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### Abstract

The Government of Trinidad has highlighted its intentions to renew efforts to promote food production through farmers' groups, in order to meet the country's food security goals. Previous planned efforts, from the perspectives of farmers, have been largely unsuccessful (Ramdwar, Stoute & Ganpat, 2014). Therefore, this study sought to investigate the dynamics of farmers' groups in Trinidad, as perceived by the agricultural extension officers who interact with these groups. Ninety-three percent (n = 123) of the extension officers in Trinidad, who interacted with farmers' groups, were surveyed. The survey instrument included a 22-item perception scale, which collected information on respondents' perceptions of: (a) politics and conflict within farmers' groups; (b) member interactions on their trust issues with other members and with their leaders; and (c) the importance of these groups to agricultural productivity. Exploratory factor analysis (EFA) was used to identify latent factors on the perception scale. These factors were then used as predictors in a regression model of extension officers' articulated satisfaction with farmers' groups. This satisfaction is a reflection of the challenges these officers are presumed to face in their delivery of extension services. This study concluded that extension officers' perceived level of technical capacity was the most impactful predictor in the regression model of satisfaction with farmers' groups, followed by issues related to the proper functioning of groups. As such, recommendations include improved training for staff and group leaders, as well as improved monitoring

### Keywords

extension, perceptions, farmers' groups, satisfaction, Trinidad

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## **Extension Officers' Perceptions of Farmers' Groups in Trinidad, West Indies and Implications for Extension**

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### **Abstract**

*The Government of Trinidad has highlighted its intentions to renew efforts to promote food production through farmers' groups, in order to meet the country's food security goals. Previous planned efforts, from the perspectives of farmers, have been largely unsuccessful (Ramdwar, Stoute & Ganpat, 2014). Therefore, this study sought to investigate the dynamics of farmers' groups in Trinidad, as perceived by the agricultural extension officers who interact with these groups. Ninety-three percent ( $n = 123$ ) of the extension officers in Trinidad, who interacted with farmers' groups, were surveyed. The survey instrument included a 22-item perception scale, which collected information on respondents' perceptions of: (a) politics and conflict within farmers' groups; (b) member interactions on their trust issues with other members and with their leaders; and (c) the importance of these groups to agricultural productivity. Exploratory factor analysis (EFA) was used to identify latent factors on the perception scale. These factors were then used as predictors in a regression model of extension officers' articulated satisfaction with farmers' groups. This satisfaction is a reflection of the challenges these officers are presumed to face in their delivery of extension services. This study concluded that extension officers' perceived level of technical capacity was the most impactful predictor in the regression model of satisfaction with farmers' groups, followed by issues related to the proper functioning of groups. As such, recommendations include improved training for staff and group leaders, as well as improved monitoring.*

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## **Introduction**

Trinidad and Tobago obtained developed country status in October 2011, removed for the first time from the list of developing states released by the Organization for Economic Co-operation and Development (International Monetary Fund, 2012). However, in some quarters, it is still considered to be one of the developing countries in the Caribbean region. This may be characterized by its agricultural production activities, which are generally confined to rural areas and are a primary source of revenue for farmers and agricultural laborers in rural households (Rosen & Shapouri, 2008). The extension service is very important as it drives Trinidad's national food security goals, as it does in several other countries (Hu, Yang, Kelly, & Huang, 2009; Swanson, 2009; Umali-Deininger & Schwartz, 1994). However, while some level of extension service has been provided for many years, the formal Extension Division has only been servicing farmers in a structured manner since 1960 (Ganpat, 2013).

Studies worldwide, over the past three decades, have included reports that the functioning of public sector extension has deteriorated due to several factors; a major one being a reduction in national governments' investment into agricultural extension (Swanson & Samy, 2002). Arguably, this may be the case in Trinidad as well. To add to this situation, it has been estimated that in Trinidad, one extension officer has responsibility for approximately 600 farmers (Kissoonsingh, 2005). Therefore, given the limited number of extension officers and the fact that individual farm visits are the predominant extension methods used, farmers are not afforded the opportunity to see an extension officer on a regular basis.

