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A Pricipal component Analysis of Variables that Influence participation in Mentorship by New Freehold Growers In Kwazulu Natal, South Africa

Mabe Royal[1] and Macheng Boipono[2]
Department of Agricultural Economics, Education and Extension Botswana, College of Agriculture, BOTSWANA

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Abstract

Changing landscape of the South Africa (SA) agriculture has necessitated institutionalization of mentorship as part of post-settlement services for emerging black farmers. This paper, seeks to report on the socioeconomic characteristics of the surveyed sugarcane growers,identify their socioeconomic and farm factors that influence their decision to participate in mentorship. The paper also seeks tocome up with recommendation for improving acess to mentorship by New Freehold Growers (NFGs). The forty three (43) sampled NFGs were mostly male and the majority of sampled had no educational background in either Agriculture or any business related field. However, most of the respondents had prior experience in general management. Relatively few surveyed growers had prior experience in managing sugarcane farms. Further, most of the sample growers had gained financial management experience while working elsewhere and or through formal training. The principal component analysis (PCA) results revealed six components for predictor variables that Influence participation in mentorship by NFGs. The six components are; old-experienced communal farmer, educated farmer with business management experience, large-scale commercial farmer with formal agricultural education, fulltime non-affiliated farmer, male farmer with acquired cane farm management experience and fulltime participant with no business management experience. The paper recommends that attention be paid to designing and implementing policies that target NFGs, given their diverse socio-economic and farm characteristics. Detailed needs analysis and profiling of participants therefore, ought to be carried out beforehand. The results also show that joint-farm ownership (group dynamics) may have negative impact on NFGs' decision to participate in mentorship. Hence, policy makers should explore different models for specific farm operations and/or farm ownership structures.

Keywords: Mentorship, land reform, participation, mentor, mentee.

Introduction

New policy initiatives in SA that followed the April 1994 democratic elections aimed to strongly focus on reconstruction and development, especially in the agrarian sector[1]. Land reform is one of the initiatives that the African National Congress (ANC)-led government has implemented post 1994, to enable previously disadvantaged individuals PDIsto own land. However, most of the PDIs who acquired farms through the land redistribution program lack practical experience in commercial agricultural production. For this reason, to ANC-led government instituted formal mentorship as one of the ways to settle and integrate emerging black farmers into commercial agriculture and addresses their inherent skills gaps. The South African National Department of Agriculture (NDA) has adapted two non-sector specific definitions of the word "mentoring". That is: i. "mentoring exists when suitably experienced and competent persons act as resources, sponsors and transitional figures for another person. Hence, mentors provide less experienced persons (emerging farmers) with knowledge, advice, challenge and support in their pursuit of becoming full members of a particular segment of life. Mentors welcome less experienced persons into their world and represent skill, knowledge, networks and success that the new professionals hope to someday acquire, or; ii. mentoring is a process of forming a relationship between a more experienced and seasoned person (mentor) and a less experienced person (mentee), where the mentor assists the mentee to achieve a specific goal or develop a specified capacity"[2].

It was also envisioned that mentorship could enhance the delivery of post-settlement support services offered to land reform beneficiaries. Nonetheless, Mokhatla *et al*[3] caution that the integration of emerging farmers in SA should be aimed at sustainable land reform and not just done to as a way of transferring land to the landless. Some researchers and authors have noted that lack of pre-and post-settlement support to the land claimants undermines the efforts of the land reform exercise[4-7]. Kirsten *et al*[8] add that support services to smallholder farmers are often inadequate, un-sequenced and un-coordinated. Hence, mentoring could be an important element of professional training and development, and an important away of developing future talent in South Africa[9,10].

