Cooperation among Ugandan Farmers: Cultivating Social Capital

Results of the August 2014 Birmingham-Southern College Capstone Study
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Executive Summary

In August 2014, a research team from the Global Communities’ USAID DESIGN program team, in partnership with Primary Investigator Bert Morrow and Capstone Team from Birmingham-Southern College, administered a survey to 183 Ugandan farmers to assess the factors that influence their willingness to become members of an agricultural cooperative. In particular, the research team was interested in a better understanding of how farmers viewed the social benefits (social capital) associated with cooperation. Four valid measures of social capital were identified. Social capital that is used by farmers to get by (bonding networks) had two dimensions: emotional support and social support. Social capital that farmers use to get ahead (bridging networks) also had two dimensions: tangible and intangible resource sharing. More importantly, the desire to gain these social benefits from cooperation emerged as strong predictors of willingness to cooperate among most farmers. Implications and suggestions for future research are also discussed.
Introduction

A cooperative alliance may be defined as an inter-firm arrangement that involves the utilization of resources from autonomous organizations for the joint accomplishment of individual goals (Parkhe, 1993). For farmers, these cooperative arrangements are generally supply co-ops (which provide inputs such as seed, fertilizers, herbicides, pesticides, tools and equipment) or marketing co-ops, which assist the farmer in selling or marketing his/her output. Farmers may decide to join co-ops for several reasons. The most obvious reason farmers join cooperatives is to satisfy their economic goals, or the desire to become better off financially (Barney, 2001). This may occur when their co-op membership enables the farmer to reduce costs and/or increase revenues.

However, in addition to this goal, it seems reasonable to suggest that some individuals may also seek to satisfy social goals through their co-op membership (United States Department of Agriculture (USDA), 1990). These social goals may include the desire to interact with other members in order to develop personal and business relationships. These social relationships may be valuable to farmers if they lead to such benefits as idea sharing and the ability to learn new farming techniques and processes. These relationships may also be valuable if they simply give members pleasure from the opportunities to develop friendships and communicate with others who share their values and interests. Pursuit of these social goals fosters the development of social capital, which refers to the anticipated collective social and/or economic benefits derived from cooperation among individuals and groups as they pursue their collective and individual interests (Vermaak, 2009). Thus, the pursuit of social capital acts as a motivator for actions and exchanges within cooperative organizations (Collier, 2002).
In November 2013, the team conducted an initial study to understand the factors that influence the adoption of cooperative principles and practices among farmers in Uganda. In a survey of 274 farmers who reside in the Uganda’s Bushenyi District, we were surprised to find that the anticipated economic benefits from cooperation, in terms of both revenue enhancements and cost reductions, did not have a statistically significant effect on farmers’ willingness to cooperate (WTC). However, the anticipated social benefits of cooperation did have a significant positive effect on WTC. The anticipated social benefits of cooperation were measured using a rather vague three item scale (I hope that my co-op membership will allow me the opportunity to make new friends; I hope that my co-op membership will allow me the opportunity to share ideas with other farmers; and I hope that my co-op membership will allow me the opportunity to interact with other farmers). The items were scored on a 7-point Likert-type scale ranging from 1=strongly disagree to 7=strongly agree and the mean response to the social benefit scale was 6.17.

These findings led the team to conduct a second study for three reasons. First, the Ugandan farmers in the pilot study expressed a strong desire to achieve social benefits from their potential cooperation in a new cooperative (6.17 on a 7.0 scale). Second, we were surprised to find how important these social benefits appeared to be, particularly relative to the lack of support for the possible economic benefits of cooperation. And finally, given the apparent importance that the desire for social benefits held in farmers’ willingness to cooperate, we needed to develop a much more comprehensive theoretical and empirical understanding of the role that social capital plays in the decision to cooperate. Thus, a follow-up study was conducted in August 2014 using a sample of 183 farmers that explored the following research question: What social capital do Ugandan farmers hope to acquire from participating in a proposed agricultural cooperative and how does this social capital affect their willingness to cooperate? As with the initial study, willingness to
cooperate (WTC), which is the willingness of a farmer to join and participate in a new farmer owned cooperative was the dependent variable for this study. WTC was measured using a four-item scale (see Appendix 1).

