

THE ROLE THAT EXTENSION OFFICERS AND AGRICULTURAL EXPERTS CAN PLAY IN MOTIVATING TEACHERS AND STUDENTS TOWARDS AGRICULTURE

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ABSTRACT

One of the biggest problems in land reform in SA at the moment is the identification of motivated beneficiaries with a real interest and suitable background in Agriculture. There may be several reasons for previously disadvantaged individuals' lack of knowledge and their negative or skewed perceptions of Agriculture as a career.

In try to reduce this problem a series of motivational talks were presented to school teachers in the Free State.

It had the following objectives:

- To inform school teachers of Agriculture as a possible career;
- To highlight teacher's influence in directly and indirectly (via scholars) contributing towards improving food security and increasing household income in South Africa;
- To positively change teachers' attitude towards agriculture by highlighting the current government support for land reform (agricultural) beneficiaries as well as by highlighting the success of high-performing HDI farmers;
- To obtain the viewpoints of teachers regarding agricultural training at their schools and training needs in general.

After each talk a questionnaire was distributed and filled by everybody present. The completed questionnaires were later processed using Windows Excel®.

This paper highlights the feedback from these teachers (via personal communication and completed questionnaires) indicating that the objective to change the attitude of teachers (and indirectly scholars) positively towards agriculture as a career was overwhelmingly achieved. The understanding of teachers on the many different agricultural-related careers was also significantly improved. If extension officers (and/or other specialist agriculturists) could inform teachers and/or scholars by means of annual school visits, it should in the long run benefit land reform via properly trained and motivated farmers and supporting agriculturists.

1. BACKGROUND

Due to the pre-1994 history of South Africa regarding the use of agricultural land by white farmers in areas outside the former homelands, Previously Disadvantaged Individuals (PDI's) tend to have a negative association or connotation with agriculture, particularly farming. The way that some farm workers were treated on some of these farms and the negative general publicity regarding labour practices on farms in the previous dispensation, also have a long-lasting negative effect on PDI's. These negative people also include current high school agricultural teachers who are people with a meaningful influence on the attitude of learners/pupils towards agriculture as a future career. The objective of the motivational talks will thus be to change the attitudes of these teachers by informing/enlightening them on the changes that took place in the agricultural industry since 1994 by highlighting the current participation of PDI's in agriculture, illustrating success stories in this regard, emphasising the role that these farmers play in the economy of our country, as well as their contribution towards improving food security.

2. OBJECTIVES

The objectives of the talk were:

- To inform school teachers of agriculture as a possible career;
- To highlight teacher's influence in directly and indirectly contributing towards improving food security and increasing household income in South Africa;
- To positively change teachers' attitude towards agriculture by highlighting the current government support for land reform (agricultural) beneficiaries as well as by highlighting the success of high-performing HDI farmers;
- To obtain the viewpoints of teachers regarding agricultural training at their schools and training needs in general.

3. METHODOLOGY FOLLOWED

Schools in the Fezile Dabi, Lejweleputswa, Motheo and Thabo Mofutsanyane municipal districts were identified for a visit by the Non-formal Training Unit (Free State Department of Agriculture) at Glen. The schools were contacted to arrange/determine the time schedule when the visits will take place. The participating schools were located in the towns of Wesselsbron, Hoopstad, Petrus Steyn, Virginia, Kroonstad, Bloemfontein, Edenville, Marquard, Botshabelo (2 schools), Qwa-Qwa (3 schools), Ficksburg (2 schools), Cornelia, Wepener, Welkom, Frankfort and Bothaville and visited between 5 and 23 March 2009 and between 3 and 16 March 2010. The researcher prepared the PowerPoint presentation and constructed a questionnaire to obtain feedback after the lecture/talk. The respective Extension Officer (EO) of the areas also attended the local motivational talk.

In all cases the schools' management has instructed their teachers to attend while a lecture room were also made available for the talk.

While visiting each school the following procedure were followed:

- The area local extension officer met with the presenter beforehand and assisted to locate the contact person of the school who in turn identified the venue, where after it was prepared for a visual presentation, while the EO also attended the lecture;
- The researcher made the PowerPoint presentation with the following themes:
 - Objective of the talk;
 - Historical background of agriculture in South Africa up to 1994;
 - Current opportunities/support for PDI's to be beneficiaries to agriculture in South Africa namely restitution, redistribution and land tenure (Department of Rural Development and Land Reform. 2010);
 - Success stories (and lessons learnt) of such successful participating PDI farmers;
 - Possible agricultural careers within the different historic agricultural disciplines.