Some proponents of formal mentorship contend that mentorship should be part of support services for settling emerging black commercial farmers in SA[4,11-13]. Hawes and Bates[14] argue that mentoring could empower the new entrant farmers with the

much-needed basic technical and business knowledge and skills required to successfully operate modern farms. More significantly, given the rapid change currently being experienced by the world economy, there is need for farmers to development appropriate farm management skills. In the SA sugar industry, mentorship offers emerging growers an opportunity to acquire business and cane farming skills through interaction with a mentor. Mentorship may also augment new entrant farmers' ability to make sound business decisions and thus operate and manage viable farm entities. Street and Kleynhans[11] however, caution that mentorship should not replace extension. The two should rather be integrated, complement and reinforce each other because the mentor brings practical experience while the extension officer provides background, reasons and principles for advice and recommendations given to the farmer. This paper, seeks to report on the i. socioeconomic characteristics of the surveyed sugarcane growers, ii. identify respondents' socioeconomic and farm factors that influence their decision to participate in mentorship, and iii. identify policy implications and make some recommendations.

Mentoring In the South African Agriculture: Mentorship in agriculture is not only confined to SA. Rivera and Schram[15] highlighted that a formal mentoring programme was reported in Israel in the early 1950s. The programme involved some 400 new immigrant farmers who were settled in some farms. About 250 of those immigrant farmers could not read or even speak Hebrew (the country's language) and had no previous experience in agriculture. The local extension department then recruited some experienced local farmers as mentors. Ideally, a couple was usually recruited, with the husband working as an agricultural advisor and the wife as an advisor in home economics. Over time, as the immigrant farmers became more competent in farming, there was a shift from direct tutoring to agricultural development. Mentorship in the agriculture sector has also been reported among youth farmers in New Zealand and the United States of America (USA).

In the SA agriculture, mentorship became prevalentafter the 1994 democratic elections. As highlighted in section 1, the ANC government adopted land reform program aimed at reconstructing and developing the agrarian sector. Formal mentorship was therefore adopted and incorporated into post-settlement support services offered to the emerging farmers who have benefited from the state's land reform program. Consequently, the SA government has to date, (through the provincial departments of agriculture) supported a number of mentorship schemes in the sugar, citrus, beef, ostrich, horticulture and field crop production industry.

Mentorship in the South African Sugarcane Industry: The South African Canegrowers Association (SACGA) rolled-out the first formal mentorship programme in the SA Sugar industry from October 2003 to May 2005 in KwaZulu Natal (KZN). The mentorship programme involved about 80 emerging black sugarcane growers, also commonly known as new freehold growers (NFGs). The programme was funded by the Primary Agricultural Education Training Authority (PAETA), which is respectively funded through the National Skills Levy. The programme included both mentoring and training. The new entrant farmers were divided into groups (*i.e.* according to geographical areas) and did 21 modules (table 2 in the appendix) towards an outcomes-based learnership certificate in agriculture. The training course lasted between 15 and 18 months. Further, the programme utilized a group of mentors (*i.e.* predominantly white commercial farmers) with different expertise in different areas. Xaba[16] reported that mentors observed that financial management, cane husbandry, labour management and mentee absenteeism from their farms were the main priority areas that needed to be addressed with the NFGs. Mentees were not always willing to share information, participate and/or attend meetings and were reluctant to ask for assistance. Nevertheless, mentees indicated that they needed more training or assistance on cane husbandry, financial management and other aspects. Even so, an estimated 68% of the mentees noted that the programme was helpful.

The SACGA ran the second NFG mentorship programme from June 2008 to June 2009. This programme was funded by the Department of Agriculture. The year-long programme included NFGs and other growers who were not covered by the 2003/5 programme, such as small scale farmers and community projects. This study focuses on the programme. The decision to focus on this study was motivated by issues relating institutional memory. It was foreseen that stakeholders may not adequately recall what transpired in the 2003/5 programme. Moreover, SAGCA also suggested the 2008/9 programme. Mentors in this programme were drawn from a diverse pool of experienced white and black commercial growers. Each mentor was assigned to a group of mentees depending on the number of both mentors and mentees in the area.