Social Benefits of Cooperation

Individuals may build capital from social interactions in two distinct ways: to get by and to get ahead (de Souza Briggs, 1997). Social capital used to help people get by is the type of support that individuals receive to help them with the day-to-day issues of their lives. These benefits flow from people within a community who depend on one another in order to cope with life’s challenges that may arise unexpectedly every day (Woolcock, & Narayan, 2000). In western societies, these actions may include such things as offering a neighbor a ride to work, picking up a friend’s child from school, helping to care for another person’s ailing parent or sharing a cup of coffee with a friend while discussing life’s problems or concerns. Further, the social capital developed from these getting by social activities is likely to come from people who are similar to us, such as our friends, family and neighbors (Lickerman, 2013). This type of social capital has been referred to as bonding networks, because it acts to bring people closer together within their communities in ways that may give them advantages over others who do not share these social benefits (de Souza Briggs, 1997).

Social capital that develops from these day-to-day social interactions are likely to occur in two distinct ways: (1) emotional support, which is whether individual farmers hope to meet others who can provide them with help in time of need and (2) social support, the extent to which farmers would like to meet others with whom they can socialize during their leisure time. We identified a four-item scale for emotional support (α=.73) and a five-item scale for social support (α=.67) and these are listed in Appendix 1. More importantly, we were also able to demonstrate discriminant
validity between these two constructs, which provides evidence that we are measuring two different dimensions of social capital that may be used to get by. These findings support Hypothesis 1 that the social capital element of getting by (bonding networks) will have two dimensions: Emotional support and social support. A summary of all the hypotheses that were tested in this study is presented in Appendix 2.

In addition to getting by, social capital may also be used to help individuals get ahead (de Souza Briggs, 1997). This means that individuals can use the capital developed from their social relationships in an effort to improve their life’s circumstances in hopes of becoming “better off.” This type of social capital is likely to accrue from those we know who have both tangible (e.g. tools and equipment) and intangible (e.g. knowledge and skills) resources that we do not have (Galunic et al., 2012). In other words, this social capital is likely to come from people who are different from us (Han, et al., 2014), in the sense that these people possess resources that we need but do not have. Social capital that develops from this type of sharing has been termed bridging networks, because it may serve to move people into a new, stronger position in life relative to those who do not share this social benefit (de Souza Briggs, 1997).

In western societies, examples may include seeking legal advice from an acquaintance who is an attorney, medical advice from a casual friend who is a physician or borrowing a truck from a co-worker. Social capital that is used by individuals to get ahead was operationalized as the desire to meet other people who have both tangible and intangible resources that we do not have. We identified a three-item scale for the tangible benefits of cooperation (α=.69) and another three-item scale for the intangible benefits (α=.68) and these scales are listed in Appendix 1. We were also able to demonstrate discriminant validity between these two constructs, which suggests that we have identified two distinct dimensions of social capital that farmers may use to get ahead. These
results support Hypothesis 2 that the social capital element of the desire to *get ahead* (bridging networks) will have two dimensions: Tangible and intangible resource sharing.

**Social Benefits of Cooperation: Identifying Its Dimensions**

As outlined above, this study supports the theory that the social capital elements of the desire to *get by* and the desire to *get ahead* each have two dimensions. We now hypothesize (Hypothesis 3) that the desired social benefits of cooperation will consist of the desire to get by (bonding networks) and the desire to get ahead (bridging networks) and that these elements of social capital will have positive effects on Ugandan farmers’ willingness to cooperate. Figure 1 illustrates this model.

To test this hypothesis, we ran a regression with the social benefits of cooperation as the depending variable with tangible and intangible resource sharing and social and emotional support as the explanatory variables. To measure the social benefits of cooperation, we used the three item scale that was used in our previous study which was replicated in this study (see Appendix 1). In
other words, we are testing whether the rather vague social benefits of cooperation can be explained or predicted by our four new, more precise measures. These results are presented in Table 1.

