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Determinants of Performance in Smallholder Farmer Groups in Uganda

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Abstract

The performance of farmer groups is critical for the success of the farmer-led Agricultural Extension approach currently used in Uganda. This study examines factors affecting performance of farmer groups accessing agricultural extension and advisory services from the National Agricultural Advisory Services in Eastern Uganda. The study collected data 200 members of 19 farmer groups in Eastern Uganda. Performance of farmer groups was the dependent variable, which was perceived to be influenced by individual members' objectives, participation culture, power distance, structure of task, perceived equity, reward allocation and participation in group activities. Farmer group performance had a statistically significant positive relationship with power distance and perceived equity. Group participation culture and structure of tasks had a statistically negative relationship with group performance. Members tended to deflect group losses to factors beyond the seasonality of group activities, quality of farm inputs, and poor training delivered by advisory service providers. The advisory service providers and farmer group members need to use the political and social capital possessed by the local leadership, groups and community members for enhancing support and collective participation of the community in farmer groups. Since farmer groups are a sub-set of wider community, this empirical study brings into perspective the role of community culture in influencing performance of farmer groups in smallholder farming communities.

Keywords

Performance, participation culture, farmer groups, extension services, Uganda

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Abstract

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Keywords: Performance, participation culture, farmer groups, extension services, Uganda

Introduction and Problem Statement

In Uganda, the use of farmer groups remains pivotal to the transformation of agriculture. Central to the transformation of Agriculture in Uganda is the National Agricultural Advisory Services (NAADS) with its implementation strategy which is based on the farmer group concept. The National Agricultural Advisory Services (NAADS) is a semi-autonomous body created by a 2001 Act of Parliament of Uganda to privately deliver publicly funded agricultural extension services to smallholder farmer groups (MAAIF, 2010). Therefore, farmer groups are important avenues through which farmers access market and credit information, important agricultural information and technologies and mobilizing farmers around common objectives, especially those relating to service delivery and policy formulation in support of agricultural development (Adong et al., 2012; Salifu et al., 2010).

Previous assessment of NAADS implementation (Bukenya, 2010), and information obtained from the exploratory phase of this study, indicated that many members were abandoning farmer groups while some of the groups were rather inactive and/or disintegrating. Some of the literature (Adong et al., 2012; Bukenya, 2010) also indicated several challenges such as failure to meet the expectations of the members often due to low levels of involvement and production; exclusion of some socioeconomic categories of farmers who lack the basic means of production such as people with disabilities, youth and women (Bukenya, 2010); poor power relations with male dominance often being cited in mixed groups (Sasakawa-Global, 2013); poor mobilization of the membership that attracts low participation in farmer group activities (Sasakawa-Global, 2013); and availability of divergent needs and interest among the members due to differences in cultural norms.

According to Lutz and Tadesse (2017) further challenges facing smallholder farmer groups include lack of commitment and improper selection of the members. Voluntary and open membership tends to encourage free riding, resource constraints, and dependence on external support, which constitute primary barriers to performance of farmer groups. Lutz and Tadesse recommended that farmer groups carefully target and select committed members if they are to create a membership base that is committed to investing in potentially high performing groups. Improved incomes and food security of members, attained through timely access of agricultural inputs and technologies, are primary goals of most farmer groups (Ainembabazi et al., 2015; Fischer & Qaim, 2011).

Furthermore, Barham and Chitemi (2009) contends that farmer groups with strong internal institutions, functioning group activities, and a good base of natural resources tend to have improved performance. Improved performance of farmer groups is primarily attributed to farmers' motivation, a supportive extension environment, and social inclusion in the implementation of group tasks (Gyau et al., 2013). Thus, this study examines individual member's attributes, and how their participation context in group processes influences group performance in smallholder farmer groups in Uganda. Additionally, it widens the spectrum of the discussion by expanding the content to include group dynamics and the attendant group processes.

Purpose and Objectives

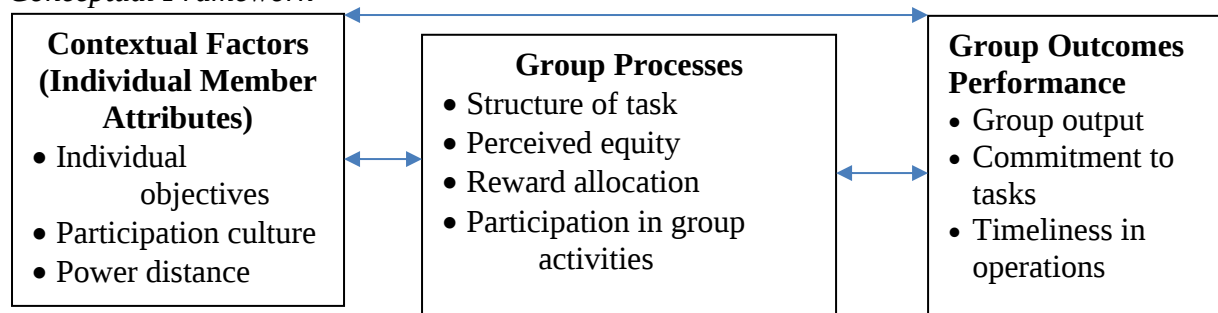
This study examines individual member's attributes and group processes that influence performance in smallholder farmer groups in Uganda. More specifically, this study (1) examines the influence of individual members' intention of joining farmer groups on the performance of smallholder farmer groups; and (2) examines the influence of group processes on performance of smallholder farmer groups.