Literature Review: There is very limited academic literature and published research work on mentorship in Agriculture locally and regionally. Published research work on mentorship in SA, does not directly report on factors that influence decision to participate in mentorship.Street and Kleynhans[11] and Olubode-Awolosa[17] and Van Schalkwykconceptualized a mentorship programme which is complementary in nature (*i.e.* should not replace the extension) and Terblanchè[18] reported on mentorship programme structuring and implementation. Given the scacity of directly related literature, the paper relied much on indirectly related literature.

Uchezuba *et al*[19] pointed out that many factors influence the farmer's choice to participate in livestock markets. It is therefore, posited that some farmer's socio-economic and farm characteristics may influence emerging growers' decision to participate in the NFG mentorship programme. These factors include farmers' age, gender, level of education, experience in sugarcane farming, full time/part time farmer and business

management, farm ownership, affiliation and farm size. According to Levinson *e.t al*[20], age has an influence in a person's career choice and development. Hence, younger inexperienced NFGs in the first stage of their farming career may tend to focus more on forming an occupational identity and networks in the farming community and favour mentorship. In contrast, more experienced older NFGs may rely on their past farming experience and tend to favour mentorship less. Thus, mentorship forms a significant phase in emerging farmer integration into farming. Further, Mbowa and Nieuwoudt[21] reported a strong link between farmer efficiency (allocative and productive) and farmer characteristics such as age, education level, training and managerial expertise.

Previous research has reported various dimensions of the effect that gender may have on mentoring relationships. Men and women tend to favour different mentoring functions, more especially in cross-gender relationships. It is therefore envisioned that female NFGs will prefer mentorship because farming is male dominated. NFGs' education level plays an important role on how readily they could use or adopt new technologies that may improve farm productivity. Darroch and Mashatola[12] add that NFGs with high levels of education may more readily adopt technologies to improve sugarcane yields. Hence, it is postulated that NFGs with higher levels of education may be more willing to participate in mentorship programmes, owing to the potential perceived benefits. Higher education levels are positively associated with increased farmer allocative and productive efficiency[22], hence improved agricultural productivity. Education may also increase a grower's awareness of their farming environment and the ability to acquire and use information. Additionally, education can also enhance NFGs' ability to identify alternatives, assess and compare the costs and benefits associated with each alternative and increase the rate at which they adopt new skills and technology.

NFGs' experience in Agriculture, finance, management and marketing may determine the survival of NFG farms. Research has showed that managerial ability has a bearing on whether a business fails or prospers[23]. Accordingly, Patrick and Eisgruber[24] concurs that the farmer's ability to manage a farm is a valuable attribute that influences overall success of a farming enterprise. Hence, NFGs inexperienced in sugarcane farm management may participate in mentorship in order to acquire managerial ability relating to business management. More importantly, experience passed on to the new entrant farmer by the mentor can be essential for long term survival[25]. Farming full/part-time and having off-farm income might influence NFGs' views on mentorship participation[26]. It is postulated that NFGs who are employed on a full-time basis elsewhere (with off-farm income) may choose to farm part-time and thus have limited time to participate in formal mentorship. Xaba[27] highlighted that in the event of a part time farmer, a mentor could be utilized as a farm manger. On the contrary, NFGs who farm fulltime may favour participating in formal mentorship programmes.

Farm ownership structure and size may influence NFGs' decision to participate in mentorship. NFGs from different farm ownership structures (*i.e.* sole proprietor, trust or private company) may be discouraged to participate in mentorship based on the desired benefits and outcomes. However, NFGs from jointly- owned farms (e.g. trust or community farm)may choose not to participate in mentorship due to problems associated with common property management such as free-riding and inability to internalize benefits. Lyne and Ferrer[28] reported that land reform beneficiaries who owned farms as a group do not favour investing collectively in farming ventures due to free-rider problem. Free-ridersare members of a group who benefit from group membership but do not bear proportional share of the costs of providing the benefits[29]. According to Ostrom,[30]one cannot be excluded from benefiting that which others provide, but each one is motivated to not to contribute and take advantage of others' contribution. In this study, individual NFGs from jointly-owned farms may be less motivated to participate in mentorship because of free-riding and lack of internalization of programme benefits.

