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Abstract

This working paper is an output from the research project "Youth Business Groups for Sustainable Development: Lessons from the Ethiopian Model" that is funded by Research Council of Norway under the NORGLOBAL2 research program for the period 2019-2022. This working paper provides a summary of baseline survey data collected in the period January-May 2019 primarily from 2427 sampled members of 246 active youth business groups in four districts in the Tigray Region of Ethiopia. The large majority of the active groups are functioning well and have overcome the potential collective action problem associated with self-organization. Most group members are satisfied with their group boards and group leaders and are able to change board members that do not function well. Their bylaws facilitate and enforce compulsory participation in group meetings and group work activities. Equal sharing of incomes and work responsibilities is the dominant principle. Punishment for violation of group bylaws is practiced with graduated sanctions that are socially accepted by the large majority of group members. Most group leaders were motivated to continue as group leaders, only 4% were unmotivated, although 67% of the group leaders found the job to be challenging or very challenging. The group leaders were inspired by the good social relations in their groups, and by that they learned a lot from being group leaders. 68% of the group leaders stated that the group performance had improved over the last three years and only 14% that it had deteriorated. Most groups have been able to protect the vegetation on the allocated land and according to the group leaders the vegetation has improved on the land of 81% of the groups and has been stable for another 14% of the groups. Most groups have been able to establish a system with border demarcation, fencing and/or guarding such that the problem with illegal harvesting by outsiders has been reduced. Most youth group members are environmentally conscious and willing to take their part of the compulsory annual 20 days of work for free for conservation of the natural resources in their community.

Key words: Land-poor rural youth; youth business groups; leadership; group and member statistics; Ethiopia.

JEL codes: D02; D23; D7.

Introduction

This is a descriptive baseline survey report under the project "Youth Business Groups for Sustainable Development: Lessons from the Ethiopian Model" which is funded by the NORGLOBAL2 research program by Research Council of Norway. The School of Economics and Business at Norwegian University of Life Sciences is leading the project and has collaborating researchers at Mekelle University, Ethiopia, Christian Michelsen Institute, Norway, Wageningen University, The Netherlands, Osnabrück University, Germany, and University of Queensland, Australia.

The objectives of the project are as follows:

Overall: *Identify factors that enhance the performance and sustainability of formal youth groups as a business and livelihood option*

Specific:

a) *Evaluate the effect of group leader training and incentives on quality of leadership and group performance.*
b) *Evaluate the effect of gender empowerment training on within-group gender differences in performance and on overall performance of youth groups.*
c) *Evaluate how awareness of climate change, climate shock experiences and climate risk awareness and preparedness training affect youth preferences, behaviour, group production planning, livelihood strategies and performance.*
d) *Extract and disseminate the wider policy lessons from the Ethiopian youth group experience.*

The project goes from January 2019 to December 2022. The project builds on initial research on these youth business groups that started in 2016 under the NORAD-funded NORHED capacity building project "Climate Smart Natural Resource Management and Policy" (CLISNARP) and the following studies by Holden and Tilahun (2016, 2017a, 2017b, 2018a, 2018b, 2018c, 2018d).

This report serves primarily as baseline input into the design of the next stages of the research project, especially the leader training RCT of the project. The objective is to get a good understanding of the basic group characteristics, how they are functioning and how the group leaders especially assess the groups, their motivation, challenges, public support, key constraints, performance indicators and threats to their sustainability. The report provides descriptive statistics from the group leader and member survey covering 246 business groups and 2427 group members from these.

The study surveyed 274 groups in the period January-May 2019. 28 of the 274 groups have been dissolved by February 2019 for various reasons (internal conflicts, no land provided, low returns to their activity, migration, lack of motivation among members). Lack of support from the local authority was given as the main reason for groups being dissolved (23 of 28 groups). This means that close to 90% of the business groups are still active. Most of the statistics we present below are for the remaining 246 active groups that we intend to include in the training experiments (including control groups) and follow up surveys. Figure 1 shows the distribution of group sizes, which also includes the dissolved groups, and shows that most groups consist of 10-20 members while a few

groups are much larger. Average group size in February 2019 for the 246 active groups was 17.6 members with group sizes varying from 7 to 175 members. The average number of male members was 10.9 against 6.7 female members. The total number of members of the 246 groups in February 2019 is therefore 4328 members.

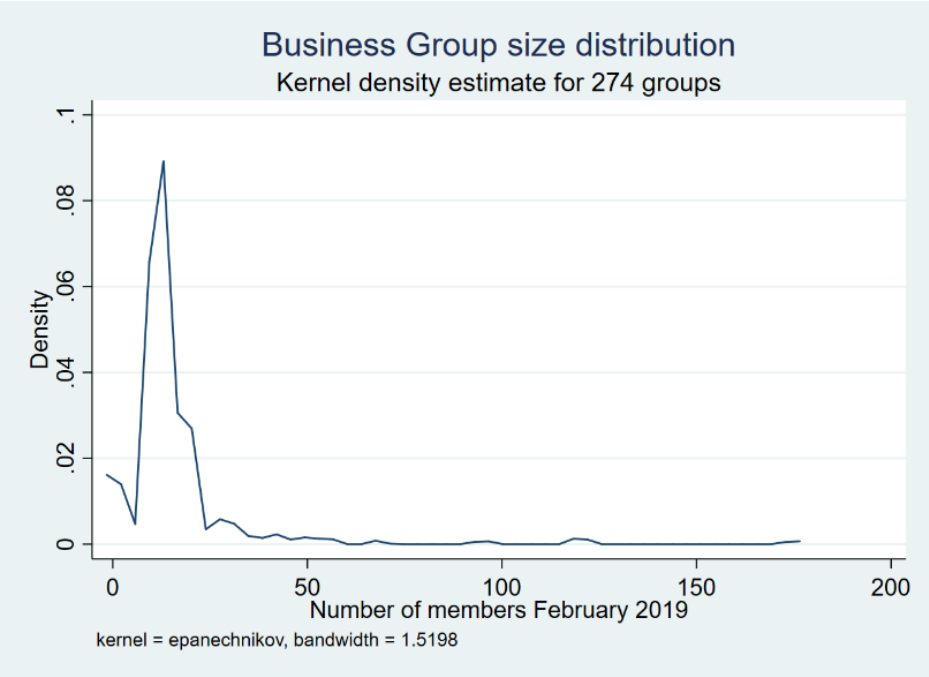

Figure 1. Group size distribution February 2019 for 274 surveyed groups

Of the remaining 246 active groups, 38.2% had at least one member dropping out the last three years (2016-2018). A total of 210 male and 144 female members had dropped out from these 246 groups over the three year period. These have to some extent been replaced by new members as these groups have received a total of 43 new male members and 29 new female members. The total number of members in these groups three years earlier was therefore 4610. This implies a net loss of 282 members or 6.1% of the members and a group size reduction and a reduction in average group size from 18.7 to 17.6 members over this three year period.