Lwoga, Stilwell, and Ngulube (2011) suggested there is a need to find ways in

which extension officers can serve larger groups of farmers. The formation of farmers' groups is one solution for addressing the high farmer to extension officer ratio in Trinidad. Through these groups, farmers have more opportunities to see extension officers, as well as to have their issues addressed on a more regular basis. As such, the Ministry of Agriculture in its Strategic Plan for the sector stated that it will work to develop farmers' groups in Trinidad (Ministry of Food Production Land and Marine Affairs, 2011). Further, it should be noted farmers have been proactive, organizing themselves into groups, and beginning to collaborate in their farming activities.

According to Allahyari (2008), extension systems have been gradually shifting from a knowledge-transfer to a knowledge-share concept, with farmers no longer assumed to be recipients of new technology and science. Instead, farmers are being encouraged to become more participatory and contribute to the learning and teaching processes. Extension objectives directed towards sustainable agriculture through the formation and strengthening of farmers' groups can exert collective influences over future research and policy agendas (Cho & Boland, 2004). Therefore, the development and strengthening of farmers' groups as strong rural organizations in Trinidad can be seen as a practical approach to improve agricultural productivity.

Trinidad has a somewhat problematic history with respect to the development of farmers' groups. Many groups have been formed but most exist only for a short time, going out of existence for several reasons (Ramdwar, Stoute & Ganpat, 2014). Furthermore, such reasons have not been fully investigated. According to Francis (2010), several organizations such as the Caribbean Farmers Network

(CAFan), the Technical Centre for Agriculture and Rural Cooperation (CTA), and the Caribbean Agricultural Research and Development Institute (CARDI) have sought to work together to build and sustain farmers' groups. However, despite these efforts, several challenges still exist.

Based on the foregoing discussion, we contend in this paper that such challenges are not solely attributable to farmers, but that the role of the extension officers and other stakeholders may be a crucial aspect in addressing the issues impacting sustainable farmers' groups. We deviate from the normal practice of monitoring the perceptions of farmers about the quality of extension support and services they receive. Instead, we examine the issues from the providers' perspectives, recording extension officers' views of farmers' groups in Trinidad. This current study is a component of a larger investigation, which utilized a 360 degree approach to determine the perceptions of all stakeholders regarding the operations of farmers' groups in Trinidad.

### Literature Review

Windapo and Afolayan (2005) describe groups as a collection of individuals among whom a set of interdependent relationships exist. Farmers' groups are social structures and successful collective action initiatives are influenced by group asset configurations, composition, and characteristics (Barham & Chitemi, 2009). According to Markelova, Meinzen-Dick, Hellin and Dohrn (2009) collective action is defined as the "voluntary action taken by a group of individuals who invest time and energy to pursue shared objectives" (p. 3). The relationship between social capital and collective action among farmers has been well documented in the literature (Chloupkova, Svendsen, & Svendsen, 2003; Megyesi, Kelemen, & Schermer, 2010; Mishra, Ngamsomsuke, &

Ekasingh, 2013; Svendsen & Svendsen, 2000; Uphoff & Wijayaratra, 2000).

Literature studies empirically support that building social capital through farmers' groups can help enable and sustain collective action. It has been postulated that groups with relatively high social capital will be more effective and efficient than those with low social capital (Gilson, 2003). Krishna and Uphoff (1999) assessed the collective actions aspect as the benefits flowing from social capital. Social capital through group formation is not only useful for agricultural development but also for the holistic development of rural communities (Aref, 2011).

Agrawal (2001) identified several conditions required for the successful outcomes of collective action inclusive of small group size, clearly defined boundaries, shared norms, past successful experiences, appropriate leadership, interdependence among group members, members with different material worth but common identities and interests, and low levels of poverty. Social networks throughout rural communities have been shown to play an indirect role in increasing agricultural productivity through knowledge sharing via networks (Liverpool & Winter-Nelson, 2010). According to Allahdadi (2011), this has been emphasized in the case of technology options such as watersheds, irrigation management, and integrated pest management strategies.

Challenges to farmers' groups have made them prone to failure. Danida (2004) reported that such challenges existed due to the fact that (a) capacity building of farmers' groups is a slow and uneven process, with outcomes often determined as much by factors of social behavior and cultural norms, as by economic logic; (b) farmers' groups are susceptible to problems concerning the accountability of their leaders; and (c) there can be questions about

groups' legitimacy as representative or membership organizations for poorer farmers, rural women, and other marginalized groups among the farming population. Therefore, the lack of success of farmers' groups suggests there is a need to understand better the conditions under which collective action is useful and viable (Markelova et al. 2009; Poulton, Dorward, & Kydd, 2010). Additionally, it has been suggested by Liverpool-Tasie (2012) that intra-group dynamics have not been properly researched in developing countries, which may account for the failure of some groups.