Theoretical and Conceptual Framework

This paper is informed by social exchange theory (Stolte, et al., 2001) within a system's framework. The proponents of *social exchange theory* argue that individuals join groups with needs that they seek to meet, thus make rational choices that promote their personal interests and pursue those interests alongside the collective goals of groups (Lin et al., 2005). The social exchange theory is relevant to this study due to its tendency to define individuals in terms of their individual member attributes and efforts and resources they invest in group activities.

The conceptual framework shown in Figure 1 is informed by social exchange theory that consider individual member attributes. These attributes include objectives for joining groups, participation culture and power distance possessed by individual members, group processes such as structure of tasks, reward allocation, perceived equity, and participation in group activities. Therefore, an interaction between individual member contextual factors and group dynamics at group processes tend to influence the level of performance in a group.

Figure 1
Conceptual Framework



Methods

This study obtained the views of 200 participants selected from Kyere, Olio, and Arapai sub-counties of Soroti district. A key criterion in selecting the study district and sub-counties was to study entities whose group dynamics would ordinarily be expected to have matured through participation in smallholder farmer groups. Thus, the study examined 19 farmer groups that had been continuously operational in the study district between 2001 through 2011.

The participant selection process adopted a multi-stage sampling strategy that combined stratified random and purposive sampling techniques. Based on the decentralized operational structure followed by NAADS, a two-stage stratified sampling with the sub county as the first stage and the village as the second stage was used for area sampling. At the village level, the number of groups was selected proportionately based on the number of farmer groups in a sub county. The sampling selection of members in a group was by proportional allocation with proportionately more respondents selected from farmer groups with more members.

The group chairpersons, as recognized by the group members (one chairperson in each selected group), were purposively selected because they were assumed to be knowledgeable about group activities and facilities within the locality. The smallholder farmers were stratified into active group members and those that had quit their groups. Thirty participants were then randomly sampled for each stratum making a total of 60 participants

for each sub-county and a district total of 180 participants. In addition, three sub-county NAADS coordinators (SNCs), 12 former farmer group members and five opinion leaders were purposively selected making a total of 20 key informants. These key informants were selected for their knowledge of the context in which the farmer groups operate, and the processes used to engage the membership.

While work continues with these farmer groups, specific data for this current study were gathered in October 2011. This date was approximately four to nine years after the initial group contact with the NAADS program. This study and its findings are still very relevant to Uganda's struggling agricultural extension services that are delivered by the National Agricultural Advisory Services. Much as there have been some changes in mode of delivery of agricultural extension services by employing Uganda People's Defence Force personnel to deliver agricultural inputs to smallholder farmers, the program is still experiencing failures in performance of smallholder farmers groups in that subsistence farmers still constitute over 80% of Uganda's farmers. In addition, fundamentally the NAADS program still remains pivotal in planning and delivery of agricultural extension services to smallholder farmer groups in Uganda, thus the findings of this study remain relevant to the Uganda's struggling agricultural extension meant to transform the country's predominant subsistence farmers to commercial and export oriented in line with Uganda's Vision 2040 and National Development Plan Three of creating a middle-income economy.

Data collection was primarily done using researcher-generated paper questionnaire, guided face-to-face interviews, and focus group discussions with the help four research enumerators trained for two days in research ethics and respect for human subjects. The Local Council personnel who constitute the administrative officers in a village acted as a point of contact with the smallholder farmer groups. The data were collected at the homes and farms of smallholder farmers groups in one sitting in accordance with the standards of protection of human subjects. This study examines the results of the quantitative aspects for the overall study. The questionnaire was reviewed for content validity by a panel of experts comprised of agricultural extension experts that constituted dissertation committee and NAADS agricultural advisors. In addition, the paper questionnaire was pilot tested by administering it to 20 members of farmer groups not included in the final study.

The survey collected data regarding group member individual objectives, structure of tasks, perceived equity, and group performance. Under individual objectives, the investigator asked questions such as what personal needs were expected to be met upon joining the group and rating those needs. Structure of group tasks addressed questions such as the tasks you were involved in, rating your level of involvement, and rating the level of your competence regarding the tasks. Items regarding reward focused on benefits obtained from other group members and how other group members benefited from their individual participation in the group. Other items in the reward section of the instrument focused on the individual member's contribution to overall group operation and performance and future intent of the individual to participate in the group. Group performance items focused on the importance individual member's attach to group production output.

Key quantitative variables were analyzed using basic descriptive statistics generated with the Statistical Package for Social Scientists (SPSS) version 19. Cronbach's alpha was used to assess the internal consistency of summated Likert values associated with latent factors identified by the exploratory factor analysis. All Cronbach alpha values were greater than 0.7 (Urdan, 2010).

