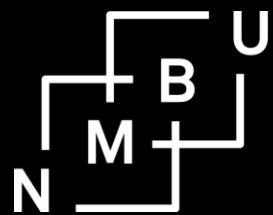


The effects of gender empowerment training on within-group gender differences in performance and overall group performance: A Pre-Analysis Plan

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Norwegian University of Life Sciences
Centre for Land Tenure Studies

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Abstract

This Pre-Analysis Plan is for a Randomized Control Trial (RCT) for recently formed youth business groups in Tigray Region of Ethiopia. Resource-poor rural youth are given a business opportunity by being allocated a rehabilitated land area where they can establish a joint business. They are organized as a primary cooperative and self-organize with a board of five members including a leader and a vice leader. The overall objective of the project is to identify factors that enhance the performance and sustainability of formal youth groups as a business and livelihood option. The project includes three RCTs and this registration is for one of these RCTs. This study is an RCT that aims to investigate the benefits of training elected female group members in this setting where male group members dominate as group board members and leaders in most groups. The training will consist of training in production planning and marketing and use of mobile phones for these purposes. An additional effect of the training is also to create social networks and professional contacts across groups among female members that receive the joint training.

Ethiopian culture is patriarchal, and men have traditionally been household heads and taken up almost all leadership positions in the society. Recent legal reforms in the country have strengthened women's land rights (Holden et al. 2011). Less is known about the position of women in business. They are supposed to have equal rights to men as members of primary cooperative businesses that we study. However, they are outnumbered by men in such business groups (38% of the members are women), are less likely to be board members (only 24% of the female group members against 38% of male members are board members), and much less likely to be group leaders/vice group leaders (only 4% of females and 22% of males are in such positions) (Holden and Tilahun 2019b). Female group members are also less likely to own mobile phones (31% of female against 72% of male members (Holden and Tilahun 2019b)). Mobile phones are instrumental in doing business such as for marketing, organization of groups, and contacting authorities.

- **Keywords:** Agriculture, Labor,
- **Additional Keywords:** Youth employment, self-organized primary cooperatives, women's empowerment
- **JEL codes:** C93, Q13, Q15, O17, J54

1. Introduction

This document is a Pre-Analysis Plan for a Randomized Control Trial (RCT) implemented under the research project “Youth Business Groups for Sustainable Development: - Lessons from the Ethiopian Model” that is funded under the NORGLOBAL2 program by the Research Council of Norway for the period 2019-2022. This is one of three RCTs funded under this project, all focusing on training of business group members as interventions to enhance their performance.

This Pre-Analysis Plan follows the guidelines of the JPAL and AEA Registry (<https://www.socialscienceregistry.org/site/instructions>). A Pre-Analysis Plan is a document that formalizes and declares the design and identifies the outcome variables of interest that are expected to be influenced by the treatments in the RCT. The intention is to enhance transparency in the analysis and to avoid *ad hoc* selection of significant variables after the analysis has been made.

- Trial Start Date: 2019/02/15 (Baseline survey)
- Intervention Start Date: 2019/12/01
- Intervention End Date: 2022/05/31
- Trial End Date: 2022/12/31

2. Sponsors and Partners

Trial Sponsors and Trial Partners: Funding for the project is provided by Research Council of Norway under the NORGLOBAL2 program. The project leader (PI1) is professor at School of Economics and Business, Norwegian University of Life Sciences (NMBU). Part of the time input into the project by Stein Holden is funded by NMBU. Collaborating Principal Investigators on this RCT are professor Stefanie Engel, Osnabrück University, Germany, associate professor Mesfin Tilahun, Mekelle University, Tigray, Ethiopia and Dr. Tobias Vorlaufer, post-doc researcher, Osnabrück University, Germany. Mesfin Tilahun is in charge of implementing the training based on the agreed Pre-Analysis Plan. Part of the time input by Mesfin Tilahun is covered by Mekelle University and all of the time input by professor Stefanie Engel and Tobias Vorlaufer are covered by Osnabrück University. Stein Holden and Mesfin Tilahun jointly designed the training component and Mesfin Tilahun implemented the training with the team trained for the field operations.

3. Key research questions and hypotheses:

RQS1: Can training of and provision of mobile phones to female group members enhance their participation in group boards and group decision-making and can it enhance the position of women in the groups in general?

Hypothesis S2a: Provision of training and mobile phones to selected female members enhances their motivation and skills and empowers female members within their groups.

Hypothesis S2b: Provision of training and mobile phones to selected female members enhances motivation of and empowers other female members within their groups

RQS2: Does the training and provision of mobile phones enhance the economic performance of and social relations within groups?

Hypothesis S2a: The training and mobile technology treatment enhances the economic performance of their groups.