### **Purpose and Objectives**

The main purpose of this study was to understand the areas of common thinking underpinning the perceptions about farmers' groups in Trinidad held by the extension workforce and how such perceptions were related to their expressed satisfaction with group operations. Specifically, the study sought to: (a) describe extension officers' perceptions of farmers' groups; (b) assess the influence, if any, of the officers' demographic characteristics on their perceptions; and (c) determine the factors that impact extension officers' satisfaction with farmers' groups in Trinidad.

### **Methods**

A survey was conducted of all the extension officers employed in public, state-assisted, and private extension services in Trinidad. There was a 93% ( $n = 123$ ) response rate. A structured, self-reporting questionnaire was provided by the researcher to groups of respondents at various public and private institutions. The survey instrument captured information on the demographics of the respondents, as well as the perceptions of officers on a 21-item scale consisting of statements related to extension officers' perceptions of farmers'

groups in Trinidad. This scale measured the intensity of the respondent's agreement to item-statements using scores from '0' (no agreement) to '5' (maximum agreement). Because of the absolute '0' the scale is actually stronger than an ordinary interval scale (in which intervals are equal and known as they are here but there is no absolute zero) and is closer to the ratio scale. The scale was developed by Stoute, and its use has been detailed in previous studies by other authors (Ali, 2012, Ramdwar, 2013 & Ransome, 2014) to produce a measure which allows parametric statistical tests of significance to be used without defying the assumptions of the matrix algebra underpinning those tests. The scale measures the intensity of emotion (agreement, satisfaction, usefulness, functionality, appeal, effectiveness, importance etc.) from none to maximum.

Data analysis was carried out using the Statistical Package for the Social Sciences (SPSS), Version 17. Reliability analysis of the perception scales was carried out to assess their internal consistencies. Reliability analysis involved estimation of the Cronbach alpha value which was 0.71 for the 21-item perception scale. Exploratory Factor Analysis, using Principal Component extraction and Varimax rotation, was carried out to identify the underlying factors. The factors identified were used in further analyses: firstly, as dependent variable data in  $t$ - and ANOVA tests with demographic variables; and secondly, as predictors in a regression model with extension officers' satisfaction with farmers' groups as the dependent variable.

### **Results**

#### **Demographics**

All of the respondents surveyed had direct interactions with at least one farmers' group. A substantial percentage (33%) of the officers in the sample interacted with more

than three farmers' groups. Most of the respondents were males (70%) between the ages of 30 to 50 years (55%), with over ten years' service as extension officers (54%). See Table 1. Additionally, the majority (80% of respondents) were employed at the Ministry of Food Production. Further, 53 %

of the respondents were qualified up to the Diploma level and 29% to the Bachelor's level. The extension officers in the sample serviced the North (33%), Central (20%), or South (41%) regions of Trinidad, with a small percentage (6%) covering the entire island.

Table 1

*Characteristics of Extension Officers*

Demographic Variable	Category	Frequency of Response
Sex	Male	85 (70%)
	Female	38 (30%)
Age	< 30 years	31 (25%)
	30 to 50 years	68 (55%)
	> 50 years	24 (20%)
Years of Service	0 to < 5 years	25 (20%)
	5 to 10 years	32 (26%)
	> 10 years	66 (54%)
Current Employment	Ministry of Food Production	98 (80%)
	State Assisted	13 (10%)
	Private Sector	8 (7%)
	Research Institutions	4 (3%)
Assigned Region	Northern	41 (33%)
	Central	25 (20%)
	Southern	50 (41%)
	Island-wide	7 (6%)
Direct Interaction with Farmers' Groups	Yes	123 (100%)
	No	0 (0%)
Highest Level of Education	Diploma	65 (53%)
	Associate	13 (10%)
	Bachelors	35 (28%)
	Masters	8 (7%)
	Other	2 (2%)
Number of Farmers' Groups with Direct Interaction	One	30 (24%)
	Two	35 (29%)
	Three	17 (14%)
	More than 3	41 (33%)

