future make it work”, Department: The Presidency RSA.
- TERBLANCHÉ, S. E. 2011. Mentorship a key success factor in sustainable Land Reform Projects in South Africa. *S.Afr. J. of Agric. Ext.*, Volume 39.