Table 1
Social Benefits of Cooperation: Identifying Its Dimensions
Ordinary Least Squares Regression

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>β Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>2.393***</td>
</tr>
<tr>
<td>Emotional Support</td>
<td>0.150*</td>
</tr>
<tr>
<td>Sharing Tangible Resources</td>
<td>0.189**</td>
</tr>
<tr>
<td>Sharing Intangible Resources</td>
<td>0.252**</td>
</tr>
<tr>
<td>Head of Household</td>
<td>0.147*</td>
</tr>
<tr>
<td>Previous Membership in Ag Groups</td>
<td>0.090†</td>
</tr>
<tr>
<td>Previous Membership in Non-ag Groups</td>
<td>0.284**</td>
</tr>
</tbody>
</table>

F 12.004***
R² .30

†p<.10
*p<.05
**p<.01
***p<.001

The sharing of tangible and intangible resources and emotional support are all statistically significant and have positive effects on the social benefits of cooperation. Social support did not have a statistically significant effect. Thus, Hypothesis 3 is partially supported. Among the control variables, head of household and those with previous experience in both agricultural and non-agricultural oriented groups were all statistically significant and had positive effects. Note that the sharing of intangible resources has a much larger effect that either emotional support or the sharing of tangible resources. While the R² is sizeable, there is still a large amount of unexplained variation in the social benefits of cooperation.
Economic Benefits of Cooperation

The current study was largely motivated by the surprising finding in our previous study of the importance of the social benefits of cooperation relative to the economic benefits. However, in addition to developing a better theoretical and empirical understanding of the social benefits of cooperation, we also desired to develop better measures of the economic benefits of cooperation. While we have conceptualized the economic benefits of cooperation as the extent to which cooperation will enable an individual farmer to increase revenues or decrease costs, we have not been able to identify measures for these two separate economic benefits.

In the current study we also sought to develop survey questions that would measure two dimensions of the economic benefits of cooperation: cost minimization (efficiency) and revenue maximization (effectiveness). For example, for the cost minimization dimension of the economic benefits of cooperation we developed such questions as being a member of an agricultural oriented group might help me: lower the cost of my supplies; make it easier to acquire the supplies that I need; reduce the time it takes to buy supplies; give me greater access to the supplies that I need. Among the questions that we developed to measure the revenue maximization dimension of the economic benefits of cooperation were being a member of an agricultural oriented group might help me: find new markets for my crops; grow more crops; increase the variety of crops that I grow; find more people to trade with.

When these questions were factor analyzed separately, we were able to identify scales that measured these two dimensions of economic benefits (efficiency and effectiveness). However, when we tested for discriminant validity, which is the ability to differentiate between two similar or related constructs, we were only able to find one measurement scale. This means that the farmers in our study do not appear to differentiate between the dual economic benefits of increasing
revenues and decreasing costs. Thus, Hypothesis 4, that farmers will exhibit two distinct types of desired economic benefits from cooperation (effectiveness and efficiency), was not supported. The six-item scale that we identified to measure a single dimension of the economic benefits of cooperation ($\alpha=.82$) is listed in Appendix 1.

**The Effects of Economic and Social Benefits on Willingness to Cooperate**

After controlling for size of the farm, age and gender of the farmer and the farmer’s household size, the *get by* social capital element of *social support* had a statistically significant and positive effect on willingness to cooperate (WTC). Further, the *get ahead* social capital elements of meeting others who could provide *tangible* and *intangible* resources also had statistically significant positive effects on WTC. The desire to receive economic benefits from cooperation also had a statistically significant and positive effect on WTC, although the combined effects of social capital on WTC were over three times greater than the expected economic benefits. The social capital element of *emotional support* did not have an effect on WTC. These results provide support for Hypothesis 5 that the expected economic benefits of cooperation will have a positive effect on willingness to cooperate and partial support for Hypothesis 6 that the expected social benefits of cooperation, as measured by our four dimensions, will have a positive effect on willingness to cooperate. A summary of these results is presented in Table 2.
Table 2
Predicting WTC Using Economic and Social Benefits
Ordinary Least Squares Regression