Factor analysis was conducted to extract correlation coefficient matrix of factors that highly correlated ($r < 0.9$), that is, factors that greatly contribute to group performance subsequently. Factor extraction was done to generate eigenvalues associated with each factor. Thirty-seven factors were identified from the data set before and seven factors extracted after

factor rotation. The seven factors whose Eigen values were greater than one were identified and these accounted for 73.3% of the total variance. The rotated component matrix was extracted and factor loadings less than 0.4 were excluded, and factors were sorted by size. Questions that loaded onto the same factor were identified and common themes were generated. Furthermore, correlation coefficient analysis was used to determine the relationship between the individual member objectives for joining the group, group processes, and group performance. Linear regression analysis was used to determine the relative influence of individual member objectives for joining the group, group processes factors on group performance.

Results

Participation Culture

Participation culture of the farmer group members is an important attribute that determines whether group members' participation in group activities takes a collective orientation or an individual orientation. Table 1 summarizes the mismatch between needs and interests of individual members with the collective group needs and interests.

Table 1
Participation Culture of Farmer Group Members

<i>Individualism and Collectivism</i>	<i>N</i>	<i>Participation Culture</i>
		<i>Mean (SD)</i>
Collectivism		
Individual members are interested in seeing all members benefit	170	4.36 (0.98)
Individual members tend to prefer doing joint activities	151	4.25 (1.02)
Individual members would be comfortable working together with other group members on group tasks	171	4.13 (0.95)
Members have inner feeling of being part of the group	170	3.99 (1.15)
Individualism		
Individual members are more interested in personal benefits	165	3.87 (1.53)
Members frequently disagree with other group members	145	3.34 (1.52)
In the group, individual members tend to attain benefits without the support of other group members	163	3.22 (3.60)
In the group, decisions of individual members are not influenced by the decision made by the group	145	2.98 (1.58)

Note. Five-point Likert scale: 5-very high, 4-high, 3-neutral, 2-low, and 1-very low.

Farmer group members exhibited high collectivist participation culture ($M = 3.99$ to 4.36) in contrast to lower individualistic participation culture ($M = 2.98$ to 3.87).

Power Distance Among Group Members

Table 2 indicates that farmer groups mostly make decisions on which enterprises to invest, group meetings venues, and where to store farm produce. The farmer group members tend to influence the decisions made ($M = 3.65$ to 4.18) and influenced the distribution of rewards ($M = 3.48$ to 3.61) more so than task allocations ($M = 3.11$ to 3.72).

Table 2
Group Members' Perceptions About Power Distance

<i>Group Decision Making</i>	<i>N</i>	<i>Rating of Member Influence on Making Decision</i>	<i>Status/position of Active Participants in the Making Decision</i>
		<i>Mean (SD)</i>	
Major decisions made			
Enterprise to invest in/undertake	160	4.18 (0.79)	Chairperson
Meetings (frequency and venue)	138	3.84 (1.02)	Chairperson
Where and who stores produce	120	3.65 (0.84)	Chairperson
Tasks allocated			
Animal keeping(Goats/pigs)	152	3.72 (1.81)	Chairperson
Mobilising members	163	3.17 (1.25)	Chairperson
Crop field activities	143	3.11 (1.15)	Chairperson
Rewards distributed			
Distributing farm produce	140	3.61 (1.07)	Group members
Allocation of technologies	137	3.48 (1.12)	Group members
Seed distribution	150	3.48 (1.26)	Group members

Note. Five-point Likert scale: 5-very high, 4-high, 3-neutral, 2-low, and 1-very low.

Task and Reward Allocation

Group tasks were allocated to members in a manner that tended to promote group performance such as level of participation in group activities (65%), subject to decision taken by the convened group meeting to decide on task allocation criteria (58%) and level of education (50%). The rewards to group members were allocated according to the level of participation in group activities (72%) and commensurate to members' resource contribution (61%) while equity in reward allocation to members (62%) was in accordance with the level of performance of the individual members in group tasks as summarized in Table 3.

Table 3
Criteria for Task and Reward Allocation

<i>Criteria for allocating tasks and rewards (N =138)</i>	<i>Extent Criteria Followed</i>		<i>Criteria for Allocating Tasks and Rewards</i>
<i>Criteria for task allocation</i>	<i>Very high (%)</i>	<i>High (%)</i>	<i>Mean (SD)</i>
Level of participation in activities	27	38.3	3.68 (1.15)
Subject to decision taken by the group meeting on task allocation	20.5	37.8	3.47 (1.18)
Level of education/qualification	16.7	33.8	3.35 (1.21)
<i>Criteria for allocating rewards</i>	<i>Very high (%)</i>	<i>High (%)</i>	
Level of participation in activities	34.9	37.2	3.89 (1.11)
Commensurate with member's resource contribution	27.2	33.8	3.58 (1.22)

Note. Five-point Likert scale: 5-very high, 4-high, 3-neutral, 2-low, and 1-very low

Individual Participation

As indicated in Table 4, farmer group members' involvement in crop field, goat keeping, and piggery related activities was low ($M = 1.79$ to 1.98). Group members, however, had high competence in crop field, goat keeping and piggery activities ($M = 3.35$ to 4.18) (Table 4). Group members experienced high flow of rewards ($M = 4.28$ to 4.51). Additionally, there was a very high flow of benefits ($M = 4.28$ to 4.51), and high perceived equity ($M = 3.53$ to 3.81) among group members.