### **Extension Officers' Perceptions- Reliability and Summary Statistics for the Interval Scale**

The 21-item scale is an interval scale with an absolute zero so sample summary statistics, such as means and standard deviations, can be legitimately calculated. These are shown in Table 2 for each item on the scale. The larger the mean the better is the respondents' agreement on average with the item statement. The smaller the standard deviation, the better is the agreement among respondents in the scores they assign to a particular scale statement. Table 2 also provides a breakdown of the responses for each scale item into low (scores 0 and 1), medium (scores 2 and 3), and high (scores 4 and 5) agreement.

Some of the highest means of agreement were obtained for the statements on the political potential of farmers' groups ( $M = 4.04$ ,  $SD = 1.24$ ), the need for performance oversight ( $M = 3.93$ ,  $SD = 1.24$ ) and operations oversight ( $M = 3.85$ ,  $SD = 1.30$ ), disproportional benefits to individual members in a group ( $M = 3.90$ ,  $SD = 1.07$ ), and the importance of the quality of leadership ( $M = 3.89$ ,  $SD = 1.15$ ). In contrast, the lowest means of agreement were obtained for statements about the existence of farmers' groups for existence sake ( $M = 1.83$ ,  $SD = 1.45$ ), satisfactory operations of farmers' groups ( $M = 2.17$ ,  $SD = 1.13$ ), the sufficiency of government support ( $M = 2.26$ ,  $SD = 1.53$ ), and the level of assistance one farmers' group provides to another ( $M = 2.38$ ,  $SD = 1.32$ ).

### **Latent Dimensions of the Interval Scale - Exploratory Factor Analysis**

Exploratory Factor Analysis was carried out on the perception scale using Principal Component extraction with Varimax rotation. Seven factors with eigen values  $\geq 1.0$  were extracted. These were saved to be used as variables in further analysis. The goodness of fit of the Factor solution was estimated based on the sampling adequacy (the Kaiser-Meyer-Olkin (KMO) statistic was 0.72), the Bartlett's test of Sphericity ( $p < 0.05$ ), and the Anti-Image-Correlation matrix (off-diagonal elements were small and diagonal elements were 0.6 to 0.8). The factor solution explained 66% of the variance in the data, which represents a good commonality of thought among the respondents.

Information on the latent multidimensional orthogonal factors extracted is given in Table 3. Variances explained by each of the seven factors ranged from 7% to 12%. The items on which the factor is most heavily loaded (loading  $> 0.5$ ), that is with which each factor is most heavily correlated, are given in Table 3. The loadings give the strength of the association between the factor and the statement. Only statements with loadings greater than 0.5 are thought to be aligned with a particular factor and to contribute to the description of the dimension represented by that associated factor.



Table 2

*Percentage Distribution of Responses, Means, and Standard Deviation for Item Statements with Respect to Extension Officers' Perceptions of Farmers' Groups in Trinidad*