NFGs with relatively larger farms and many years of prior experience in managing a sugarcane farm may tend to be favour mentorship less. However, inexperienced NFGs with relatively larger farms may prefer mentorship. Moreover, previous research has identified a significant link between farm size and efficiency[31]. Affiliation to farmer organization may also play an important role in the NFGs decision to take part in mentorship. Affiliation may be a source of key information and advice. Affiliated NFGs may therefore, be well informed about mentorship and be in a better position to make informed choices about participating.

Methodology

The study uses 2010 data from a sample of 43 NFGs in three KwaZulu- Natal (KZN) sugar growing regions, namely: the North Coast, the Midlands and the South Coast. The region has a total of 291 new freehold black growers. Stratified random proportional sampling was used to select study paticipants. The three regions formed the three stratas and random sampling was used to proportionally pick paticipants from each strata ending up with twenty two (22) from the North Coast; fifteen (15) from Midlands and six (6) from South Coast.An expert validated close ended questionnaire was used to collect data. All paticipants consented to taking part in the study.

Principal component analysis (PCA) was applied to the 15 predictor variables shown in table 1. PCA address multicollinearity and reduce the number explanatory variables and identify some common dimensions in the data. This is achieved by converting to a new set of variables, the principal components (PCs), which are uncorrelated and which are such

that the first few retain most of the variation present in all of the original variables[32]. The decision on which PCs to retain depends largely on the percentage of the variance accounted for the variable, the absolute variation accounted for by each PC and whether they component could be interpreted meaningfully. In order to determine the components that have to be retained, the study adopted the Kaiser criterion of retaining Eigen values greater than one (>1), and also chose components with high component loading scores ±0.5 or greater. The PCs for the estimation of the 15 variables is shown in equation below:

$PC_i = a_{i1}X_1 + a_{i2}X_2 + \ldots + a_{i15}X_{15}$ (where $i = 1 \ldots 15$; $a_{i1} \ldots a_{i15}$ = the component loadings; and $X_1 \ldots X_{15}$ = the 15 variables shown in table 1.

Table-1
Hypothesized Predictor variables of NFG Participation in the Mentorship

Variable	Expected sign
Duration in months in which NFG was mentored	+ or -
NFG's age in years	+ or -
NFG's gender	+ or -
NFG's level of formal education	+ or -
Whether grower has agricultural education background	-
Whether grower has educational background in a business management related field	+ or -
Number of years of NFG's experience in managing a sugarcane farm	+ or -
Number of years of NFG's experience in managing the current sugarcane farm	+
Whether NFG had prior experience in management before acquiring current farm	+
Whether NFG had prior experience in finance before acquiring current farm	+
Whether NFG had prior experience in marketing before acquiring current farm	+
Whether grower farms full or part-time	-
Farm ownership	+ or -
Total land farmed by NFG in hectares	+ or -
Whether the grower is a member of a Farmer's Organization	+ or -

Results and Discussion

Descriptive statistics for the sample NFGs : The majority (81%) of the sample NFGs were male. Fifty percent of the surveyed females NFGs participated in mentorship up to the end and the rest discontinued. The majority (75%) of the female NFGs who discontinued were from the North Coast region. Overall, about 35% (15) of the surveyed NFGs discontinued from the mentorship programme, with the majority (73%) from the North Coast region. The average age of the sample NFGs was 51.51 years, with the youngest being a 26 year old male from the Midlands and the oldest 72 years old (*i.e.* a male from the South Coast). Furthermore, the majority (33%) of the surveyed NFGs fell within the 51 to 60 age category. The mean ages per region were 49.13, 59.50 and 50.95 years for the Midlands, South Coast and North Coast, respectively. Furthermore, on average, the surveyed NFGs participated in mentorship for duration of 6.29 months (with a minimum of 1.83 and a maximum of 8.52 months in South and North Coast, respectively). The majority (11.6%) of the surveyed NFGs who participated in the mentorship programme up to the end were from the Midlands region, followed by the North Coast region at 9%. None of the surveyed NFGs from the South Coast region completed the programme. Furthermore, 44% (19) of the surveyed NFGs had never participated in any mentorship programme (with a 21% majority from the Midlands region). These results suggest that age is an important determinant of participation in mentorship. Relatively younger growers (as in the Midlands and the North Coast) tend to favour mentorship because they are less experienced in sugarcane farming. The results conform to *a priori* expectation and are consistent with Levinson *et al*[21].