Table 4

Participation in Group Tasks and Flow of Rewards

<i>Participation in Task, Reward, and Equity System</i>	<i>Involvement in Tasks</i>	<i>Member' Competence in Tasks</i>
	<i>Mean (SD)</i>	<i>Mean (SD)</i>
Participation in tasks		Rating participation
Piggery related activities	1.98 (1.17)	3.35 (1.19)
Goat keeping activities	1.82 (0.81)	4.18 (1.81)
Crop field activities	1.79 (1.92)	3.38 (1.20)
Reward system characteristics		Rating of reward system
Member having responsibility for group's performance		4.51 (0.82)
Member benefiting other members		4.51 (2.53)
Member's participation benefiting the group		4.43 (2.31)
Member is motivated to participate in group maintenance activities		4.40 (0.53)
Membership is sustained by the level of motivation		4.38 (0.63)
Member having attachment to group		4.34 (0.87)
Member benefited from other members' participation		4.28 (1.80)
Perceived equity		Rating standard equity
Treatment received from group (N=158)		3.81 (1.17)
Distribution of rewards to other group members (N=159)		3.71 (1.23)
Criteria used in allocating tasks in your group (N=161)		3.64 (1.29)
Group rewards to member (N=158)		3.59 (1.28)
Equity in social treatment, tasks & reward allocation (N=159)		3.53 (1.33)
Treatment of other group members (N=177)		3.53 (1.33)

Note. Five-point Likert scale: 5-very high, 4-high, 3-neutral, 2-low, and 1-very low.

Group Participation

As can be seen in Table 5, there was high commitment to participation in group activities ($M = 4.24$). The group members had relatively high ratings ($M = 3.01$ to 3.63) of the importance of production outputs attained by groups.

Table 5
Level of Group Performance

Group Performance (N= 150)	Rating of Group Performance Mean(SD)
Members' commitment to groups activities	4.24 (0.72)
Member satisfaction with group outputs	3.53 (1.07)
Timely attainment of targets	3.43 (1.15)
Adequacy of mobilised resources	3.03 (1.50)
Frequency of member participation in group activities	2.06 (0.91)
Importance attached to group production output	
2008	3.54 (1.45)
2009	3.63 (1.46)
2010	3.61 (1.28)
2011	3.01 (1.63)

Note. Five-point Likert scale: 5-very high, 4-high, 3-neutral, 2-low, and 1-very low.

Results of Empirical Analysis

Correlation and regression analyses were conducted to determine the relationship among the individual member objectives, participation culture, power distance, group participation, group rewards, structure of tasks, perceived equity, and group performance as summarized in tables 6 through 8.

Factor analysis was conducted to extract a correlation coefficient matrix of items that are correlated with group performance. Factor extraction with rotation resulted in the 37 individual items being reduced to 7 factors/dimensions. The 7 factors accounted for 73.3 % of the total variance. The rotated component matrix was extracted and items with factor loadings less than 0.4 were excluded. Items with factor loadings of $\geq \pm .4$ that loaded onto the same factor were identified and a common theme was developed to name the respective factor/dimension. Furthermore, correlation coefficient analysis was used to determine the relationship between the various factors as summarized in Table 6.

Table 6
Correlation Coefficient of the Factors

Factors	Perceived equity	Structure of tasks	Group rewards	Power distance	Member participation	Individual member objectives	Participation Culture
Perceived equity	1						
Structure of tasks	.737** (P<.001, n=118)	1					
Group rewards	.657** (P<.001, n=153)	.663** (P<.001, n=118)	1				
Power distance	.791** (P<.001, n=162)	.766** (P<.001, n=118)	.662** (P<.001, n=153)	1			
Member participation	.835** (P<.001, n=162)	.877** (P<.001, n=118)	.753** (P<.001, n=153)	.911** (P<.001, n=177)	1		
Individual member objectives	.916** (P<.001, n=157)	.866** (P<.001, n=118)	.718** (P<.001, n=153)	.774** (P<.001, n=157)	.846** (P<.001, n=157)	1	
Participation culture	.653** (P<.001, n=162)	.806** (P<.001, n=118)	.598** (P<.001, n=153)	.905** (P<.001, n=172)	.875** (P<.001, n=172)	.600** (P<.001, n=157)	1
Group performance	.836** (P<.001, n=148)	.792** (P<.001, n=118)	.683** (P<.001, n=148)	.838** (P<.001, n=148)	.881** (P<.001, n=148)	.868** (P<.001, n=148)	.792** (P<.001, n=148)

**. Correlation is significant at the 0.01 level (2-tailed).

Table 6 indicates that there is a statistically significant relationship between perceived equity ($r=.836$, $p<.001$), structure of tasks ($r=.792$, $p<.001$), group rewards ($r=.683$, $p<.001$), power distance ($r=.838$, $p<.001$), member participation ($r=.881$, $p<.001$), individual member objectives ($r=.868$, $p<.001$) and participation culture ($r=.792$, $p<.001$) and group performance, implying that the more the structure of tasks performed by group members, individual member objectives of joining farmer groups, individual member's participation in group activities, participation culture within a farmer group, the greater is the group performance within farmer groups and vice versa.