Item Statements	Respondent's Agreement Levels (%)			Mean (SD)
	Low	Medium	High	
Farmers' Groups can be used as political tools.	5.7	17.9	76.4	4.04 (1.24)
There is need for some mechanism to monitor the performance of Farmers' Groups in Trinidad.	6.5	20.4	73.1	3.93 (1.24)
Some members in the group benefit more than others.	3.2	26.9	69.9	3.90 (1.07)
Poor leadership styles in Farmers' Groups are a cause for concern.	3.3	30.9	65.8	3.89 (1.15)
There is need for some mechanism to monitor the operations of Farmers' Groups in Trinidad.	6.5	24.4	69.1	3.85 (1.30)
People only join Farmers' Groups to see what they can get out of them.	4.1	34.1	61.8	3.76 (1.15)
Farmers' Groups can improve extension efforts.	6.5	31.7	61.8	3.75 (1.11)
Farmers' Groups are prone to conflicts.	5.7	32.6	61.7	3.74 (1.23)
Competition within a Farmers' Group can be an issue.	5.7	35.7	58.6	3.63 (1.18)
Farmers' Groups will improve the agricultural sector in Trinidad.	7.3	39.9	52.8	3.48 (1.29)
Farmers' Groups have an impact on food security in Trinidad.	11.4	43.9	44.7	3.24 (1.34)
Members in a Farmers' Groups are not concerned about each other's success.	15.5	52.9	31.6	2.93 (1.33)
General members in Farmers' Groups do not trust the leadership.	13.0	53.7	33.3	2.90 (1.37)
Members within Farmers' Groups do not trust each other.	14.6	52.1	33.3	2.86 (1.32)
Leadership styles in Farmers' Groups are often dictatorial.	15.4	49.6	35.0	2.85 (1.40)
Farmers' Groups are difficult to work with.	21.1	40.6	38.3	2.82 (1.51)
Farmers' Groups only function when there are threats to land security.	20.3	44.7	35.0	2.77 (1.42)
Extension Officers are trained to work with Farmers' Groups.	28.4	33.3	38.3	2.76 (1.74)
Farmers' Groups are generally interested in assisting each other.	26.8	54.5	18.7	2.38 (1.32)
Government does enough to support and encourage Farmers' Groups in Trinidad.	32.5	44.0	23.5	2.26 (1.53)
Farmers' Groups exist only for existence sake.	43.1	43.1	13.8	1.83 (1.45)
You are generally satisfied with the operations of Farmers' Groups.	25.2	66.6	8.2	2.17 (1.13)

The names given to the factors are entirely subjective and represent the researchers' idea of the complex multidimensional construct which constitutes the essence of each factor, as captured by its strong correlation with certain item-statements. These were described as follows: (1) *Politics and Conflict* (12%) is based on the extent to which groups are used as political tools and conflicts arise due to competition and leadership styles; (2) *Membership Values* (11%) captures the perceptions of inequity with respect to the benefits group members receive, their unconcern for each other, their selfishness, and their inactivity, all of which are negative perceptions; (3) *Trust and*

*Leadership* (10%) reflects the styles of leadership within groups and the extent of trust between leaders and members, as well as that between farmers in the group themselves (4) *Contribution* (10%), connotes the perceived contribution of farmers to food security and to the improvement of the agricultural sector and the Extension services, (5) *Monitoring* (9%) is associated with the need to closely monitor the operations and performance of groups; (6) *Functionality* (7%) measures the working relationship between extension officers and farmers; and (7) *Technical Capacity* (7%) captures mainly the extent of extension training in group development.

Table 3

*Results of Factor Analysis of Perception Scale*

Item Statements Categorized into Factors (% variance explained)	Factor Loadings	Eigen Values	Mean (SD)
<i>Factor 1 – Politics and Conflict (11.8%)</i>			
Competition within a farmers' group can be an issue.	0.73		3.63 (1.18)
Poor leadership styles in farmers' groups are a cause for concern.	0.69	4.8	3.89 (1.51)
Farmers' groups can be used as political tools.	0.67		4.04 (1.24)
Farmers' groups are prone to conflicts.	0.67		3.74 (1.23)
<i>Factor 2 – Membership Values (10.6%)</i>			
People only join farmers' groups to see what they can get out of them.	0.80		3.76 (1.15)
Members in a farmers' group are not concerned about each other's success.	0.69	2.52	2.93 (1.33)
Farmers' groups exist only for existence sake.	0.61		1.83 (1.45)
Some members in the group benefit more than others.	0.54		3.90 (1.07)
<i>Factor 3 – Trust and Leadership (10.4%)</i>			
Leadership styles in farmers' groups are often dictatorial.	0.78		2.85 (1.40)
General members in farmers' groups do not trust the leadership.	0.77	2.05	2.90 (1.37)
Members within farmers' groups do not trust each other.	0.65		2.86 (1.32)
<i>Factor 4 – Contribution (10.4%)</i>			
Farmers' groups have an impact on food security in Trinidad.	0.89		3.24 (1.34)
Farmers' groups will improve the agricultural sector in Trinidad.	0.81	1.46	3.48 (1.29)
Farmers' groups can improve extension efforts.	0.73		3.75 (1.11)