The majority (26%) of the surveyed new growers had grade 8 to 11, most of them from the North Coast region. Twenty-three and fourteen percent respectively had diploma and degree. Those with grade 7 and below accounted for 12% of the sample growers. An estimated 19% (8) of the surveyed NFGs had an educational background in agriculture. The majority (63%) of them were men from the Midlands. The only woman with an educational background in agriculture was from the North Coast region. Nine percent of the surveyed NFGs had a business-related educational background, with the majority (75%) of them men. Additionally, about 70% (30) of the surveyed NFGs had prior experience in general management, with the majority (47%) of them from the North Coast region. The majority (39.5%) of the sample NFGs acquired their experience in management while employed elsewhere. Almost nine and nineteen percent of the sample NFGs acquired their managerial expertise by managing farms and through formal training, respectively.

Overall, 30% of the NFGs had no previous managerial experience. An estimated 63% of the sample NFGs had previous experience in finance, with 19% of them female. On the other hand, about 23% of the sample NFGs had acquired their experience in finance while employed elsewhere and through formal training, respectively. Almost forty-nine percent of the surveyed NFGs had previous experience in marketing, with the majority (86%) of them male. Managing own farms and formal training accounted for a higher proportion of NFGs' previous experience in marketing (*i.e.* about 19% respectively).

Experience in managing sugarcane farms varied from zero to 40 years. The mean for the sample NFGs was 10.77 (10.33 and 11.00 years for the Midlands, South and North Coast, respectively). The majority (35%) of the surveyed NFGs had

less than five years (*i.e.* 0 to 4 years) of experience in sugarcane farm management, with most (60%) of them from North Coast. Further, most the surveyed female NFGs (75%) had less than five years' experience in sugarcane farm management. None of the surveyed NFGs fell within the 26 to 30 years category. There was only one NFG with 40 years of experience in managing a sugarcane farm (and was from the North Coast region). The 11 to 15 years category accounted for 23% of the surveyed NFGs (all of them being male).

Majority (62.8%) of the farms owned by the surveyed NFGs were sole proprietors. Trusts made up about 16% of farms owned by the sample NFGs (with the majority owned by female growers), and cooperatives were the least (2%). Almost twelve percent of the sample NFGs operated their farms as partnerships, with the majority (60%) of them from the Midlands region. In contrast, about 7% of the sample NFGs' farms were operated as close corporations (cc), and were all owned by male growers from the North Coast. About eighty-eight percent of the surveyed NFGs farmed full time, with 50% of them from the North Coast. The majority (87.5%) of the sample female growers farmed full time, with all the female NFGs from the Midlands falling in this category. All the surveyed NFGs from the South Coast farmed full time. About twelve percent of the sample NFGs farmed part-time, with the majority of them being male (80%). An estimated 74% of the surveyed NFGs were members of a farmers' organization (with about 5% not sure about their affiliation). The majority (56.2%) of the affiliated NFGs were from the North Coast. Almost twenty-one percent of the surveyed growers were not a member of any farmers' organization, with most of them male (88.8%).

Principal Component analysis results: Six components were extracted from the 15 predictors of NFGs' decision to participate in mentorship. The six extracted components explained 73.1% (table 2) of the variations in the 15 predictors of NFGs' decision to participate in mentorship. The six retained components are (i) old-experienced communal farmer, (ii) educated farmer with business management experience, (iii) large-scale commercial farmer with formal agricultural education, (iv) fulltime non-affiliated farmer, (v) male farmer with acquired cane farm management experience, and (vi) fulltime participant with no business management experience.