Hypothesis S3b: The training and mobile technology treatment enhances the social relations among group members.

RQS3: Does the training and mobile phones help the trained members to establish social and professional networks across groups that help them and their groups?

Hypothesis S4a: The trained members keep contact after the training and continue to learn from each other.

4. Experimental Details

Intervention: There will be one treatment (training + mobile phone) and a control group (only surveyed and monitored like the treatment group). From each treatment group we selected two willing and motivated female candidates for training. We use a numeracy skill test and select the two available and motivated female members with highest scores in the numeracy skill test as numeracy skills are important in the type of production planning that we will provide training in. The selection was usually among the 12 members initially samples but additional female members were recruited for groups with very few female members among the sample of 12. The mobile phones with use costs coverage serve as incentives for the beneficiaries in addition to the training and networking among those trained. A stratified sample of 92 groups with 46 treatment groups and 46 control groups were identified among the irrigation and livestock groups. Horticulture/irrigation and animal rearing groups are used for this experiment as these groups have higher female participation and more complex production planning and marketing challenges than other groups.

The two selected female group members in treatment groups will receive new mobile phones and business training to better utilize their mobiles for the benefit of their group. While the mobile phone is personal property, they are expected to use it to serve their groups. This will be monitored regularly (for 3 years). Top-up of air time will be used as an extra incentive treatment and depend on performance (active participation) and satisfaction by other group members.

Table 1. Outcome measures (versus baseline data where possible):

	Variable	Outcome Type		Data Collection	
		Inter-mediaty	Final	Befor e	After
<i>Individual Level</i>					
1.	Participation in training	x			x
2.	Skill development (tested at end of training) -Numeracy skill test	x x	x	x	x x
3.	Practice of skills by female members: -Use of tools received during training in interaction with group members after training (number of tools used, number of group meetings using the tools, number of changes in production activities based on tools used)	x			x
4.	Networking among trained female members after training -Number of trained members across groups that keep in contact through mobile phones to seek advice/discuss group-related issues -Number of trained members maintaining social contacts with trained members from other groups	x x			x x
5.	Number of trained members that have contacted the researchers to get advise related to their group activities after finishing the training	x			x
6.	Influence on group: Contributions in group meetings/planning of group activities		x		x
7.	Own assessment by trained female members: (5-level Likert scale)		x		x
8.	Fellow group members' satisfaction with trained female members' performance after training (5-level Likert scale)		x		x
<i>Group Level</i>					
	<u>Gender Empowerment</u>				
9.	Change in group board membership & leadership (gender balance)		x	x	x
10.	Female members proposed for group leader position during last elections		x		x
11.	Share of female group members		x	x	x
12.	Male and female attitudes towards female leaders and female members		x	x	x
	<u>Economic Performance</u>				
13.	Group annual net income per group member		x	x	x
14.	Average group member work contribution to group business (mandays/month)	x		x	x
15.	Net annual income per manday of work		x	x	x
16.	Group capital investments per member during treatment period	x		x	x
17.	Survival of youth business groups		x		x
18.	Drop-out rate for youth group members		x	x	x
	<u>Social relations in groups</u>				
19.	In-group vs. out-group social preferences by gender		x	x	x
20.	In-group vs out-group trust and trustworthiness by gender		x	x	x
21.	Frequency of group meetings (number of group meetings/month)		x	x	x
22.	Participation rate during group meetings		x		x
23.	Satisfaction with group members' performance		x		x
24.	Share of members that have been punished by the group for poor performance per year		x		x
	<u>Overall</u>				
25.	Weighted standardized index for the indicators		x		x
26.	By sub-category of performance indicators: Joint sub-indices		x		x

Comments and explanations on outcome indicators

Performance of trained members within groups:

- *Participation in training*
 - Not all randomly selected groups for training were willing/able to send female members for training (it was more difficult for female members to travel far for the training)
 - A substantial share of those trained brought their babies to the training. This may have affected their ability to concentrate during training
 - An intention to treat approach is combined with actual treatment and performance of those trained
- *Skill development* (numeracy skills tested before and at end of training)
- *Practice of skills* by female members after returning to their groups
 - 1) Use of mobile phones related to group activity
 - 2) Joint production planning with fellow group members (use of written tables)
 - 3) Number of meetings using the tools
 - 4) Use of mobile phones to collect market information (frequency per year)
 - 5) Use of mobile phones to seek advice/keep contact with fellow trainees in other groups
 - 6) Use of mobile phone to seek advice from extension advisors/researchers/ relevant experts/authorities (frequency per year)
- *Influence on group:* Contributions in group meetings/planning of group activities
 - Own assessment
 - 1) Own performance in group
 1. Engagement in planning of group production and marketing
 2. Influence on group decisions
 - Assessment by fellow group members
 - 1) Fellow youth group members' satisfaction with female members' performance (5-level Likert scale)
 - 2) Contributions in group meetings/planning of group activities: Number of suggested ideas, number of ideas that have been agreed upon by group, number of ideas implemented (Own assessment, assessment by fellow group members)

Group performance:

- *Change in group board membership & leadership (gender balance):* Number of female members in group board. Groups with female leader or vice leader.