Item Statements Categorized into Factors (% variance explained)	Factor Loadings	Eigen Values	Mean (SD)
<i>Factor 5 – Monitoring (9.0%)</i>			
There is need for some mechanism to monitor the performance of farmers' groups in Trinidad.	0.89	1.29	3.93 (1.24)
There is need for some mechanism to monitor the operations of farmers' groups in Trinidad.	0.86		3.85 (1.30)
<i>Factor 6 – Functionality (6.9%)</i>			
Farmers' groups are difficult to work with.	0.60	1.19	2.82 (1.52)
Farmers' groups only function when there are threats to land security.	0.59		2.77 (1.42)
<i>Factor 7 – Technical Capacity (6.6%)</i>			
Extension officers are trained to work with farmers' groups.	0.69	1.10	2.76 (1.74)

*Note.* Total Reliability Cronbach's alpha = 0.71. Kaiser-Meyer-Olkin Measure of Sampling Adequacy = .720. Bartlett's Test of Sphericity:  $\chi^2 = 914.2$ ,  $df = 231$ ,  $p = 0.00$ .

### Impacts of Demographic Characteristics on Perception Themes: *t*- and ANOVA Tests

The possible impacts of the respondents' demographic characteristics on their perceptions were tested ( $\alpha = 0.05$ ) using *t*-tests for two-category grouping variables (sex) and one-way ANOVA tests for those demographic grouping variables (Age, Educational level, Years of membership, Farming Activity ) with three or more categories. The scores for the seven factors of the interval scale were used as the dependent variables

The perceptions of men and women, as represented by their scores on each of the seven latent factors/themes, were statistically independent of each other. Male and female extension officers shared a commonality of thinking in their perceptions of the dynamics of farmers' groups in such areas as the *Politics and Conflict* in the Groups, the *values that members exhibited*, the *lack of trust that members felt towards each other and towards their leadership*, the *relationship between agriculture*

*productivity and extension, the functionality of the extension officers relationship with farmers' groups, and the extension officers' technical capacity.*

There was a significant ( $p < 0.05$ ) impact of age on the factor scores of *Politics and Conflict*, *Trust and Leadership*, and *Monitoring* in that the oldest extension agents stood out from the younger officers by having lower scores for these factors. *Membership values*, which represented the negative perceptions that extension agents had of farmers group, was impacted by several demographic variables. 'Years of experience', 'highest level of agricultural education', 'area in which extension officer is employed' and the 'region serviced' all impacted significantly ( $p < 0.05$ ) on this factor. The factor captures perceptions of inequity in the benefits group members receive, their unconcern for each other, their selfishness, and their inactivity. These are all negative perceptions. Given the nature of the demographic variables involved, the significant impact could be indicative of differences in the farmers' groups with

which the extension officers come into contact as well as of differences in the officers themselves. The ‘number of farmers’ groups serviced’ by the officer impacted significantly ( $p < 0.05$ ) on the mean score of *Trust and Leadership*, and on the *Monitoring* of the operations and performance of the farmers’ group. In both cases, officers servicing more than three groups had lower scores for these factors than those interacting with fewer groups.

**Regression Model for Extension Officer Satisfaction with Farmers’ Groups**

Extension officers’ satisfaction with the operations of farmers’ groups was modeled using linear regression (the forward step-wise option) on the scale factors identified to assess their relative impacts. Details of the analysis are given in Table 4. The model estimated is expressed in equation :

$$\text{Extension Officer Satisfaction} = 2.171 - 0.142 (\textit{Politics and Conflict}) + 0.317 (\textit{Contribution}) + 0.326 (\textit{Need for Monitoring}) - 0.397 (\textit{Functionality}) + 0.607 (\textit{Technical Capacity})$$

Identified factors explained 57% (adjusted  $R^2 = 0.573$ ) of the variance in the values of the dependent variable, namely the scores of extension officers’ satisfaction with farmers’ groups recorded by extension officers. Results suggested that satisfaction was negatively impacted by extension officers’ views of *Politics and Conflict* within farmers’ groups and by the factor, *Functionality*, which reflects both the perceptions extension officers have of the levels of difficulty they experience in working with these groups and their impression that the groups function only under certain circumstances. On the other hand, extension officers’ satisfaction was positively impacted by their views that farmers’ groups can improve food security, the agricultural sector, and extension efforts (*Contribution*); by the idea of increased monitoring of the performance and operations of farmers’ groups (*Monitoring*); and by the officers’ beliefs that they have the training to work with farmers’ groups (*Technical Capacity*). This last mentioned factor is the most impactful predictor, with the largest absolute beta value of 0.538, as shown in Table 4.