The factors/dimensions were used to create summated Likert type summated scale values. Group performance was defined by members' commitment to group activities, members' satisfaction with group outputs, timely attainment of targets, adequacy of mobilized resources, and frequency at which members participated in group activities. Individual member's objectives were represented by individual member's reporting joining groups to attain knowledge and skills, improved seed for planting, improved animal breeds, food for the family, financial needs, social interaction, and support for HIV/AIDS patients.

Perceptions regarding participation culture were operationalized by farmers reporting interest to work others, attaining personal benefits, interest in seeing all the members benefit,

comfort working together, frequency of disagreeing with other members, sense of belonging to a group, attaining benefits without support of the group, and member's influence in decision making. Power distance was represented by rating the extent of group member's influence in making major group decisions including frequency and venue of meetings, savings and credit schemes, enterprise to invest in and storage of produce. Group participation in activities was represented by group members regularly participating in group activities and members' commitment to group activities.

Group rewards was defined by farmers' perceptions regarding six items which included satisfaction with the actual group outputs, you have benefited from other group members, your participation benefited other members, the group in general benefited from you, your participation in activities will continue in this group, and you are proud of belonging to this group. Structure of tasks was defined by farmers' perceptions for three items which included level of involvement in tasks, level of competence and level of influence in group activities. Perceived equity was defined by farmers' perceptions for five items which included criteria used in allocating tasks, distribution of rewards to other group members, the rewards you are given in your group, the way you as an individual are treated in the group, and the way other members of your group are treated.

Table 7

Descriptive Statistics of Factors used in Regression Analysis

Factor used in regression analysis	N	M (SD)
Members' individual objectives	135	3.86 (1.38)
Participation culture	160	3.77 (1.54)
Power distance	145	3.58 (1.15)
Group participation	137	1.86 (1.30)
Group rewards	160	4.42 (1.36)
Structure of tasks	138	3.50 (1.18)
Perceived equity	159	3.48 (0.82)
Group performance	150	3.26 (1.07)

Note. Five-point Likert scale: 5-very high, 4-high, 3-neutral, 2-low, and 1-very low.

Approximately 75% (N = 135) indicated they had met their objectives of joining farmer groups, 89% (N = 160) had high collectivist participation culture, 81% (N = 145) experienced high power distance, had low ($M = 1.86$) participation in group activities, attained very high group rewards ($M = 4.41$), were moderately involved in the structure of tasks ($M = 3.64$) and 83% (N = 150) experienced moderate group performance ($M = 3.26$). Multiple regression was utilized to examine the relative influence of each dimension on perceived group performance while at the same time controlling for the influence of the other dimensions (Table 8).

Table 8*Performance Regressed on Selected Social Dynamic Factors*

Model	Unstandardized coefficients		Standardized coefficients		
	<i>B</i>	<i>Std. Error</i>	<i>Beta</i>	<i>t</i>	<i>p</i>
(Constant)	5.963	1.067		5.591	<0.001
Individual objectives	0.128	0.117	0.153	1.095	0.276
Participation culture	-1.184	0.181	-0.489	-6.541	<0.001
Power distance	0.437	0.179	0.186	2.433	0.017
Members' participation in activities	0.245	0.164	0.150	1.500	0.136
Group rewards	0.092	0.093	0.050	0.995	0.322
Structure of tasks	-0.264	0.112	-0.221	-2.350	0.021
Perceived equity	0.249	0.100	0.243	2.503	0.014
Model Summary					
F=91.727					
df = 7/110					
p = <.001					
R Square = .854					
Adjusted R Square = .844					
Std. Error of the Estimate = .476					

Dependent Variable: Level of group performance. Regression equation: $Y_{\text{performance}} = 5.963 - 0.489 (\text{participating culture}) + 0.186 (\text{power distance}) - 0.221 (\text{structure of tasks}) + 0.243 (\text{perceived equity})$

The regression results indicate that participation culture has a significant negative relationship ($\beta = -6.541$, $p < 0.001$) with group performance. This relationship is rather counter-intuitive. For an explanation, one may turn to the fact that a significant negative relationship ($\beta = -2.35$, $p = 0.021$) also existed with the structure of the tasks performed by farmer groups. On the other hand, power distance ($\beta = 0.186$, $p = 0.017$), perceived equity ($\beta = 0.243$, $p = 0.014$) have a significant positive relationship with group performance.