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>β Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>3.143***</td>
</tr>
<tr>
<td>Economic Benefits</td>
<td>0.128*</td>
</tr>
<tr>
<td>Social Support</td>
<td>0.138†</td>
</tr>
<tr>
<td>Sharing Tangible Resources</td>
<td>0.146**</td>
</tr>
<tr>
<td>Sharing Intangible Resources</td>
<td>0.127*</td>
</tr>
<tr>
<td>Household Size</td>
<td>0.022*</td>
</tr>
<tr>
<td>F</td>
<td>8.767***</td>
</tr>
<tr>
<td>R²</td>
<td>.30</td>
</tr>
</tbody>
</table>

†p<.10  
*p<.05  
**p<.01  
***p<.001

Leadership Traits

As part of studying the social benefits of cooperation, we considered that at least some people might be interested in joining a cooperative because they have a desire to provide leadership. We identified two distinct leadership traits that people might demonstrate. The desire to provide leadership that will empower others in an organization was measured using a four-item scale (α=.80) and the desire to provide leadership in order to share the organization’s values with others was captured using a seven-item scale (α=.88). We were able to demonstrate discriminant validity for these two leadership dimensions and the questions that were used in these scales are presented in Appendix 1. These findings support Hypothesis 7 that one’s desire to have opportunities for leadership within a cooperative would have two dimensions: Empowerment and shared values.

Motivation to Become a Leader

Among those farmers who desired to become leaders, we were interested in their motivation. To study this issue, we asked the question if you were to join a new agricultural
oriented group, would you be interested in serving in a leadership role within that group? Among those who responded yes (which was 69% of all farmers), we identified two distinct motivations. The desire to *increase one’s social standing* was measured using a five-item scale ($\alpha=.98$) and the desire to *serve others* was found to have a three-item scale ($\alpha=.72$). Again, we were able to demonstrate discriminant validity for these two motivations for leadership and the questions used in these scales are presented in Appendix 1. These findings support Hypothesis 8 that farmers will be motivated to become leaders in order to increase their social standing and to serve others.

**Leadership and Willingness to Cooperate**

After controlling for household size and one’s perceived social standing in both Uganda and one’s sub-county, the desire to provide leadership in order to empower others and to share the group’s values both had statistically significant and positive effects on WTC. The motivations to provide leadership in order to increase one’s social standing and to serve others were not statistically significant. A farmer’s perceived social standing in his/her sub-county had a small negative effect on WTC. These findings partially support Hypothesis 9 that the desire to have opportunities for leadership (to empower others and share the group’s values) and the motivations for leadership (to increase one’s social standing and to serve others) will have positive effects on willingness to cooperate. A summary of these results is in Table 3.
Table 3
Leadership and Willingness to Cooperate
Ordinary Least Squares Regression

<table>
<thead>
<tr>
<th>Independent Variables</th>
<th>β Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>4.523***</td>
</tr>
<tr>
<td>Empower Others</td>
<td>0.093†</td>
</tr>
<tr>
<td>Share Values</td>
<td>0.185*</td>
</tr>
<tr>
<td>Perceived Social Standing in Sub-county</td>
<td>-0.030†</td>
</tr>
<tr>
<td>Household Size</td>
<td>0.027*</td>
</tr>
</tbody>
</table>

| F                     | 6.552***   |
| R²                    | .29        |

†p<.10  
*p<.05  
**p<.01  
***p<.001

Demographic Summary of the Survey Participants

The 183 survey participants were from six different parishes within the Bushenyi District (see Table 4 for a summary). There were 74 men who participated in the survey and 100 women (gender was missing from nine surveys). Of the 183 participants, 120 were heads of household. The survey revealed that 84% of those surveyed had previously been a member of a non-agricultural oriented group while only 60% reported having previously been a member of an agricultural oriented group. A summary of the remaining demographic data is Table 5.
Table 4
Parishes Represented by the Survey Participants

<table>
<thead>
<tr>
<th>Parish</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Buyanja</td>
<td>36</td>
</tr>
<tr>
<td>Bwera</td>
<td>44</td>
</tr>
<tr>
<td>Kararo</td>
<td>25</td>
</tr>
<tr>
<td>Kitagatta</td>
<td>31</td>
</tr>
<tr>
<td>Ntungamo</td>
<td>23</td>
</tr>
<tr>
<td>Nyamiyaga</td>
<td>24</td>
</tr>
</tbody>
</table>