Table 4

*Results of Step-Wise Regression Analysis for “Satisfaction with Farmers' Groups” on Interval Scale Factors*

Model	Unstandardized Coefficients		Standardized Coefficients			95% Confidence Interval for B	
	B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound
(Constant)	2.171	.066		32.652	.000	2.039	2.302
Technical capacity	.607	.067	.538	9.094	.000	.475	.739
Functionality	-.397	.067	-.352	-5.944	.000	-.529	-.265
Monitoring	.326	.067	.288	4.876	.000	.193	.458
Contribution	.317	.067	.281	4.750	.000	.185	.449
Politics & Conflict	-.142	.067	-.126	-2.126	.036	-.274	-.010

Note.  $R^2 = 0.591$ ,  $R^2_{adj} = 0.573$ ; Durbin Watson = 1.906.

### **Discussions, Conclusions and Recommendations**

The extension officers' belief that they had the technical training to service farmers' groups appropriately was the most important factor determining their satisfaction with group operations. This suggests that attempts to hasten the formation and development of farmers groups in Trinidad should be linked to improved training for extension staff. Although group development has been given attention in previous years, through work done with groups leaders and members, findings suggest that any new attempt must shift focus to the extension officers themselves; strengthening their technical capacity in the areas of group dynamics and group development. In this regard, the Ministry of Agriculture may wish to amend its stated plan (Ministry of Food Production Land and Marine Affairs, 2011) to specify that one major form of intervention will be with its own staff, to improve the effectiveness and efficiency of the Extension service. As a consequence, many more farmers could have access to extension services, which would promote education and training opportunities and possibly improved livelihoods for farmers.

Training, specifically in the area of group formation, should be provided to agricultural extension agents. Additionally, this training should take into consideration the factors identified in this study and should be done both pre-service (as part of their formal agricultural extension training) and in-service (as a component of a program for the continuous training and development of extension staff). Further, farmers' groups should be trained in good governance. Several latent dimensions underpin the perceptions that extension officers have about farmers' groups. These are essentially the basis for their assessments of farmers' groups and they are influenced to some

extent by the demographics of the respondents.

The negative views of *Membership Values* captures the perceptions of inequity in the benefits group members receive, of group members' unconcern for each other, of their selfishness, and of their inactivity. These negative views extension officers have of farmers' group dynamics require consideration. It is important that Trinidad's extension services itself, understands the genesis of these negative views so that they can take the necessary steps to reverse this situation. This would allow a better understanding of which perceptions are real problems with farmers' group dynamics and which may be distorted by the personal bias of the respondent because of experience, education, area of employment, and/or region serviced. Moreover, extension officers in Trinidad need to be sensitized to the findings that: (a) some of them hold more negative views of farmers' groups than others; and (b) these views may be undermining both the quality of their interactions with farmers' groups and the potential for survival and success of the farmers' groups themselves. Therefore, raising awareness could help direct the extension approach, which should focus on mitigating those real harmful negative aspects of farmers' group dynamics in Trinidad.

Extension systems should "operate in a policy-friendly environment and be responsive to the needs of farmers" (Ladebo, 2003, p. 1). Training for groups in the participatory and democratic processes could help in reversing the inequity and selfishness that are perceived to exist. It may also help to reduce the number of conflicts perceived to exist within groups, the trust and leadership issues identified in the analysis, as well as 'the difficulty with working with groups' expressed by the extension officers. Good governance

training would ensure good group dynamics and consequently, group sustainability. Such training should be done by agricultural extension officers sufficiently trained in group work. Additionally, introducing subject matter specialists in the Extension service to perform technical backstopping for field extension officers would be valuable. Furthermore, an experienced extension officer should be included as a member of the farmers' group to act in a limited capacity as a trainer and mediator. This could help resolve issues which may be beyond the scope of the leadership within the group.

The need to monitor farmers groups is another issue to which attention should be given. There should be monitoring actions both at (a) the organizational level to ensure frequent contact between farmers' group representatives and extension officers, along with formal reporting on the activities of the groups, and at (b) the policy level to help shepherd groups in directions which support national food security goals and discourage political infighting, conflicts, distrust, and dysfunctional behavior within groups.

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