Conclusions and Discussion

Participation culture orientation of members in a group is a good measure for the success of group performance. Participation culture is categorized into collective orientation in which group members are attracted to collectively work together with each other to pursue group needs and interests, while individualistic orientation tends to direct group members to the "self" instead of the "we". Group members that pursue individual interests tend to undermine collective group interests. Therefore, individualistic participation culture of farmer group members tends to decrease group performance. This is because individual members tend to pursue personal interests at the expense and disadvantage of collective interests of the group. This induces the existence of cliques as prominent forces for internal disagreements, conflicts, and disunity that negatively affect group performance. Groups tend to perform poorly on tasks that require all group members to contribute to the product for it to be completed unless less-skilled members increase their efforts, or the task can be subdivided (Forsyth, 2006). Thus, members attributed low group performance on members who did not contribute their perceived fair share to group effort.

The farmer group members tend to influence the decisions made in groups relative to farmer group leaders, especially on the enterprise which to invest in and meetings. This could be because of the linkage of these decisions to group members' ability to perform if provided

with knowledge and skills for improved production. The group chairpersons dominate overall decision-making in farmer groups, using especially directive leadership styles, with group leaders' primary focus being performance of tasks by group members. Group leaders perceive group members as individuals with low abilities to perform required tasks necessitating continuous giving of appropriate directives in order to improve group performance (Dimock & Devine, 1994). In this context, the structure and allocation of tasks in groups is primarily determined by group norms as prioritized by the group leader. The distribution of rewards in farmer groups is dominated by participation and influence of group members. When individuals gain power they experience satisfaction, confidence, and security. On the contrary anxiety, fear, and loss of confidence are experienced upon losing power. Power imbalance among members of a group creates emotions that greatly impact group performance (Lawler & Thye, 1999; Turner & Stets, 2006).

Individuals join groups that they feel meet their personality and preferences, and to attain social support that tends to be a missing link when individuals work in isolation. However, it is important to note that some individuals may be attracted to groups that they can easily manipulate rather than those of the same personality to themselves. This opportunity, for example, allows the few elite participating in groups to dominate and control leadership of such groups (Forsyth, 2006).

The group members had moderate influence in animal keeping activities (goats/pigs), mobilizing group members and crop field activities. These are subsequent rewards members attained by making decisions that positively influenced group performance such as enterprise selection, meeting location and frequency, and storage of produce.

The group members, however, wielded more influence on the distribution of rewards than in task allocation because ready rewards tend to highly motivate performance of group members compared to tasks whose outcome the members may not be certain about. Furthermore, attainment of group rewards was tied to the members' level of participation because the members tended to exert more influence on the reward allocation criteria used to ensure that they were benefited.

It is important to note that group tasks were allocated to members in a manner that tended to promote group performance. The criteria used in allocating tasks included level of participation in group activities, subject to decision taken by the convened group meeting to decide on task allocation criteria, and level of education of a group member. The rewards to group members were allocated according to the level of participation in group activities and commensurate to members' resource contribution, while equity in reward allocation to members was in accordance with the level of performance of the individual members.

The group members who fail to make substantial contribution to tasks carried out may obtain lower levels of rewards compared to other group members. This may be more pronounced under the collectivist participation culture in which collective participation in group tasks is considered paramount for the success of the group. In a situation where it is difficult to ascertain the amounts of rewards a member should attain, there is likelihood that some members may receive disproportional amounts of rewards contrary to their expectations. Disproportionate distribution of group rewards reduces morale and enthusiasm in participating in group activities, especially if a member registered high participation. Existence of discontentment among group members on equity standards used in reward distribution tends to induce mistrust, low morale, and feeling of not belonging to the group. This further reinforces the strength of individualistic tendencies in farmer groups; personal interests supersede group interests and needs (Turner & Stets, 2006).

Despite group members having high competencies in both crop field and animal keeping, farmer group members' involvement in crop field was low compared to their involvement in goat keeping, and piggery related activities. Group members mostly received