The group member survey included up to 12 members per group. The aim was to interview all group board members to the extent that they were available during our one-day visit, and additionally chosen non-board members that were available during our visit. 6.6% of the group members in our survey did not join their group at its start but at a later stage. The twelve members were interviewed simultaneously by twelve carefully trained enumerators using tablets for the interviews and questionnaires translated into the local language Tigrinya. The group leader and other board members were interviewed about the group activities and leadership issues. This report contains detailed information from both the 246 group level data and the 2427 group member data. Basic descriptive tables are presented and are given some limited interpretation. More work is need to carefully analyze the data for different purposes. Overall, we assess the data quality to be good and reliable. Still, we cannot rule out errors and potential biases and the report should be regarded as preliminary as it is based on quick descriptive analyses of the baseline data.

Group income and auditing

Out of the 274 groups 268 group leaders report that group income is shared equally among group members, leaving only six groups where group activities involve different incomes among group members. 141 (57.3%) of the groups have been subject to auditing by the authorities at least one time. The median group among these has been audited three times. They all reported that their accounts were found to be in order.

Credit and donations

Only 17 out of the 246 functional youth business groups received any credit for investment over the period 2016-2019. However, 92 groups had received donations of various kinds. It is somewhat unclear whether some of these donations were intended as credit. USAID is one of the providers of such credit/donations. DECSI has provided credit to seven groups and the Youth Association has provided donations to 22 groups. The average group had received 3500 ETB as credit and 30000 ETB as donation in the period 2016-2018 (over 3 years).

Group leader motivation

The group leaders were asked about their motivation for continuing as group leaders (Table 1), how difficult they found the work as group leader (Table 2), and to rank the main characteristics of how they feel about being a group leader (Table 3).

Table 1. Level of motivation of leaders by main group activity

	Irrigation	Livestock	Perennials	Beekeeping	All
Very unmotivated	0	0	0	0	0
Unmotivated	3	3	2	2	10
It is ok	6	4	5	7	22
Motivated	13	24	8	31	76
Very motivated	24	55	22	36	137
Total	46	86	37	76	245

Source: 2019 Baseline survey data.

Table 2. Group leaders' perceptions of how difficult it is to be group leader

	Irrigation	Livestock	Perennials	Beekeeping	All
Very challenging	8	26	8	15	57
Challenging	18	34	18	37	107
Quite easy	17	24	10	23	74
Very easy	3	2	1	1	7
Total	46	86	37	76	245

Source: 2019 Baseline survey data.

Table 3. Ranked perceptions related to being group leader, leaders of 246 active groups

	Rank 1		Rank 2		Rank 3		Total	
	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent
Takes a lot of my time	31	12.6	17	6.9	18	7.5	66	9.0
It is difficult to organize and motivate the group	27	11.0	30	12.2	25	10.4	82	11.2
It is difficult to handle the relations	19	7.7	10	4.1	6	2.5	35	4.8
I feel honored to be group leader/vice-leader	14	5.7	15	6.1	27	11.2	56	7.6
I get a lot of respect as leader/vice-leader	6	2.4	18	7.3	27	11.2	51	7.0
I learn a lot from being a leader/vice-leader	53	21.5	90	36.6	59	24.5	202	27.6
It is inspiring to be group leader/vice-leader due to good social relations in the group	96	39.0	61	24.8	55	22.8	212	28.9
No more			5	2.0	24	10.0	29	4.0
Total	246	100	246	100	241	100	733	100

Source: 2019 Baseline survey data.

Perceived leader training needs by group leaders

We asked the question "*What kind of training do you think would be particularly useful for you to become a better leader/vice-leader?"* With the following answer codes

1=Organizational skills to improve group cooperation, 2=Technical skills related to the groups' production activities, 3=Marketing skills to get better prices for group production, 4=Financial planning, risk management and investment, 5=Other, specify:

They were asked to rank the three most important training needs. The ranked priorities are presented in Table 4. We see that organizational skills was ranked as the most important training need among close to 50% of the group leaders. But technical production skills and marketing skills were also ranked as important while financial and risk management skills were ranked as important by fewer leaders.

Table 4. Perceived training needs by group leaders, ranked by importance

	Rank 1		Rank 2		Rank 3		Total	
	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent
Organizational skills to improve group	119	48.4	74	30.1	37	15.0	230	31.2
Technical skills related to the groups' production activities	66	26.8	86	35.0	81	32.9	233	31.6
Marketing skills to get better prices for group production	55	22.4	63	25.6	93	37.8	211	28.6
Financial planning, risk management and investment	6	2.4	23	9.4	16	6.5	45	6.1
Other, specify: Share experiences					1	0.4	1	0.1
No More					18	7.3	18	2.4
Total	246	100.0	246	100.0	246	100.0	738	100.0

Source: 2019 Baseline survey data.

We assessed whether there were significant differences in perceived training needs across main production types of the groups but no such significant differences were found.

Turnover in group leader and board positions

We asked "*Has there been any changes in the persons in the group that sit in the key positions the last 3 years (2016-2018)?"* 47% of the groups have had such changes and there were no significant differences in the likelihood of such changes across main production types of the groups.

The reasons for changes in positions are summarized in Table 5 for groups where there had been such changes over the last three years.

Table 5. Reasons for changes in leader and board member positions in groups with such changes

	Freq.	Percent
Positions are rotated regularly in the group	7	4.9
Some wanted replacement	28	19.6
Some left the group	14	9.8
Some were replaced due to poor performance	77	53.8
Some were changed due to disagreements	11	7.7
Other	6	4.2
Total	143	100.0

Source: 2019 Baseline survey data.

Table 5 shows that poor performance was the most common reason for changing leaders or board members. Table 6 shows the positions in group boards for which there have been changes for groups that have had such changes in the period 2016-2018.

Table 6. Group board positions where there have been changes for groups with such changes

	Freq.	Percent
All	6	2.5
Leader	51	21.5
Vice leader	49	20.7
Secretary	45	19.0
Accountant	42	17.7
Treasury	44	18.6
Total	237	100.0

Source: 2019 Baseline survey data.

Level of satisfaction with leaders, boards and other members by members

Group members were asked to rate the performance of their fellow group members, their group officials (board), the leader and the vice leader. The level of satisfaction was determined on a five-level Likert scale. The ratings are presented in Table 7. We see that the perceived level of satisfaction is acceptable or better among more than 90% of the respondents for all four board member categories.