Table 5
Participant Demographic Data
Minimum, Maximum, Mean and Standard Deviation

<table>
<thead>
<tr>
<th>Description</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>s.d.</th>
</tr>
</thead>
<tbody>
<tr>
<td>How many years have you been a farmer?</td>
<td>1</td>
<td>82</td>
<td>28.38</td>
<td>17.49</td>
</tr>
<tr>
<td>Approximately how many acres do you farm?</td>
<td>0.5</td>
<td>20</td>
<td>3.32</td>
<td>2.98</td>
</tr>
<tr>
<td>How old are you?</td>
<td>14</td>
<td>88</td>
<td>46.76</td>
<td>15.62</td>
</tr>
<tr>
<td>Counting yourself, how many people live in your home?</td>
<td>2</td>
<td>18</td>
<td>6.94</td>
<td>2.51</td>
</tr>
</tbody>
</table>

Univariate Analyses of the Variables Used in this Study

The minimum, maximum, mean and standard deviation for all of the measurement scales used in the survey are presented in Table 6. In addition, we also collected a self-reported measure of each individual’s perceptions of their social standing both in Uganda and in their sub-county. These values are also reported in Table 6. All scaled measures were on a 7-point scale (1=strongly disagree; 7=strongly agree) except the two self-reported measures of social standing, which were on a 10 point scale, with 10 being the highest possible social standing.
### Table 6
Measurement Scales Used in the Survey
Minimum, Maximum, Mean and Standard Deviation

<table>
<thead>
<tr>
<th>Variable</th>
<th>Min</th>
<th>Max</th>
<th>Mean</th>
<th>s.d.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Willingness to Cooperate</td>
<td>5.00</td>
<td>7.00</td>
<td>6.67</td>
<td>0.28</td>
</tr>
<tr>
<td>Economic Benefits of Cooperation</td>
<td>4.67</td>
<td>7.00</td>
<td>6.45</td>
<td>0.47</td>
</tr>
<tr>
<td>Social Benefits of Cooperation</td>
<td>3.00</td>
<td>7.00</td>
<td>6.59</td>
<td>0.48</td>
</tr>
<tr>
<td>Emotional Support</td>
<td>5.00</td>
<td>7.00</td>
<td>6.42</td>
<td>0.44</td>
</tr>
<tr>
<td>Social Support</td>
<td>5.20</td>
<td>7.00</td>
<td>6.43</td>
<td>0.39</td>
</tr>
<tr>
<td>Sharing of Tangible Resources</td>
<td>4.33</td>
<td>7.00</td>
<td>6.30</td>
<td>0.59</td>
</tr>
<tr>
<td>Sharing of Intangible Resources</td>
<td>5.33</td>
<td>7.00</td>
<td>6.58</td>
<td>0.44</td>
</tr>
<tr>
<td>Leadership Trait of Empowering Others</td>
<td>3.50</td>
<td>7.00</td>
<td>6.42</td>
<td>0.61</td>
</tr>
<tr>
<td>Leadership Trait of Sharing Values</td>
<td>3.00</td>
<td>7.00</td>
<td>6.40</td>
<td>0.53</td>
</tr>
<tr>
<td>Motivated to Increase One’s Social Standing</td>
<td>1.00</td>
<td>7.00</td>
<td>5.41</td>
<td>1.40</td>
</tr>
<tr>
<td>Motivated to Serve Others</td>
<td>2.67</td>
<td>7.00</td>
<td>6.52</td>
<td>0.58</td>
</tr>
<tr>
<td>Self-reported Perceived Social Standing in Uganda</td>
<td>1</td>
<td>10</td>
<td>3.68</td>
<td>1.74</td>
</tr>
<tr>
<td>Self-reported Perceived Social Standing in Sub-county</td>
<td>1</td>
<td>10</td>
<td>4.37</td>
<td>1.90</td>
</tr>
</tbody>
</table>

### Conclusions and Recommendations

Consistent with previous research with the communities in Bushenyi, Uganda, the farmers who participated in this study are willing to cooperate. Also consistent with our prior work, the social benefits of cooperation play a significant role in determining farmers’ willingness to cooperate. Combined, these research studies provide strong evidence that Ugandan farmers are motivated to join agricultural cooperatives, as least in part, in an effort to build social capital from interacting with other farmers. However, the current study makes an important advancement beyond prior research by adding specificity to the social capital construct.