- *Female members proposed for group leader position during last elections:* binary indicator (yes/no)
- *Share of female group members:* share of female members at baseline and endline respectively
- *Male and female attitudes towards female leaders and female members:* The same attitude questions will be repeated in the endline survey as in the pre-treatment survey in addition to specific perception questions related to impacts of the training.
- *Group annual net income per group member:* This is the group net income between July 1, 2021 and June 30, 2022. It is gross income to group business subtracted by cash expenditures including debt repayments and other cash expenditures. This net income is what may be considered return to group members' labor input and joint land+investment endowment. This information is to be obtained from the accountant of the business group. Group net income is stochastic and can also take on negative values and is having a skewed distribution. Inverse hyperbolic sine (IHS) transformation will be used for this variable to handle possible negative and zero observations to obtain a better distribution of this variable.
- *Average group member work contribution to group business (mandays/month):* This information will be obtained from all group members that participate in the baseline and endline surveys (up to 12 members per group) and is averaged across group members. The period should be the last month before the survey. The estimate is accompanied with an assessment of the representativeness of last month compared to the rest of last year with a possible average figure per month over the last year if that is found to be more representative. Possibly the total mandays of work per member last year should be recorded based on individual interviews or alternatively records kept by board members (have to assess the existence and quality/completeness of such records).
- *Average net income per worker per manday of work last year.* This requires combining the the two previous key variables and an ability to get total workdays last year per group member.
- *Group capital investments per member during treatment period:* This is the aggregate investments in Ethiopian Birr in the period July 2019-June 2022 (3 years) divided by the average number of group members in that period.
- *Survival of youth business groups:* This is simply a record of whether the business groups still exist at the end point of the RCT
- *Dropout rate for youth group members:* For surviving groups this is the share of the group members that were part of the group at the baseline survey and that have dropped out of the group by the end of the program (endline survey)
- *In-group social preferences:* In-group and out-group social preferences measures with a set of simple dictator games. A comparison of the in-group social preferences at the endpoint with those at the baseline. Out-group social preferences will be used as controls. The gender difference in average social preferences at endpoint versus baseline.
- *In-group trust and trustworthiness:* Ingroup trust and trustworthiness measured with the trust game. A comparison of ingroup trust and trustworthiness at the end of the project with ingroup trust and trustworthiness in the baseline survey as average across members taking

part in the survey. Outgroup trust will be used as a control. Gender difference in trust and trustworthiness at endpoint compared to baseline.

- *Frequency of group meetings (number of group meetings/month):* This information is also collected from all group members regarding their level of participation in group meetings and averaged across group members. Like for the previous indicator the last month's representativeness for the whole last year is assessed and an average for the whole year may be preferred if last month was not very representative for the whole year.
- *Participation rate during group meetings:* see above
- *Satisfaction with group members' performance:* Members are asked about their satisfaction with other group members along a 5-level Likert scale in the Baseline. The same will be used at endline and with an additional control for satisfaction compared to the baseline year.
- *Share of members that have been punished by the group for poor performance per year:* This will be based on the survey of individual group members.
- *Satisfaction with female members' participation:* This will be assessed through interviews with other group members in the end survey.
- *An index for overall performance:* This will be based on all the indicators, except the two first ones above. We will construct it as a weighted index, giving equal weight to each indicator that are normalized by the standard deviation of each indicator.

Experimental Design (Public)

There will be one treatment (with training+monitoring+incentives) and one control (with monitoring), with up to 46 groups for each of the treatment and control groups, 92 groups in all. Training will be given to two willing/motivated female group members from each of the treatment groups. The willing female candidates with highest numeracy scores are selected as numeracy skills are important in the production planning and market analyses they will receive training in. Members are therefore not randomly assigned for training. This may contribute to a heterogenous treatment effect. We have data for female members from control groups that would have been sampled if they were treatment groups.

The treatment includes provision of mobile phones with airtime, intensive training periods in production planning and marketing (planning tools applied to own group production), group networking, group presentations and discussions.

Randomization Method

A randomized block design will be used to handle the heterogeneity in group characteristics. The stratification is first made tentatively based on a census of youth groups carried out in 2016 (Holden and Tilahun 2018). Final stratification is made in 2019 after a new baseline survey that identified 246 active groups. Key group characteristics were used to construct blocks of groups with as similar key group characteristics as possible. Two treatment groups are randomly sampled within each block consisting of four groups with similar characteristics, based on drawing of random numbers on the computer.