Table 7. Performance indicators for group members, board, leader and vice leader

	Fellow group members		(Other) Board members		Leader		Vice leader	
	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent
Very satisfied	919	37.9	671	27.7	1,115	45.9	843	34.7
Quite satisfied	985	40.6	937	38.6	689	28.4	896	36.9
Acceptable performance	415	17.1	663	27.3	311	12.8	390	16.1
Not so satisfied	80	3.3	131	5.4	61	2.5	94	3.9
Very unsatisfied	28	1.2	25	1.0	31	1.3	41	1.7
Leader					220	9.1		
Vice leader							163	6.7
Total	2,427	100.0	2,427	100.0	2,427	100.0	2,427	100.0

Source: 2019 Baseline survey data. Leaders and vice leaders did not respond to the questions regarding their own performance.

Training received by groups last 3 years and perceived training needs

The following data are based on the group leader questionnaire. On the question whether the group has received any training the last 3 years 124 groups (50.4%) confirmed to have received training in this period. Table 8 summarizes the types of training received by the groups that received training in this period, based on the group leader survey.

Table 8. Types of training received in the period 2016-2018

	Freq.	Percent
HIV	2	0.6
Dangerous drugs	0	0
Business plan	76	23.0
Accounting	44	13.3
Specific technical production activity	113	34.1
Production planning and marketing	95	28.7
Other	1	0.3
Total	331	100

Source: 2019 Baseline survey data.

We also asked what was the most valuable training received. The responses are summarized in Table 9.

Table 9. The most valuable training received.

	Freq.	Percent
HIV	2	0.6
Dangerous drugs	1	0.3
Business plan	71	22.7
Accounting	35	11.2
Specific technical activity training	110	35.1
Production planning and marketing	93	29.7
Other	1	0.3
Total	313	100.0

Source: 2019 Baseline survey data.

We also asked what was the least useful training received and the answers are summarized in Table 10. The table indicates that most training was considered useful and that business plan training most often was considered least useful (18 groups out of 71 that received such training).

Table 10. Least useful training received

	Freq.	Percent
Business plan	18	7.3
Accounting	7	2.9
Specific technical activity training	3	1.2
Production planning and marketing	8	3.3
All training was useful	88	35.8
No training received	122	49.6
Total	246	100.0

Source: 2019 Baseline survey data.

We asked whether the youth groups that received training still feels a need for more training and 100% of the groups that received training perceived a need for further training. Many of those that

received training perceived a need for more training of the same type as well as other types of training.

Table 11. Perceived training needs versus training already received.

	Perceived additional training need							
Already received training	HIV	Business plan	Accounting	Specific technical activity training	Production planning and marketing	Other	No training received	Total
HIV	0	0	0	0	1	0	0	1
Business plan	0	**4**	2	17	10	1	0	34
Accounting	0	0	**2**	2	1	0	0	5
Specific technical activity training	1	6	3	**25**	16	0	0	51
Production planning and marketing	1	7	1	17	**6**	0	0	32
Other	0	0	0	0	1	0	0	1
No training received	0	0	0	0	0	0	122	122
Total	2	17	8	61	35	1	122	246

Source: 2019 Baseline survey data.

We asked those who had received training also to rank the most needed types of training and the responses are summarized in Table 12. We recall that the leaders perceived a need for more training in organizational skills (Table 4) and no such training has been provided so far.

Table 12. Ranked training needs among groups that already had received some training

	Rank 1		Rank 2		Rank 3	
	Freq.	Percent	Freq.	Percent	Freq.	Percent
HIV	1	0.8	1	0.8	2	1.7
Business plan	34	27.4	18	14.8	40	33.6
Accounting	5	4.0	15	12.3	13	10.9
Specific technical activity training	51	41.1	45	36.9	27	22.7
Production planning and marketing	32	25.8	43	35.2	36	30.3
Other	1	0.8		0.0	1	0.8
Total	124	100.0	122	100.0	119	100.0

Source: 2019 Baseline survey data.

Social relations, trust and conflict experiences

We asked the group leaders "*How do you rank the social relations among members in the youth group* overall?" with the following answer alternatives: 1=Very good, 2=Quite good, 3=Ok, 4=Not so good, 5=Very bad. The responses were as follows in Table 13.

Table 13. Social relations in the groups ranked by group leaders

	Freq.	Percent
Very good	62	25.2
Quite good	130	52.9
Ok	54	22.0
Total	246	100.0

Source: 2019 Baseline survey data.

No group leaders therefore considered the social relations to be not so good or bad. We also asked "*Is the youth group fractioned in polarized sub-groups that compete or do not work well together*?" and only two of the 246 group leaders answered yes to this question.

Next we asked "*Is poor cooperation in the group affecting the performance of the activities? (motivation to work among members)"* and the responses are presented in Table 14.

Table 14. Does poor cooperation affect the motivation to work in the group

	Freq.	Percent
Yes, very much	25	10.2
To some extent	97	39.4
No such problem	124	50.4
Total	246	100.0

Source: 2019 Baseline survey data.

The leaders were asked about the current level of trust in the groups as well as current level of trust compared to three years ago, each on five-level Likert scales. The responses are cross-tabulated in Table 15.

Table 15 Current level of trust and change in trust the last three years

	Current trust level compared to trust 3 years ago					
Current level of trust in group	Much lower	Lower	The same	Higher	Much higher	Total
Very high	3	1	28	23	27	82
Quite high	0	6	28	48	9	91
Ok	0	10	38	21	2	71
Not so good	0	1	1	0	0	2
Very poor	0	0	0	0	0	0
Total	3	18	95	92	38	246

Source: 2019 Baseline survey data.

We asked "*Has the group experienced any conflicts over the last 3 years?"* and "*who were involved*" and the cross-tabulated responses are presented in Table 16. Conflicts were categorized as serious and less serious.

Table 16. Conflict experiences the last three years, who were involved

	No conflict	Serious	Less serious	Total
The group versus some outsiders	0	3	9	12
Some group members versus outsiders	0	0	2	2
Internal dispute within the group	0	4	24	28
No conflict	204	0	0	204
Total	204	7	35	246

Source: 2019 Baseline survey data.

Table 17 shows how these conflicts were resolved

Table 17. How were conflicts resolved?

	Freq.	Percent
Solved among the parties themselves	19	45.2
Resolved with help of local conflict mediators	7	16.7
Resolved with help from local Land Administration	4	9.5
Resolved with help from *tabia* officials	4	9.5
Resolved with help from *woreda* official	1	2.4
Resolved in *woreda* court	4	9.5
Unresolved	3	7.1
Total	42	100.0

Source: 2019 Baseline survey data.

Land certification, tenure security and work and investment incentives

Land certification may potentially be important for the groups' perceived tenure security and investment incentives. We asked "*Has the group received a formal land certificate with a map stating the right to the land they have been given (final certificate)?* We also asked for those who had received a certificate whether it contained the names of the group members. The cross-tabulated information in summarized in Table 18.

Table 18. Receipt of land certificates with and without names of group members

	Names on certificate?			
Received land certificate?	No	Yes	NA	Total
No	0	0	37	37
Yes	35	174	0	209
Total	35	174	37	246

Source: 2019 Baseline survey data.