The following careers were included:

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|----------------------------------|---------------------------------|--------------------------------------|
| ▪ Animal Behaviour Consultant | ▪ Biotechnologist | ▪ Herbalist |
| ▪ Agricultural Economist | ▪ Bird Farm Manager | ▪ Herpetologist |
| ▪ Agricultural Engineer | ▪ Bonsai Culturist | ▪ Horse Trainer |
| ▪ Agricultural Extension Officer | ▪ Botanist | ▪ Horse-Stud Manager |
| ▪ Agricultural Food Scientist | ▪ Brewer / Brewery Technologist | ▪ Horticulturist |
| ▪ Agricultural Inspector | ▪ Chemist | ▪ Ichthyologist |
| ▪ Agricultural Technician | ▪ Ecologist | ▪ Landscape Architect / Technologist |
| ▪ Agriculturist | ▪ Entomologist | ▪ Marine Biologist |
| ▪ Agronomist | ▪ Environmental Health Officer | ▪ Microbiologist |
| ▪ Animal Breeder | ▪ Farm Foreman / Manager | ▪ Nature Conservator |
| ▪ Animal Care Attendant | ▪ Farm Worker | ▪ Oceanographer |
| ▪ Animal Scientist | ▪ Farmer | ▪ Ornithologist |
| | ▪ Fisherman | ▪ Palaeontologist |
| | ▪ Florist | ▪ Pathologist |
| | | ▪ Physicist |
| | | ▪ Physiologist |

- Animal Trainer
- Apiculturist / Beekeeper / Apiarist
- Aquatic Scientist
- Biochemist
- Biomedical Technician & Technologist
- Food Scientist and Technologist
- Forester
- Game Ranger
- Gardener
- Geneticist
- Geographer
- Grain Grader
- Grassland Scientist
- Groundskeeper
- Health Inspector
- Plant Nursery Worker
- Silviculturist
- Soil Scientist
- Veterinary Nurse
- Veterinary Surgeon
- Veterinary Technologist
- Zoologist

Also included are required school subjects, requirements (aptitude) of the learner, places where the scholar can study for this career, and possible future employers (Pace Career Centre, 2010; Agricultural Research Council, 2010).

- Anticipated frustrations and challenges of high school agricultural teachers and possible solutions;
- What teachers can do to positively influence and prepare scholars/students for a career in agriculture;
- Aptitude required by scholars that are interested in a career in agriculture. In general, a person that wants to pursue a career in agriculture should have most of the following characteristics/aptitude:
 - enjoy working outdoors, in all weather conditions;
 - be able to communicate with people;
 - be creative, thorough and analytical;
 - be enthusiastic and responsible;
 - be independent, responsible and self-disciplined;
 - be interested in economics;
 - be interested in soil, plants and animals;
 - be interested in the environment, particularly as it relates to agriculture;
 - be practical and hard-working;
 - display scientific interest;
 - friendly and helpful;
 - have a reasonable mathematical, analytical and scientific aptitude;
 - have an aptitude for biology;
 - have diligence;
 - have good communication, research and organisational skills.
 - have good health and physical strength and stamina;
 - have mechanical aptitude;
 - have organisational ability;
 - have perseverance.
 - have the ability to endure isolation and limited social contact;
 - like to work with plants and/or animals;
 - be patient and kind;
 - be responsible and reliable;
 - be self-motivated.

The time of the presentation was on average approximately 1 hour 50 minutes.

- A manual (printed booklet) entitled “Information on agriculture as a career: A presentation to school teachers in the Free State Province” were distributed to all attendees to supplement the visual/verbal presentation. In this booklet and contact information of all institutions that present agricultural training were provided, as well as course information (prospectus) on agricultural training by the most prominent institutions in the Free State were distributed to all attendees;
- After the presentation a Q&A session were held;
- Hereafter a questionnaire entitled “Agricultural related presentation to teachers in schools in the Free State Province” was distributed to everybody present and completed;
- On average the total time spent at each school was approximately 2½ hours;

- The questionnaire was later processed by compiling a code list while data was fed into a Windows Excel® datasheet. Using these enabled the researcher to analyse the feedback from the participating teachers and extension officers (as presented in this paper).