Table-2
Extracted components of potential variables that influence participation in NFG mentorship programme

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.206	21.372	21.372	3.206	**21.372**	21.372	2.617	17.448	17.448
2	2.326	15.510	36.881	2.326	**15.510**	36.881	2.322	15.482	32.930
3	1.641	10.943	47.825	1.641	**10.943**	47.825	1.663	11.088	44.018
4	1.455	9.699	57.524	1.455	**9.699**	57.524	1.605	10.699	54.717
5	1.280	8.536	66.060	1.280	**8.536**	66.060	1.470	9.798	64.515
6	1.059	7.062	73.123	1.059	**7.062**	73.123	1.291	8.608	**73.123**
7	.886	5.909	79.032						
8	.747	4.979	84.011						
9	.688	4.586	88.596						
10	.452	3.012	91.608						
11	.356	2.370	93.978						
12	.284	1.896	95.875						
13	.252	1.680	97.554						
14	.232	1.548	99.102						
15	.135	.898	100.000						

Extraction Method: Principal Component Analysis, Rotation Method: Varimax with Kaiser Normalization

Table-3
Rotated component matrix of potential variables that influence participation in the NFG mentorship programme

Variables	Component					
	1	**2**	**3**	**4**	**5**	**6**
Duration in months in which NFG was mentored	-.060	.252	-.169	.174	-.057	**.807**
NFG's age in years	**.827**	.218	-.061	.020	.112	-.040
NFG's gender	.164	-.022	.105	-.098	**.858**	-.035
NFG's level of formal education	-.137	**.500**	.408	-.051	-.165	-.394
Whether grower has agricultural education background	-.039	.012	**.829**	.202	.128	.030
Whether grower has educational background in a business management related field	-.268	.440	-.329	.353	.060	**-.602**
Number of years of NFG's experience in managing a sugarcane farm	**.733**	.025	-.066	.241	.176	.192
Number of years of NFG's experience in managing the current sugarcane farm	**.859**	.056	.002	.110	.108	.023
Whether NFG had prior experience in management before acquiring current farm	.136	**.583**	.073	-.043	**.686**	-.024
Whether NFG had prior experience in finance before acquiring current farm	.091	**.827**	.075	.129	.071	.090
Whether NFG had prior experience in marketing before acquiring current farm	.262	**.829**	.130	-.024	.053	.082
Whether grower farms full or part-time	.219	-.012	.136	**.765**	.064	.034
Farm ownership	**-.623**	-.050	.029	.488	.296	.232
Total land farmed by NFG in hectares	-.054	.198	**.777**	.013	.041	-.104
Whether the grower is a member of a Farmer's Organization	-.032	-.098	-.059	**-.695**	.236	-.023

Extraction Method: Principal Component Analysis, Rotation Method: Varimax with Kaiser Normalization.

The first *component*, i.e., old-experienced communal farmer explained 21.4% of the total variance in the 15 variables (table 2). NFGs' age, years of experience in managing a sugarcane farm and managing current farm and farm ownership loaded heavily (>0.5) in this component (table 3). The loadings for NFGs' age, years of experience in managing a sugarcane farm and managing current farm had positive signs, implying that these variables are positively correlated. That is relatively older farmers are likely to have relatively more years of experience in sugarcane farm management and managing their current farms. On the contrary, farm ownership had a negative sign, thus indicating negative relationship between participation in mentorship and farmer ownership. The result implies that any form of farm ownership other than sole proprietor, discourages participation in mentorship because of the inherent free-rider problem and participants inability to fully internalize the benefits of participating in mentorship. These finding is consistent with the findings of Lyne and Ferrer[29] and Ostrom[31].