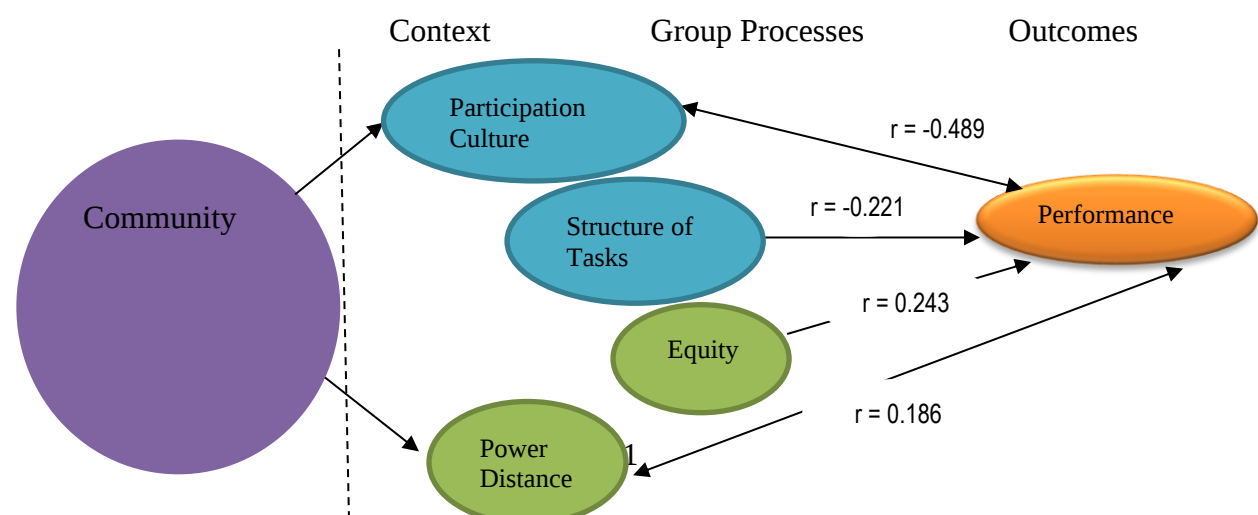
exotic animals from NAADS program, which were rotationally distributed to group members. The animals had very high market value, therefore group members' participation in animal keeping was high compared to crop field with low value. Traditionally, in Uganda, animal keeping is considered prestigious to pastoral tribes including the Iteso people of Soroti district and households with farm animals is considered a measure of wealth in most communities in Uganda (Okoboi, 2016). In addition, group members experienced high flow of group rewards among group members. More so, as indicated in Table 4, the high flow of rewards from among group members induces motivation for member participation for sustenance of group activities. The social relational needs among group members foster group performance.

The group members high rating of standard of equity applied in groups is a motivational factor for individual members to participate in group activities (Table 4). Group members tended to maintain high standard in equity processes, a factor that improves participation and tendency to work in group tasks. Group members tended to be committed to participation in group activities, which is commensurate with group members' high rating of group performance. This finding is also consistent with Dimock and Devine (1994); Forsyth (2006) argued that group members tend to be more committed to group activities when the efforts and energy invested in activities yields satisfactory output. However, group performance was undermined by inadequacy of mobilized resources and untimely attainment of planned targets. Group performance was hindered by factors beyond the group's control, such as seasonal production, irregular supply of resources by NAADS program, and seasonality of some group members because of failure to pay group subscription fee (about US \$1), and conflict between group and individual member household activities. This explains group members' low frequency of participation in group activities. Compared to the high level of commitment of group members to participate in group activities, this is evidence of existence of individualistic attitude among farmer group members.

Participation culture and structuring of tasks constitute the most curtailing aspect of group performance, a critical failure of farmer groups to translate into high-perceived collective efficacy. Groups tended to perform poorly on tasks that required all group members to contribute to the product for the task to be completed. Power distance and perceived equity in groups enhance group performance. Thus, this study recommends that farmer group institutional development incorporate community participation culture and appropriate mechanisms for structuring group tasks into the curriculum for building capacity of farmer groups for improved performance. Based on the findings generated from the regression analysis, a new theoretical model found significant factors that curtailed and enhanced the cohesion of farmer groups as summarized in Figure 2.

Figure 2

Theoretical Model Based on the Empirical Findings of the Determinants of Performance



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Questionnaire for Smallholder Farmer Groups Supported by National Agricultural Advisory Services in Uganda

Dear Fellow Countrymen,

I am **David Agole**, a Masters student in Agricultural Extension and Education at Makerere University. I am conducting a study titled “*Determinants of Performance in Smallholder Farmer Groups Supported by National Agricultural Advisory Services in Uganda*”. I am asking your help in this study by filling out this questionnaire based on your honest and true experiences. The information you give will only be used for academic purposes and remain strictly confidential. The findings of this study may be of benefit to the farmer groups and NAADS programme in general.

Section A: Individual Member Objectives

- 1 (a) What personal and/or household needs did you expect to meet on joining the group?
(Check the appropriate needs)

- (b) How would you rate these needs in the level of importance: 5-very high, 4-high, 3-neutral, 2-low, 1-very low. Check the appropriate:

Needs	Needs expected to be met on joining the group		Needs met		Rating your needs according to importance. Check the appropriate rating				
	Yes	No	Yes	No					
i) Knowledge and skills					1	2	3	4	5
ii) Food for the family					1	2	3	4	5
iii) Improved seed for planting					1	2	3	4	5
iv) Improved animal breeds					1	2	3	4	5
v) Financial needs					1	2	3	4	5
vi) Support for HIV aids patients					1	2	3	4	5
vii) Social attachment					1	2	3	4	5

Section B: Participation Culture

- 2 (a) In the rating: 5-strongly agree, 4-agree, 3-neutral, 2-disagree, 1-strongly disagree. Check the appropriate rating:

Orientation of the group members	Rating of orientation of group members Check the appropriate rating				
(i) In the group, individual members are more interested in attaining personal benefits	1	2	3	4	5
(ii) In the group, individual members are interest in seeing all the group members benefit	1	2	3	4	5
(iii) In the group, individual members would be comfortable working together with other group members on group tasks	1	2	3	4	5
(iv) In the group, members tend to prefer doing joint activities	1	2	3	4	5
(v) In the group, decisions of individual members are not influenced by the decision made by the group	1	2	3	4	5

(vi) In the group, members frequently disagree with other group members	1	2	3	4	5
(vii) In the group, individual members have inner feeling of being part of the group	1	2	3	4	5
(viii) In the group, individual members tend to attain benefits without the support of other group members	1	2	3	4	5

Section C: Power Distance

3 (a) What major decisions have been made in your group over the previous 4 years? List in table below:

(b) What is the status/position of members who participated in the making of the decision in the group?