4. RESULTS

Feedback was provided in that many attendees in person thanked the researcher for changing their viewpoints on Agriculture as a career, as well as a more measurable / quantitative way by means of the questionnaires completed by attendees. Unfortunately many attendees left immediately after the lecture and therefore did not complete the questionnaire. This is confirmed when comparing the attendance list with the number of respondents. Nevertheless, 156 questionnaires were completed in 2009 and 83 were completed in 2010, although not all questions were in all cases answered / responded to.

4.1 Demographical Info

Almost an equal number of questionnaires were completed by males (51%) compared to the female respondents (49%). The average age of respondents was 40.2 years (SD±7.11), with the youngest being 23 years and the oldest 63 years of age. On average respondents had 13.8 years of teaching experience while those with agricultural experience on average only had 1.98 years of experience. Respondents had on average 6.0 years of other experience. Most of the teachers were teaching for 9.5 years at the particular school while the most common qualifications of respondents were education related degrees and diplomas e.g. B.A. Ed, S.T.D. (Secondary teachers diploma), B.Ed. Hons, A.C.E., Diploma, H.E.D. and Education diploma. Many of the respondents also have other relevant or subject related qualifications. As expected the fields of specialisation differs a lot between the teachers. Of those respondents that listed their current occupation 2 were Principals, 4 were Deputy-Principals, 12 was HOD's, while 219 were educators.

4.2 Agricultural Background

Most respondents (152) received no agricultural training while a similar number had no agricultural experience. Nineteen respondents are currently farming part-time, while the majority of the teachers (173 or 76.5%) are (after the talk/lecture) considering farming as a career after retirement.

4.3 Subjects (Agricultural and Other) Presented by the Teacher

Most of the respondents (178) are not presenting any agricultural subjects, while they are presenting a variety of other subjects. Of those teaching agriculture, 45 have no choice in selecting what they have to lecture while only 5 have some freedom of choice.

4.4 Assessment by the Teacher of the Syllabi of Agricultural Subjects Presented

Reaction on a question regarding what should be added to the current syllabi of the agricultural subjects, many teachers were of the opinion that, among others, practicals should also be structured in such a way that it develop the learner (skills development), agriculture as subject must be included in the new curriculum, training excursions/educational tours should take place, while more career guidance should be offered.

The question on "what should be dropped from the current syllabi of the agricultural subjects" drew only a few responses, mainly with the viewpoint that the amount of agricultural theory should be reduced.

4.5 Evaluation of the Talk in Terms of Contents/Themes

Respondents were asked to rate each of the themes on a scale ranging from "poor" to "excellent". The following table provides a summary of the rating:

Table 1: Rating by teachers in 2009 and 2010 for certain topics presented.

	<i>Poor</i>		<i>Average</i>		<i>Good</i>		<i>Excellent</i>	
	2009	2010	2009	2010	2009	2010	2009	2010
Objective of the talk	2	0	12	7	76	44	53	15
	1.4%	0.0%	8.4%	13.2%	53.1%	83.0%	37.1%	28.3%
Historical background of agriculture in South Africa up to 1994	2	0	17	12	76	43	53	13
	1.4%	0.0%	11.5%	22.6%	51.4%	81.1%	35.8%	24.5%
Current opportunities/ support for PDI's to be beneficiaries to agriculture in South Africa namely Restitution, Redistribution and Tenure Reform Implementation	3	0	18	9	74	37	56	21
	2.0%	0.0%	11.9%	16.1%	49.0%	66.1%	37.1%	37.5%
Success stories (and lessons learnt) of successful participating PDI farmers	2	0	12	5	64	36	70	26
	1.4%	0.0%	8.1%	7.1%	43.2%	51.4%	47.3%	37.1%
Possible agricultural careers within the different historic agricultural disciplines	2	0	15	8	76	36	55	21
	1.4%	0.0%	10.1%	14.5%	51.4%	65.5%	37.2%	38.2%
Anticipated frustrations and challenges of high school agricultural teachers and possible solutions	8	1	26	21	64	31	47	12
	5.5%	2.1%	17.9%	44.7%	44.1%	66.0%	32.4%	25.5%
What teachers can do to positively influence and prepare scholars/students for a career in agriculture	2	0	20	15	72	38	52	10
	1.4%	0.0%	13.7%	28.8%	49.3%	73.1%	35.6%	19.2%
Aptitude required by scholars that are interested in a career in agriculture	3	0	23	19	71	38	50	6
	2.0%	0.0%	15.6%	38.0%	48.3%	76.0%	34.0%	12.0%
Average rating:	2.0%	0.3%	12.2%	23.1%	48.7%	70.3%	37.1%	27.8%