The second *component*, i.e., educated farmer with business management experience, explained 15.5% of the total variance in the 15 variables (table 2). Level of formal education, years of prior experience in management, finance and marketing loaded heavily (>0.5) in this component (table 3). The loadings for all the variables had positive signs, suggesting that growers with educational backgrounds (*i.e.* business related) might have acquired some managerial, financial and marketing management experience elsewhere before they take over their farms. Prior experience in in management, finance and marketing are some of the significant business management skills that NFGs require to engage in successful commercial cane production and ensure sustainable land reform. Consequently, growers who possess business management skills might have more time during mentoring and focus more on sugarcane agronomic aspects and hence get capacitated fairly quickly.

The third *component*, i.e., large-scale commercial farmer with formal agricultural education, explained about 11% of the total variance in the 15 variables (table 2). Both predictor items (agricultural education background and total land farmed by NFG) had positive signs and loaded heavily (>0.5) in this component (table 3). This result indicates that growers with formal educational background in agriculture might farm relatively large farms because they have acquired the necessary skills needed to farm commercially at a learning institution. This finding is consistent with *a priori* expectation. Even so, growers

with formal agricultural education may participate in mentorship as they hope to acquire other skills that they might not have, (i.e. financial or labour management). These results are consistent with*a priori* expectation and the findings of Enshayan *et al*[26].

The fourth *component*, i.e., fulltime non-affiliated farmer, explained about 9.7% of the total variance in the 15 variables (table 2). Both predictor variables (whether NFG farms full/part time and affiliation to farmer organization) loaded heavily (>0.5) in this component (table 3). Whether NFG farms full/part time had a positive loading whereas affiliation to farmer organization had a negative sign, thus indicating variables are negatively correlated. This result infer that full time growers may tend to favour mentorship because they recognize mentorship as an important source of information and skills required in operating their farms successfully.

The fifth *component*, i.e., male farmer with acquired cane farm management experience, explained about 8.5% of the total variance in the 15 predictor variables (table 2). Both predictor items (gender and prior management experience in cane farm management) had positive signs and loaded heavily (>0.5) in this component (table 3). The result therefore, imply that since agriculture is a male-dominated field, male growers are likely to have gained cane farming managerial expertise elsewhere before they acquired their farm. Additionally, such growers might choose to participate in mentorship in order fill-in some skills gaps.

The sixth *component*; fulltime participant with no business management experience, explained almost 7% of the total variance in the 15 predictor items (table 2). Both predictor variables (fulltime participant and no business management experience) loaded heavily (>0.5) in this component (table 3). Full time participation had a positive loading no business management experience had a negative sign thus implying predictor items are negatively correlated. These findings indicate that full participators may have relatively less or no experience in the business and technical aspects of cane farming, and hence choose mentorship as an alternative source of acquiring the other necessary skills for the mentor. These results also conform to *a* priori expectation and the findings of Enshayan *et al*[26].

Conclusion

The sampled NFGs were mostly male and relatively old and the majority of them had no educational background in either agriculture or any business related field. However, most of the respondents had prior experience in general management. Relatively few surveyed growers had prior experience in managing sugarcane farms. Further, most of the sample growers had gained financial management experience while working elsewhere and or through formal training. As a result, policy makers should design mentorship and other support services such that they address the needs of participants from diverse backgrounds.

The PCA results show that NFGs' age, gender, prior cane farming experience and business management, farm ownership structure, level of education, farm size and whether farmer operates farm on full time/part time basis, have a bearing on growers decision to participate in mentorship. Relatively younger inexperienced growers with business education or business management experience may favour mentorship as a source of skills for cane production. On the contrary male experienced farmers with relatively large farms may favour mentorship because of their farming experience gained elsewhere. Therefore, attention be paid to when designing and implementing policies that target NFGs, in line with their diverse socio-economic and farm characteristics. Policy makers, should also, carry out a detailed needs analysis before implementing any mentorship interventions, and profile the participants in order to optimize the desired program outcomes. Results show that joint-farm ownership presents diverse personalities that may not want to participate in mentorship. The paper recommends differentiated models for farm ownership and operations.

This paper only looked at factors that influence the decision to participate in mentorship by NFGs. More research needs to be done on related areas like but not limited to; the impact of mentorship on agricultural productivity amongst NFGs and transaction costs related to access to mentorship.

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