Next, we asked "*How important is this certificate for the group to feel they have secure rights to the allocated land*?" and the responses in Table 19 show that such certificates are considered important or very important by almost all group leaders.

Table 19. Importance of group land certificates

	Freq.	Percent
Very important	114	54.6
Quite important	94	45.0
Not important	1	0.5
Total	209	100.0

Source: 2019 Baseline survey data.

As a follow up question we asked "*How does having joint land right certificate for the allocated land affect the behavior of the group?* With the following answer codes: "*0=No effect, 1=Work harder on the land and invest more, 2=Work less hard after receiving the letter and the group fears less to lose the land, 3=Other, specify:"*, see Table 20 for the responses.

Table 20. Effect of land certificate on group working behavior

	Freq.	Percent
No effect	9	4.3
Work harder on the land and invest more	195	93.3
Work less hard after receiving the letter and the group fears less to lose the land	4	1.9
Other	1	0.5
Total	209	100.0

Source: 2019 Baseline survey data.

Finally, we asked "*Would the group members have preferred to have more individual rights to parts of the land or investments on the land to take more private responsibility for the management of these?"* We hypothesize that such rights preferences may be stronger for irrigated crops that require intensive management than the other production types where there may be more scale economies and benefits from group management. We used a chi-square test to test for differences between main production activities. The distribution and test results are found in Table 21. We see that a higher share of Irrigation groups preferred more individual rights in line with our hypothesis.

Table 21. Preference for more individual land rights by main production type

Prefer more individual land rights	Irrigation	Livestock	Perennials	Beekeeping	Total
No	21	58	26	56	161
Yes	26	28	11	20	85
Total	47	86	37	76	246

Source: 2019 Baseline survey data. Pearson chi2(3) = 11.77 Pr = 0.008.

Infrastructure and market access

18 of the 246 groups had experienced an improvement in the infrastructure (roads) over the last three years. About a quarter of the groups (63/246) had experienced changes in input access and about a similar share (66/246 groups) faced input access problems. We asked those with input access problems to specify what types of input access problems they faced. The responses are summarized in Table 22. Some responded with more than one access problem.

Table 22. Input access problems specified by the group leaders in 66 groups with such problems

	Freq.	Percent
Lack of credit access	46	32.9
Long distance to where fertilizer and s	3	2.1
Lack of water access (irrigation)	6	4.3
Irregular water access	39	27.9
Lack of transport means for inputs	26	18.6
Lack of other specific inputs, specify	20	14.3
Sum	140	

Source: 2019 Baseline survey data.

Main production activities and income from group activities

Table 23 gives an overview of the level and variation in production incomes by main group type and type of production. We see large variation within production types and many groups with no production income yet, especially for the perennial type of production. An implication of this is that most groups and group members depend on complementary individual income sources.

In the group leader survey we also asked for the net income per group member received per year over the last three years (2016, 2017 and 2018). The variation in such income by main production type is presented in Table 24.

Overall, we see and increase (more than doubling) in group income from 2016 to 2017 and then a reduction from 2017 to 2018. The reduction is due to reduced income in livestock and beekeeping activities. Irrigation groups do better than other groups in terms of generating income for group members.

An overview of production assets of the groups by group type and asset category is given in Table 25. The group leaders' own assessment of the value is used, in ETB.

Table 23. Income from alterative production activities by main production type

		Income sources			
Main Production type	Stats	Fruits	Vegetables	Livestock	Honey
Irrigation	Mean	96676	395255	0	946
	Median	0	1000	0	0
	P25	0	0	0	0
	P75	2700	8050	0	0
	P90	11200	205000	0	3000
	N	47	47	47	47
Livestock	Mean	603	17	13905	0
	Median	0	0	0	0
	P25	0	0	0	0
	P75	0	0	16800	0
	P90	0	0	50000	0
	N	86	86	86	86
Perennials	Mean	1305	151	0	230
	Median	0	0	0	0
	P25	0	0	0	0
	P75	0	0	0	0
	P90	5000	0	0	0
	N	37	37	37	37
Bee keeping	Mean	845	66	546	9936
	Median	0	0	0	2625
	P25	0	0	0	0
	P75	0	0	0	7500
	P90	60	0	0	36000
	N	76	76	76	76
Total	Mean	19139	75565	5030	3285
	Median	0	0	0	0
	P25	0	0	0	0
	P75	0	0	0	0
	P90	3500	1200	15600	6750
	N	246	246	246	246

Source: 2019 Baseline survey data. Values in the table are in Ethiopian Birr (ETB). The values are gross income from sale of group products

Table 24. Net group income per member and per year over the last years (2016-2018).

		Group income by year		
Main group type	Stats	2016	2017	2018
Irrigation	Mean	2534	4868	4908
	Median	285	400	860
	P25	0	0	0
	P75	1720	1700	1650
	P90	5000	5000	7000
	N	47	47	47
Livestock	Mean	693	2116	976
	Median	100	157.5	80
	P25	0	0	0
	P75	500	636	600
	P90	1500	2000	2000
	N	86	86	86
Perennials	Mean	514	1151	1162
	Median	30	200	200
	P25	0	0	0
	P75	500	500	500
	P90	1800	4000	5000
	N	37	37	37
Beekeeping	Mean	722	1211	711
	Median	300	325	232.5
	P25	0	0	0
	P75	855	1000	885
	P90	2500	2500	2200
	N	76	76	76
Total	Mean	1027	2217	1673
	Median	155	230	200
	P25	0	0	0
	P75	800	1000	1000
	P90	2500	2750	2900
	N	246	246	246

Source: 2019 Baseline survey data. Values in the table are in Ethiopian Birr (ETB) per year. The values are net incomes received by each member.

Table 25. Production asset values of groups

Main group type	Stats	Fruit trees	Beehives	Livestock	Vege-tation	Build-ings	Irrigation equip.	Tools	All production assets
Irrigation	Mean	2532731	10451	0	229244	10272	68300	1069	2852068
	Median	14000	0	0	11500	0	4000	0	73500
	P25	0	0	0	1600	0	0	0	28850
	P75	180000	0	0	64500	6001	30870	0	435000
	P90	1200000	33200	0	200500	20000	51240	2200	1772900
	N	47	47	47	47	47	47	47	47
Livestock	Mean	90758	174	55907	2283091	26274	17	1689	2457911
	Median	0	0	9480	43250	1850	0	0	157505
	P25	0	0	0	4500	0	0	0	43500
	P75	0	0	41250	271704	40000	0	790	377815
	P90	0	0	160000	1444000	80000	0	2490	2181700
	N	86	86	86	86	86	86	86	86
Perennials	Mean	238157	679	1081	673447	49262	4336	489	967452
	Median	0	0	0	121690	0	0	0	180008
	P25	0	0	0	32475	0	0	0	36500
	P75	0	0	0	565000	500	0	94	931380
	P90	602500	0	0	1522960	20000	24650	640	2890000
	N	37	37	37	37	37	37	37	37
Bee keeping	Mean	89125	47660	1401	527967	18948	423	4116	689639
	Median	0	32750	0	37775	4400	0	690	131211
	P25	0	21750	0	9215	1000	0	0	58300
	P75	0	48600	0	163700	13000	0	4150	267600
	P90	3000	88000	0	751000	35000	0	10486	1107260
	N	76	76	76	76	76	76	76	76
Total	Mean	578979	16884	20140	1106355	24411	13838	2140	1762747
	Median	0	0	0	39500	1400	0	0	139555
	P25	0	0	0	8100	0	0	0	43180
	P75	0	23500	0	200000	14000	0	890	453210
	P90	159200	46900	39000	1008500	60000	16000	4680	1642500
	N	246	246	246	246	246	246	246	246