(c) How would you rate your influence in the making of the decision (s)?

In the rating: 5-very high, 4-high, 3-neutral, 2-low, 1-very low. Check the appropriate:

(a) Major decisions made in the group over the previous 4 years?	(b) Status/position of members in the group who actively participated in the making of the decision?	(c) Rating the extent of group member's influence in making the decision? Check the appropriate rating				
1.		1	2	3	4	5
2.		1	2	3	4	5
3.		1	2	3	4	5

4 (a) Are you involved in allocation of tasks and/or rewards in your group? (Tick the applicable on the table)

(b) What tasks and/or rewards have you participated in allocating in your group? List them in table below

(c) How would you rate your influence in allocating tasks and/or distributing rewards in the group?

In the rating: 5-very high, 4-high), 3-neutral, 2-low, 1-very low. Check the appropriate:

	(a) Participation in the allocation of task and/or distribution of rewards		(b) Tasks and rewards involved in allocating in the group	(c) Extent of the respondent's influence in the allocation of task and/or distribution of rewards. Check the appropriate rating				
Allocation of tasks/activities	Yes	No	1.	1	2	3	4	5
			2.	1	2	3	4	5
			3.	1	2	3	4	5
Allocation of rewards	Yes	No	1.	1	2	3	4	5
			2.	1	2	3	4	5
			3.	1	2	3	4	5

(e) Are the procedures used in allocating tasks fair or not fair?

Fair ☐ Not fair ☐

(h) What group procedures are followed when distributing rewards to members in your group?

.....

(i) To what extent are the group procedures followed by the group members?

Very high ☐ High ☐ Low ☐ Very low ☐

Section D: Structure of Tasks

5 (a) In the rating: 5-very high, 4-high, 3-neutral, 2-low, 1-very low. Check the appropriate:

Actual tasks performed by group	Level of group member's competence in tasks:					Level of involvement in tasks:					Influential people in group activities:				
1.Goat keeping activities	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
2.Crop field activities	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
3.Piggery related activities	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5

Section E: Perceived Equity

6 (a) How would you rate the following:

In the rating: 5-very high, 4-high, 3-neutral, 2-low, 1-very low. Check the appropriate:

Equity in task and reward allocation and social treatment of members	Check the appropriate rating				
(i) Satisfaction with the criteria used in allocating tasks in your group?	1	2	3	4	5
(ii) Satisfaction with the distribution of rewards to other group members?	1	2	3	4	5
(iii) Satisfaction with the rewards you are given in your group?	1	2	3	4	5
(iv) Interest and willingness to contribute to group activities?	1	2	3	4	5
(v) Your satisfaction with the way you as an individual are treated in the group?	1	2	3	4	5
(vi) The way other members of your group are treated?	1	2	3	4	5

Section F: Rewards in the Group

7 (a) In what ways have you benefited from other group members?

.....

(b) In what ways have other group members benefited from your participation?

.....

(b) To what extent do you think:

In the rating: 5-very high, 4-high, 3-neutral, 2-low, 1-very low. Check the appropriate:

Rewards in the group	Check the appropriate rating				
(i) You have benefited from other group members' participation?	1	2	3	4	5
(ii) Your participation benefited other members of the group?	1	2	3	4	5
(iii) Your willingness to participate in activities facilitated maintaining of good working relationship in the group?	1	2	3	4	5
(iv) The group in general benefited from your participation?	1	2	3	4	5
(v) Your participation in activities will continue in this group?	1	2	3	4	5
(vi) You feel attached to this group?	1	2	3	4	5
(vii) You take responsibility for the activities of this group?	1	2	3	4	5

Section G: Group Performance

8 a) In the rating: 5 (Very high), 4 (High), 3 (Neutral), 2 (Low), 1 (Very low). Check your rating:

Performance of the group	Check the appropriate rating				
(i) The members group are commitment to group activities	1	2	3	4	5
(ii) The group has adequate resources for its planned activities	1	2	3	4	5
(iii) The group attains its targets or goals within the planned time frame	1	2	3	4	5
(iv) The group members are satisfied with the actual outputs of the group	1	2	3	4	5
(v) The group members regularly participate in group activities	1	2	3	4	5

Section H: Demographic Characteristics

9 (a) Sex of respondent

Male ☐ Female ☐

(b) How old are you? (in years)

(c) Marital status

Married ☐ Not married ☐ Divorced ☐ Widowed ☐

(d) How many children do you have?

Male(s) Female(s)

(e) What is the highest level of education you attained?