This research suggests that individuals build capital from social interactions in two distinct ways: to *get by* and to *get ahead* (de Souza Briggs, 1997). The study provides evidence of construct and discriminant validity, as well as reliability for two *getting by* dimensions of social capital: (1) *emotional support*, which is the desire to meet others who can provide help in time of need and (2) *social support*, which is the desire to meet others with whom one can socialize during leisure time.
In addition to getting by, social capital may also be used to help individuals get ahead (de Souza Briggs, 1997). Social capital that is used by individuals to get ahead was operationalized as the desire to meet other people who have both tangible (e.g. tools and equipment) and intangible (e.g. knowledge and skills) resources that we do not have (Galunic et al., 2012). Again, we found evidence of construct and discriminant validity, as well as reliability, of measurement scales for these two dimensions of the social capital construct. However, the four dimensions of social capital that were used in this study (social support, emotional support, sharing of tangible and intangible resources), together with some of the control variables, only explained about 30% of the variation in the expected social benefits of cooperation. This means that there are other elements of the broader social capital construct that might be found in future research.

Our discovery of these four distinct dimensions of social capital has important managerial implications for the operation of the Kyeizooba Twimukye Cooperative. Emotional and social support will likely develop over time as cooperative members are placed in social settings with each other. While these social settings may include gatherings in which members may simply relax, enjoy the company of each other and perhaps share a meal together, they may also include gatherings that provide informal seminars on topics of interest to members that are unrelated to farming activities.

Ugandan farmers also appear interested in meeting others with whom they can share both tangible and intangible farm-related resources. This suggests that the managers of Kyeizooba Twimukye Cooperative might consider organizing activities such as formal seminars in which people who cooperative members perceive as experts offer advice, guidance and share know-how on a variety of farm-related topics. Managers should also consider developing a formal system that enables farmers to share tangible resources with each other. Perhaps a “resource bank” of some
sort could be established where tools, equipment and other resources could be “deposited” and then “borrowed” by cooperative members.

A better understanding of Ugandan farmers’ views regarding the economic benefits that should accrue to them from cooperation remains elusive. Effort was devoted in this study to try and understand how farmers view the economic benefits of lowering costs (efficiency) and maximizing revenues (effectiveness). However, the questions from our survey that worked to measure perceived economic benefits appear to measure cost reduction or efficiency moves only (see Appendix 1). However, the last two questions in the scale (being a member might help me increase the price that I receive for my crops and might help me find more people to trade with) are suggestive of revenue maximizing activities even though the factor analysis indicates that these questions belonged with all of the others.

Finally, factor analysis identified two survey questions that were suggestive of a second dimension of economic activities: (1) Being a member of an agricultural oriented group might help me grow more crops and (2) Being a member of an agricultural oriented group might enable me to increase the variety of the crops that I grow. These two questions seem to be indicative of revenue enhancement or effectiveness activities that were discussed earlier. Perhaps future research can continue to identify survey questions that will fully capture the theorized economic benefits of maximizing revenues and minimizing costs.
Appendix 1

Measurements Scales and Reliabilities
All scaled measures were on a 7-point scale (1=strong disagree; 7=strongly agree)

Willingness to Cooperate (WTC) $\alpha=.68$

I am willing to join a new farmer cooperative.
I am willing to support a new farmer cooperative.
I am willing to participate in a new farmer cooperative.
I am willing to ask other farmers to join a new farmer cooperative.

Emotional Support $\alpha=.73$

I would like to meet other group members who will help me feel better when I am tense or under pressure.
I hope that my group membership will enable me to meet someone who will care about me during difficult times.
I would like to meet other group members who will help me feel better when I am sad or depressed.
I am interested in finding group members who will console me when I am upset.