Source: 2019 Baseline survey data. Values in the table are in Ethiopian Birr (ETB) per year.

Satisfaction with current production activities

We asked "*Are you happy with the type of and extent of production activities you currently have on the land?"* and those answering no were asked to explain why not. Table 26 summarizes the responses.

Table 26. Satisfaction with current group production and reasons for dis-satisfaction

	No	Yes	Total
Takes too long before benefits are obtained	39	0	39
Benefits are too small and can be increased	50	0	50
More activities should be included to get more early income and higher income to the group	50	0	50
The current activity should be replaced by another more productive activity	33	0	33
Other	11	0	11
Satisfied with the production	0	169	169
Total	183	169	246

Source: 2019 Baseline survey data. Dis-satisfied group leaders were allowed to state more than one reason.

We see that a majority of the leaders thinks that there is room for improvement or at least a need for such improvement.

Agricultural extension advice

66% of the groups have been visited by agricultural extension officers and 82% of the groups have themselves visited extension offices to get advice. The median group had received two extension visits.

We asked how useful the contact with the extension staff was and the responses are summarized in Table 27. The responses fit well with the responses on training needs on technical issues.

Table 27. Usefulness of extension advice

	Freq.	Percent
Not useful at all	46	18.7
Somewhat useful	67	27.2
Quite useful	63	25.6
Very useful	27	11.0
No contact	43	17.5
Total	246	100.0

Source: 2019 Baseline survey data.

Threats to the sustainability of the groups

The group leaders were asked "*What are the most important/serious threats to the sustainability of the group (possibly threatening its survival, Rank by importance, Rank 1=Most important)?*" and the ranked and summarized responses are presented in Table 28.

Table 28. Threats to the sustainability of the business groups, ranked by importance

	Rank 1		Rank 2		Rank 3		Sum	
	Freq.	Percent	Freq.	Percent	Freq.	Percent	Freq.	Percent
Too low productivity of the land due to water scarcity/lack of water	138	56.1	32	13.0	17	7.1	187	26.7
Poor market access for input markets,	13	5.3	31	12.6	14	5.9	58	8.3
Poor market access for outputs	15	6.1	26	10.6	21	8.8	62	8.8
Lack of skills/training	34	13.8	80	32.5	69	28.9	183	26.1
Lack of capital/credit	30	12.2	52	21.1	52	21.8	134	19.1
Lack of complementary income for members	5	2.0	9	3.7	29	12.1	43	6.1
Lack of motivation among group members	5	2.0	3	1.2	6	2.5	14	2.0
Internal cooperation problems in group	1	0.4	1	0.4	2	0.8	4	0.6
Other	5	2.0	5	2.0	6	2.5	16	2.3
Total	246	100.0	239	100.0	216	100.0	701	

Source: 2019 Baseline survey data.

We see that the most serious threat is the biophysical conditions that are outside the control of the groups. It is possible that water access can be improved in some cases such as in irrigation groups but drought and climate risks represents the most serious challenge and threat in this semi-arid area. Lack of skills and training is the second most important threat where outside support to the groups also can be important for their survival. Lack of access to capital and credit is the third most important threat to their survival. We saw that very few groups had accessed credit over the last three years. However, it is important to build the skills before the groups take on big investment loans as such loans also can increase the risk of default and collapse of groups. Big loans can make them even more vulnerable. Poor market access for inputs and outputs followed as the next most important threats to the groups' sustainability. Internal motivation and cooperation problems were considered an important threat only in very few groups. This is an indication that the collective action and cooperation within groups works well and mostly is in accordance with Ostrom's design principles (Ostrom 1990; 2010; Holden and Tilahun 2018).

Group performance rating

The youth group leaders were asked to rate the performance of their groups over the last three years compared to the period before that. We used a 5-level Likert scale for the rating. The responses are presented in Table 29.

Table 29. Rating of group performance by group leaders, last 3 years versus earlier.

	Freq.	Percent
Much poorer	2	0.8
Poorer	33	13.4
The same	44	17.9
Better	132	53.7
Much better	35	14.2
Total	246	100

Source: 2019 Baseline survey data.

Performance has deteriorated for about 14% of the groups, has been stable for 18% and improved for 68% according to the group leaders. We also asked how the group is rated by the Youth Association. Not all groups had been visited by the Youth Association but we got their ranking for those visited. We cross-tabulate this ranking with the change in performance rating above, see Table 30.

Table 30. Youth Association rating versus own performance change rating

	Group leader assessment, 3 year change					
Youth Association rating	Much poorer	Poorer	The same	Better	Much better	Total
Very good (Model group that others should learn from)	0	1	1	15	13	30
Good	0	4	11	42	7	64
Average	1	9	14	43	8	75
Below average	0	5	2	8	1	16
Poor performance	0	3	4	0	1	8
Never visited	1	11	12	24	5	53
Total	2	33	44	132	35	246

Source: 2019 Baseline survey data.

Restrictions on production diversification

We asked "*Is the group allowed to diversify its production activity into other types of production than its main activity?* as such diversification may be a way to make the groups more robust and less vulnerable to certain types of risks associated with relying on a single production activity. The responses from the group leaders are presented in Table 31. The majority of the groups perceive that diversification needs approval by local authorities or is not allowed. We came across several groups that had applied to change the main production activity or add to their current activity but such applications were rejected. This seemed to be the reason for the collapse of some groups. Here is variation in how the local officials deal with such issues and this seems to be an area with room for improvement.

Table 31. Restrictions on diversification of the groups' production activities

	Freq.	Percent
Yes, it faces no restrictions on diversifying its production and has already done so	13	5.3
Yes, the group is allowed to do so as long as it does not undermine the main activity or the land resource	68	27.6
Only if this has been approved by the local authorities	88	35.8
No, it is not allowed to add other types of production activity than the main activity	55	22.4
Does not know	22	8.9
Total	246	100.0

Source: 2019 Baseline survey data.