On average 84.4% of the teachers rated the presentation as “good” or “excellent”, while the presentation on the success stories (and lessons learnt) of successful participating PDI farmers obtained the highest score (91.2% good or excellent).

4.6 Change in Attitude of the Teacher Towards Agriculture

From the feedback, it is evident that the motivational talk reached its objective in that 70.8% of respondents were of the opinion that the talk improved their knowledge/understanding of agriculture “a lot”, 25.5% rated the change as “somewhat”, with only 3.8% who’s agricultural understanding were not influenced by the talk.

Similarly the teachers have significantly changed their attitude towards agriculture as a career in that 73.6% now regard agriculture as “much more” important than before, 21.7% as “somewhat” more important than before, while the talk did not change (only) 2.4% of the respondents’ appreciation of the relative importance of agriculture.

4.7 Frustrations of the Teacher Regarding Agricultural Subjects

Although fewer teachers/respondents were able to comment on the frustrations with the management of agricultural education compared to all subjects, most commented on the lack of resources committed to Agriculture, lack of knowledge/skills/experience/training of educators, lack of facilities to demonstrate practical agriculture, no agricultural education and careers, as well as a lack of practical application, material, textbooks, information and funding. Also frustrating is the lack of relevant skills in particular fields of specialization and practical experience. Another problem is unmotivated and uninterested learners and the fact that students don’t want to live on farms or in rural areas.

In general respondents’ frustrations at the school where they are currently teaching are the lack of resources, equipment, facilities, textbooks and practicals, as well as the lack of commitment by learners / less motivated learners.

4.8 Recommendations by the Teachers Towards Agriculture

The most popular recommendations of respondents to education in the province are the request to provide training to teachers (i.e. workshops), to give the learner time to practice with support of resources, motivation of learners (success stories), and to allocate more money for resources like laboratories and libraries.

Recommendations regarding agricultural education include the need for practical work to improve the learner's ambitions to take this career, introduce Agriculture as a subject to more schools, conduct training of educators regularly, agriculture needs to be taken seriously like other sciences, bursaries to grade 12 learners, agriculture should be compulsory for every learner, infrastructure for practical training facilities, theoretical training should be linked to practical current agriculture, motivate learners by using successful farmers to give talk, agriculture should be taught from primary school, provide equipment/resources to teachers, more information to learners and encouragement by department officials, and many more (See Annexure 9).

Recommendations to education at their particular school are a request for motivation/encouragement of learners to do Agriculture, provide practical work, necessary resources, and increase the number of agricultural teachers and develop/train them properly.

5. SUMMARY AND CONCLUSIONS

The Director: Training, Research and Technology Development in the Free State Department of Agriculture requested the researcher in 2009 and in 2010 to present motivational talks on "Agriculture as a career" to 20 schools in the Fezile Dabi, Lejweleputswa, Motheo and Thabo Mofutsanyane municipal districts.

Feedback from these schools via personal communication and questionnaires completed indicate that the objective to change the attitude of teachers (and indirectly scholars) positively towards agriculture as a career was overwhelmingly positively obtained. Many recommendations were also made by respondents (teachers) towards management of education in the Province and the Free State Department of Education should take note of these comments.

It is further recommended that these talks be expanded to other schools in all the municipal districts of the Free State Province as well as to other provinces. These talks should also be directed to both teachers and scholars. This will ensure that scholars grow empathy towards agriculture from an early age resulting in enthusiastic want-to-be farmers, increased numbers of students that apply for tertiary studies in Agriculture and more success in the Land redistribution process. This will further be enhanced should teachers enter into farming, especially with sufficient capital after retirement.

Extension officers are in an ideal position to "adopt" a few schools in their region and to present such talks to teachers and learners on a regular basis.

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