Social Support $\alpha=.67$

I would enjoy doing things with other group members outside of our normal group activities.
I hope to experience feelings of closeness or togetherness by being around other people in this group.
I expect to experience enjoyment when I get encouragement from other members of this group.
I hope that my membership in this group will allow me to spend time with other members.

Sharing of Tangible Resources $\alpha=.69$

After joining this group, I hope to meet others who can help me with my farm.
I hope to find others in this group who will lend me resources that I do not have.
I hope to find others in this group who will help me when I need another worker.

Sharing of Intangible Resources $\alpha=.68$

I hope my group membership would allow me to meet other farmers who can help make me a better farmer.
I hope to meet other farmers in this group who can offer me useful advice.
I would like to meet other farmers in this group who have information about farming that I do not have.
Economic Benefits of Cooperation $\alpha=0.82$

Being a member of an agricultural oriented group might help lower the cost of supplies that I need. Being a member of an agricultural oriented group might help make it easier to acquire the supplies that I need. Being a member of an agricultural oriented group might reduce the amount of time that it takes me to acquire the supplies that I need. Being a member of an agricultural oriented group might make it easier to sell the crops that I grow. Being a member of an agricultural oriented group might help me increase the price that I get for my crops. Being a member of an agricultural oriented group might help me find more people to trade with.

Social Benefits of Cooperation $\alpha=0.66$

I hope that my membership in a new agricultural oriented group will help me make new friends. I hope that my membership in a new agricultural oriented group will give me opportunities to share ideas with other farmers. I hope that my membership in a new agricultural oriented group will provide me with the opportunity to interact with other farmers.

Leadership Trait of Empowering Others $\alpha=0.80$

Protect the group from other members who would try to use the cooperative for their own gain. Create opportunities for members to work together. Ensure that the group’s decisions are not made in secret. Actively mentor and help other farmers.

Leadership Trait of Sharing Values $\alpha=0.88$

Share the group’s values with other members. Help the group make decisions that are consistent with the group’s values. Help make certain that other members of the group share the same values. Act in a way that is consistent with the values of the group. Be a living example of values-based leadership. Describe the shared values of the group. Make decisions that are consistent with the values of the group.

Motivated to Serve Others $\alpha=0.72$

I hope that serving in a leadership role will help the group accomplish its goals. Serving as a leader will provide a positive role model for others. I hope that serving as a leader will inspire others to also become leaders.
Motivated to Increase One’s Social Standing $\alpha=.94$

I hope that serving in a leadership role will increase my social standing within my community. Serving as a leader will cause others to look up to me. People who are leaders increase their social standing among their peers. Leaders have a higher status in the community than people who are not leaders. Other people in my community look up to those who are leaders.
Appendix 2

Summary of Hypotheses Tests

H1: The social capital element of getting by (bonding networks) will have two dimensions: Emotional support and social support. **Results: Supported.**

H2: The social capital element of the desire to get ahead (bridging networks) will have two dimensions: Tangible and intangible resource sharing. **Results: Supported.**

H3: The social benefits from cooperation will have two distinct dimensions: The desire to get by (bonding networks) and the desire to get ahead (bridging networks). **Results: Partially supported. The social support dimension associated with bonding networks is not a predictor of the social benefits of cooperation.**

H4: Farmers will exhibit two distinct types of desired economic benefits from cooperation: Effectiveness and efficiency. **Results: Not supported. Only one dimension was found.**

H5: The expected economic benefits of cooperation will have a positive effect on willingness to cooperate. **Results: Supported.**

H6: The expected social benefits of cooperation, as measured by or four dimensions, will have a positive effect on willingness to cooperate. **Results: Partially supported. The emotional support dimension did not have an effect on WTC.**

H7: The desire to have opportunities for leadership will have two dimensions: Empowerment and shared values. **Results: Supported.**

H8: Farmers will be motivated to become leaders in order to increase their social standing and to serve others. **Results: Supported.**

H9: The desire to have opportunities for leadership (to empower others and share the group’s values) and the motivations for leadership (to increase one’s social standing and to serve others) will have positive effects on willingness to cooperate. **Results: Partially supported. The motivations for leadership did not have an effect on WTC.**
References