We also asked "*Is the group interested in diversifying its production more than it has currently done?*" and 245 of the 246 groups were interested in such diversification.

We also asked "*what is preventing you from diversifying your production more?*" and allowed more than one response. All responses are summarized in Table 32. We see that there are bureaucratic as well as capital constraints that hinder diversification.

Table 32. Constraints to production activity diversification

	Freq.	Percent
Lack of capital to invest in new activity	219	63.5
Restrictions by the local authorities	49	14.2
Waiting for approval of application to expand into new activity	77	22.3
Total	345	100.0

Source: 2019 Baseline survey data.

Overall livelihood situation and impact of joining youth group

The following analyses build on the 2427 group members from the 246 active groups included in the 2019 survey.

We asked all interviewed youth group members to rank how satisfied they are with their current livelihood situation on a 5-level Likert scale. The responses are presented in Table 33.

Table 33. Satisfaction with current livelihood situation

	Freq.	Percent
Very satisfied	169	7.0
Quite satisfied	826	34.0
Acceptable situation	1,093	45.0
Not satisfied	310	12.8
Very unsatisfied (unbearable situation)	29	1.2
Total	2,427	100.0

Source: 2019 Baseline survey data.

We asked what the group members would have chosen to do for livelihood if they had not joined the youth business group. The responses are presented in Table 34.

Table 34. Livelihood choices if not joining the youth business group

	First choice		Second choice	
	Freq.	Percent	Freq.	Percent
Migrated to urban area to search for employment	474	19.5	347	16.2
Rented/ Sharecropped in (more) land	589	24.3	381	17.7
Migrated out of the country	36	1.5	14	0.7
Gone to school to get more education	84	3.5	13	0.6
Looked for other employment opportunity	370	15.3	237	11.0
Own farm	595	24.5	143	6.7
Other, specify	279	11.5	102	4.8
No more			1190	42.4
Total	2,427	100.0	2,427	100.0

Source: 2019 Baseline survey data.

One may wonder how likely it is that the youth group members will give up the youth group activity and look for other livelihood opportunities. The responses to that question are summarized in Table 35.

Table 35. How likely is it that you will give up the youth group activity and look for another source of livelihood?

	Freq.	Percent
Very unlikely	757	31.2
Quite unlikely	1,247	51.4
Quite likely	350	14.4
Very likely	73	3.0
Total	2,427	100.0

Source: 2019 Baseline survey data.

A cross-tabulation of the responses in Tables 33 and 35 revealed that the likelihood of giving up the youth group activity is not driven by an unsatisfactory livelihood situation. It may be other opportunities rather than the difficult situation that pulls members out the youth group activities. The youth group may serve as an insufficient safety net in the short run for those facing a challenging livelihood situation as it takes time before some of the youth group activities start to generate incomes for the members. However, those in a very difficult situation may also be in a poverty trap and lack the resources to escape and leave the youth group as well even though it does not get them out of the difficult situation.

Table 36 summarizes what the youth group members perceive as the main advantages from having joined the business group.

Table 36. Main advantages from being youth business group member

	Rank 1		Rank 2	
	Freq.	Percent	Freq.	Percent
Allows me to develop a livelihood in my own *tabia*/stay close with family	751	30.9	272	11.2
Good social relation within the youth group/share responsibilities	614	25.3	365	15.0
Can be combined with other activities - an additional source of income	379	15.6	369	15.2
Helps to generate capital for investment in the future	630	26.0	546	22.5
Other, specify	53	2.2	29	1.2
No more			846	34.9
Total	2,427	100.0	2,427	100.0

Source: 2019 Baseline survey data.

How important is the youth group activity as a source of income for the group members? Income sources are ranked by importance in Table 37.

Table 37. Main sources of income, ranked by importance

	Rank 1		Rank 2		Rank 3	
	Freq.	Percent	Freq.	Percent	Freq.	Percent
Youth group activity	70	2.9	210	8.7	261	12.8
Land renting/Sharecropping	389	16.0	494	20.4	175	8.6
Trade	160	6.6	137	5.6	76	3.7
Construction work	35	1.4	27	1.1	18	0.9
Support from family	429	17.7	138	5.7	31	1.5
Own farm	608	25.1	221	9.1	53	2.6
Daily Labor	409	16.9	412	17.0	192	9.4
Other, specify	110	4.5	98	4.0	66	3.2
Temporary land from family or relative	217	8.9	301	12.4	158	7.8
No more			389	16.0	1,397	49.5
Total number of respondents	2,427	100.0	2427	100.0	2,427	100.0

Source: 2019 Baseline survey data.

It takes time before some of the youth group activities start to generate more income for group members. We asked the members what they thought would be their main source of income five years into the future. The responses are summarized in Table 38.

Table 38. Expected main source of income five years into the future

	Freq.	Percent
Youth group activity	771	31.8
Land renting/Sharecropping	314	12.9
Trade	432	17.8
Construction work	55	2.3
Support from family	45	1.9
Own farm	604	24.9
Other, specify	128	5.3
Do not know/Very uncertain	78	3.2
Total	2,427	100.0

Source: 2019 Baseline survey data.

To the question "*How do you rank the social relations among members in the youth group overall?"*, Table 39 summarizes the responses. It shows that less than 2% rank the social relations as less than ok.

Table 39. Overall ranking of the social relations in the group

	Freq.	Percent
Very good	569	23.4
Quite good	1,370	56.5
Ok	450	18.5
Not so good	32	1.3
Very bad	6	0.3
Total	2,427	100.0

Source: 2019 Baseline survey data.

Sustainable and management performance is relevant as the groups are required to protect the vegetation on the land they have been allocated. This may be assessed by studying how the land is protected.

Group bylaws and violations of group bylaws and punishment

We hypothesize that the group bylaws play an important role for the organization of groups. Each group have formed their own bylaw but this bylaw is influenced strongly by proposed bylaws by the district (*woreda*) authorities. We asked the group leaders "*How does the group perceive the bylaws imposed by the woreda for how the group should operate?"* The responses are shown in Table 40.

Table 40. Group leaders' perception of *woreda* imposed bylaws

	Freq.	Percent
Very good and useful	167	67.9
Quite good and useful	74	30.1
Not very important	2	0.8
Has negative effect on the group's activity and motivation	3	1.2
Has strong negative effect on the performance of the group.	0	0.0
Total	246	100.0

Source: 2019 Baseline survey data.

We investigated whether there have been any changes in the bylaws during the last three years (2016-2018). The group leaders' responses are summarized in Table 41.

Table 41. Changes in the group's bylaws over the period 2016-2018

	Freq.	Percent
No changes	206	83.7
Yes, some changes in the first specified bylaws	22	8.9
Some new elements added to the bylaws	17	6.9
Some elements removed from the first bylaws	0	0.0
Other	1	0.4
Total	246	100.0

Source: 2019 Baseline survey data.

We see that about 16% of the groups made some changes in their bylaws. A closer inspection of these changes revealed that most of them involved introducing stronger penalties for violations. The reasons given for the changes in the groups' bylaws are listed in Table 42. and are based on the responses from the group leaders in the groups that had such changes over the last three years.

Table 42. Reasons for changes in groups' bylaws

	Freq.	Percent
Dissatisfaction with the performance of the group	13	15.3
Dissatisfaction with the performance of some group members	6	7.1
Dissatisfaction with how responsibilities and benefits are shared within the group	0	0.0
Need for clearer specification of responsibilities within the group	1	1.2
Need for introducing better monitoring system	28	32.9
Need for introducing better enforcement system	37	43.5
Total	85	100.0

Source: 2019 Baseline survey data.

The following Table 43 shows the share of active groups where punishment for different types of bylaw violations have taken place, based on interviews with group leaders.

Table 43. Punished bylaw violations by group (leader interview)

Bylaw violation	Share of groups with punishment	Obs
Not coming to group meetings	0.732	246
Coming late to group meetings	0.573	246
Not coming to group work activities	0.626	246
Coming late to group work activities	0.459	246

Source: 2019 Baseline survey data.

We also had questions on violations and punishment to the interviewed group members. On the question "*How do you react if you find that another group member is violating the rules of the group regarding resource extraction*?", 55% of the respondents stated that they would confront the person and ask her/him to stop, 43% stated that they would report it to the group leader, and only 1.5% stated that they would do nothing. This demonstrates a strong norm for controlling such illegal activity.

32% of the group members stated that they had been punished for violating the group bylaws. Among those that had been punished for violating group bylaws, this had on average happened two times while the maximum number of times were 20. We assessed factors correlated with the likelihood of such violations and the number of violations by individual members. We considered factors such as trust, social preferences, migration history, reciprocity norm, and individual characteristics. We used a panel linear probability model for likelihood of violation and a panel censored tobit model for number of punished violations, with group random effects and enumerator fixed effects. The results are presented in Appendix Table A1. It can be seen that the egalitarian social preferences are significantly (at 1% level) negatively related to the probability of being punished and number of times being punished due to bylaw violations. Temporary migration for work purposes is positively and significantly (at 5 and 1% levels) associated with the probability and number of violations. Younger members are more likely (significant at 5 and 0.1% levels) to have violated and have a larger number of punished violations and lower level of education (significant at 5% level) is associated with a higher number of punished violations. Finally, members owning mobile phones are more likely to have been punished and have been punished more times (significant at 5 and 1% levels).

Table 44 gives an overview of the types of bylaw violations that the respondents had been punished for since they joined their youth group. To the question whether the punished members thought that the punishment was fair, 99.5% stated that they accepted it as fair.

Table 44. Violations by group members that have been punished

Violation type	No. of punishments	% of all
Group meeting participation	238	20.6
Group work participation	227	19.7
Late arrival to meeting	410	35.5
Late arrival to group work	280	24.2
Total	1155	100.0

Source: 2019 Baseline survey data.

To the questions "*How do you consider the punishment rules for late coming/not coming to youth group meetings?",* and "*group work activities*" the responses are summarized in Table 45. These were the activities that were most commonly violated as seen in Table 43 and the majority think that the rules they have are appropriate or should be made even tougher or enforced to a higher degree.

Table 45. Attitudes towards bylaws regarding group meetings and group work participation

	Group meetings		Group work participation	
	Freq.	Percent	Freq.	Percent
They are necessary and important for group performance and not too tough	1,759	66.7	1,586	64.4
They are unnecessarily tough/should be relaxed	96	3.6	94	3.8
They are too mild and should be made stronger	526	19.9	518	21.0
They are not followed and that is good	35	1.3	34	1.4
They are not followed/enforced and that has negative effects on group activity	223	8.5	230	9.3
Total	2,639	100.0	2,462	100.0

Source: 2019 Baseline survey data. Some responded gave more than one answer.

Land border demarcation and fencing may be important for the protection of land areas from encroachment by outsiders. Table 46 shows the status for such demarcation and fencing.

Table 46. How well is the group land demarcated and fenced?

	Freq.	Percent
Very clearly demarcated and fenced	52	21.1
Clearly demarcated but not fenced	139	56.5
Partly well demarcated	41	16.7
No clear borders for part of the area	14	5.7
Total	246	100.0

Source: 2019 Baseline survey data.

About 59% of the groups had improved the land border demarcation over the last three years. It may also be judged by whether there has been a change in the vegetation on the allocated land. Here also we rely on the information from the group leaders. We asked the question "*Has there*

been any changes in the overall vegetation cover on the land that has been allocated to the group over the last 3 years?" to the group leaders with the three alternative answers listed in Table 47.

Table 47. Change in vegetation on allocated land

	Freq.	Percent
Yes, it has declined	12	4.9
No, it is stable	34	13.8
Yes, it has increased	200	81.3
Total	246	100.0

Source: 2019 Baseline survey data.

The table indicates that the vegetation has increased for more than 80% of the groups. We also asked about the reasons for changes. Out of the 200 groups with increase in vegetation, 190 responded that this was due to natural growth of the vegetation and 162 responded that tree planting by the group contributed to it. Out of those 12 groups who stated that the vegetation has declined 10 stated it was due to resource extraction by outsiders.

We assessed the extent of exposure to outsider activities on the allocated land. We asked the question "*Is there any traffic by outsiders through the area allocated to the youth group the last 3 years?*" and the responses are reported in Table 48.

Table 48. Exposure to outsider activity on allocated land

	Freq.	Percent
Yes, a path/road goes through	9	3.7
It is common by outsiders to walk through the area	79	32.1
Livestock of outsiders commonly enter the area	47	19.1
Uncommon, but it happens	78	31.7
No, it is well protected and no traffic	33	13.4
Total	246	100

Source: 2019 Baseline survey data.

We also asked whether there has been a change in such activity over the last three years, given that such activity has been there, see Table 49. The pressure seems therefore to go down.

Table 49. Change in traffic by outsiders on allocated land over the last 3 years

	Freq.	Percent
The traffic is reduced	151	70.6
The traffic has been stable over time	56	26.2
There has been an increase in such traffic	7	3.3
Total	214	100.0

Source: 2019 Baseline survey data.

We asked "*Is the group experiencing any illegal harvesting by outsiders in the allocated land area the last 3 years?*" and the responses are presented in Table 50. We see that it is a rare phenomenon for close to 95% of the groups.

Table 50. Frequency of illegal harvesting by outsiders over the last 3 years

	Freq.	Percent
It is frequent (>1 per week)	4	1.6
It happens now and then (>1 per month)	10	4.1
It happens rarely (<1 per month)	36	14.6
It happens very rarely (<1 per year)	57	23.2
Has never happened since start of the group	139	56.5
Total	246	100.0

Source: 2019 Baseline survey data.

To further investigate this we asked "*If there is a problem of illegal harvesting by outsiders, has there been a change in this problem over the last 3 years compared to earlier?*" with the responses in Table 51. It appears that the problem has been reduced substantially.

Table 51. Change in illegal harvesting by outsiders last 3 years

	Freq.	Percent
The problem has been reduced	77	71.3
The situation is stable	16	14.8
This is an increasing problem	15	13.9
Total	108	100.0

Source: 2019 Baseline survey data.

We wonder about the reasons for this. We asked "*Has there been any changes in how the group protects the land against such violations during the last 3 years (2016-2018)?*" and 84% (207 groups) responded yes. The conditional question to those answering yes on "*how the group currently is protecting the land against such violations if they are a problem?*" gave the responses in Table 52.

Table 52. Method of guarding the area in 2019 among those who have changed the protection

	Freq.	Percent
It is continuously guarding the area (rotating the responsibility among group members)	127	61.4
It is guarding the area during daytime (rotating responsibility)	19	9.2
It has hired a guard to protect the area	59	28.5
No guard is considered necessary	2	1.0
Total	207	100.0

Source: 2019 Baseline survey data.

We asked "*how does the group currently respond in case it identifies individuals or animals that encroach on the area?*". The responses are presented in Table 53.

Table 53. Treatment of outsider encroachers on the allocated land

	Freq.	Percent
Gives a warning and ask the violators to leave/chase away animals	195	95.6
Allow some trespassing by people and animals	1	0.5
Report trespassers/encroachers to the community if resources (trees) are damaged or stolen	2	1.0
Impose penalty/fine on resource thieves	6	2.9
Total	204	100.0

Source: 2019 Baseline survey data.

We also wondered which bylaw is used to handle resource thieves, see Table 54. We see that the groups' bylaws are used as the basis to handle resource thieves by the large majority of groups.

Table 54. Which bylaw is used to handle resource thieves stealing from the allocated land

	Freq.	Percent
Woreda (district) bylaws	35	14.2
Tabia (community) bylaws	34	13.8
The group bylaws	177	72.0
Total	246	100.0

Source: 2019 Baseline survey data.

Finally, we asked "*Is the current system for controlling encroachment functioning satisfactorily?* 78% of the group leaders responded yes to this question, 18% answered no and 4% responded that some changes are needed. We conclude based on these descriptive statistics that the vegetation on the allocated land is well protected for the large majority of groups according to the responses of the group leaders.

Environmental preferences and consciousness

We included a number of questions to assess the degree of environmental consciousness and related preferences among the youth business group members. Ethiopia, and especially Tigray region where these groups are located, have a long tradition of compulsory community work that to a large extent has been used to invest in land conservation. The questions aimed to reveal the attitudes towards such work and its importance and the role of youth in this work. In addition, we included a question about continued population growth in the community, see Tables 55 and 56.

Table 55. Environmental preferences and consciousness

	Community compulsory work is very important to protect the natural resource base and secure the future livelihood of people in the community		It is important that youth participate in the conservation of land resources in the community		Continued population growth in the community threatens future livelihood	
	Freq.	Percent	Freq.	Percent	Freq.	Percent
Strongly disagree	30	1.2	24	1.0	139	5.7
Disagree	20	0.8	14	0.6	574	23.7
Uncertain	11	0.5	16	0.7	337	13.9
Agree	835	34.4	990	40.8	1,038	42.8
Strongly agree	1,531	63.1	1,383	57.0	339	14.0
Total	2,427	100.0	2,427	100.0	2,427	100.0

Source: Own survey data.

Table 55 demonstrates that there is a very strong commitment to local resource conservation with more than 95% agreeing or strongly agreeing in such work being important and youth participation in such work. About 57% agreed that continued population growth represents a threat to their future livelihood while close to 30% disagreed or strongly disagreed. Table 56 shows that more than 70% think that the current level of 20 days per year of compulsory free work for conservation is an appropriate level per individual while about 11% thought this was too low. This leaves only about 18% of the business group members thinking that 20 days of free labor for the community is too high or much to high.

Table 56. Compulsory community work commitment

The current level of compulsory free labor of 20 days for conservation of the natural resources in the community is		
	Freq.	Percent
Much too high	36	1.5
Too high	392	16.2
Appropriate	1,735	71.5
Too low	235	9.7
Much too low	29	1.2
Total	2,427	100

Source: Own survey data.

We can draw the conclusion that the large majority of the youth business group members are environmentally conscious and willing to take their share of the work that is needed to ensure sustainable land use and conservation.

Preliminary conclusions

The descriptive statistics indicate that the large majority of the active groups are functioning well and have overcome the potential collective action problem associated with self-organization. They are satisfied with their group boards and group leaders and able to change board members that do not function well. Their bylaws facilitate and enforce compulsory participation in group meetings

and group work activities. Equal sharing of incomes and work responsibilities is the dominant principle. Punishment for violation of group bylaws is practices with graduated sanctions that are socially accepted by the large majority of group members.

Most group leaders were motivated to continue as group leaders, only 4% were unmotivated, although 67% of the group leaders found the job to be challenging or very challenging. They were inspired by the good social relations in their groups, and by that they learnt a lot from being group leaders.

About half of the groups have received some form of training over the last three years but also these groups perceive a need for more training, including in the areas where they already have received training.

A small minority of the groups has received investment credit over the last three years. Most groups see a need to improve the group production activities and capital constraints as well as bureaucratic restrictions on production diversification appear to contribute to dis-satisfaction in some groups. High interest rates on credit and limited savings also cause groups to be hesitate to or being able to take loans for investment. Low productivity of the allocated land represents the most serious threat to the sustainability of the groups.

Most groups (85%) have received land certificates for the group land and 71% of the groups have received certificates with maps and their names on. They are satisfied with this and state that this is important for their work incentives. About 35% of the leaders expressed an interest for more individual land rights rather than the group right and this was more common in the irrigation groups.

68% of the group leaders stated that the group performance had improved over the last three years and only 14% that it had deteriorated. Group members indicated that joining the youth group was important for them to be able to develop a livelihood in their home community, invest in a future opportunity, have good social relations in a joint group activity, while it also can be combined with other activities.

Most groups have been able protect the vegetation on the allocated land and according to the group leaders the vegetation has improved on the land of 81% of the groups and has been stable for another 14% of the groups. Ten groups stated that they faced a problem due to extraction by outsiders. Most groups have been able to establish a system with border demarcation, fencing and/or guarding such that the problem with illegal harvesting by outsiders has been reduced.

Most youth group members are environmentally conscious and willing to take their part of the compulsory annual 20 days of work for free for conservation of the natural resources in their community.

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