Randomization Unit

It is the youth business group that is the randomization unit. Each block will contain two random control groups and two random treatment groups. A block is located within one district. The groups should be sufficiently far apart to minimize spillover effects, however, we cannot rule out some spillover effects. We believe there will be relatively small spillover effects from the type of training we have given. We have mapped the groups between which there could potentially be such spillover effects. We will in the endline survey investigate the extent to which such effects can be found based on stated communication across groups. Similarity is judged based on main group production activity (only irrigation/horticulture and livestock groups were selected), group size, number of female members in the group and their positions, and type and size of land area allocated. For livestock groups they were grouped by type of livestock as well (cattle, dairy, sheep, goats, poultry).

Was the treatment clustered?

The groups are clustered into blocks with four groups per block.

Sample size

Planned Number of Observations: up to 92 business groups organized in up to 23 blocks with the same type of main production activity. For each business group up to 12 group members (5 board members and 7 ordinary members) will be included in survey interviews and lab-in-the-field experiments to elicit social preferences, economic preferences, and trust within groups, assess monitoring and performance).

Sample size by treatment arm

The intention was to treat 46 groups and have 46 control groups.

Power calculation

Accounting for sample design and clustering, what is the minimum detectable effect size for main outcomes. Specify the unit, standard deviation, and percentage.

The power of the randomized block design depends on the benefit from clustering into blocks (pairwise comparison), which separates the cross-block (pair) variance from the within block variance. It also depends on the extent to which treatment effects are varying strongly with the variation across blocks (treatment heterogeneity). Power is likely higher for variables that are individual and group decision variables that are non-stochastic and measured with small measurement error than variables that are stochastic and therefore have larger standard deviations such as production outcomes that depend on stochastic weather or market outcomes (stochastic price variables). The number of covariates also matters for the power calculation (loss of degrees of freedom). Covariates include social preference type and Big 5 type. We need to correct for multiple outcome indicators but will use aggregated indices to reduce the risk of bias in assessment of significance levels.

Indexes of aggregated variables will be constructed based on standardized variables measured in standard deviation (SD) units.

Institutional review board (irb) information

The ethical risks related to the RCT were assessed in the process of project proposal assessment by the Research Council of Norway before the project received funding. A Data Management Plan has been prepared according to the standards of NMBU and the Research Council of Norway. Retaining the anonymity of the respondents is an essential part of the Data Management Plan. Anonymized data will be made publicly available after the completion of the project.

This Pre-Analysis Plan will be published as a CLTS Report at NMBU and will not be changed after the publication date.

Supporting Documents and Material (Optional)

Supporting documents are included as appendices in this PAP. They include

- Appendix 1. Survey instruments used in the baseline survey for the youth business groups included in the RCT; Note that these were translated to the local language Tigrinya and programmed for interviewing with tablets, using CSPro. The first questionnaire was used for all members in all 246 groups.
- Appendix 2. The second questionnaire used for the members in the 92 groups selected for the gender training RCT. 838 group members were interviewed in these groups.
- Numeracy test questions; All the 838 members were exposed to this test during the second survey round. The same test is used at the end of the training week.
- Appendix 3. Overview of training content.

Analysis Plan (Optional)

The detailed analysis plan will be prepared in a separate document. Possible attrition will have to be taken into account in the analysis. An intention to treat approach will be used.

Post-Trial Information

The training treatment was implemented in December 2019.

Part 2: information you need to provide when study is complete, withdrawn/ abandoned or at key stage of the study. See:

https://s3.amazonaws.com/aea-rct-staging/Registry+Field+Definitions_9.15.16_web.pdf

Appendix 1.

Mekelle University
In collaboration with
Norwegian University of Life Sciences

Youth Group Member Survey 2019, Tigray, Ethiopia

Zone _____ Code _____

Woreda _____ Code _____

Tabia _____ Code _____

Kushet _____ Code _____

Date of interview

Enumerator _____ Code _____

Introduction and Experiments (Part 1)

S.No.	Question	Unit	Response
1	Date	Date	
2	Time when interview starts	Hour:Minute	
3	What is the name of the School/ place where the interview is done?	Name	
4	Youth Group number (ID) (from Youth Group Survey)	Number	
5	Youth Group Member ID	Number	
6	Name of Youth Group Member	Code	
6a	Year of birth (GC)		
6b	Month of birth (GC) (Use mobile app to convert from EC to GC if needed)		

Mekelle University in collaboration with Norwegian University of Life Sciences is conducting research on youth groups, land allocation and performance in Tigray. You have been selected to participate in this interview as a member of a youth group. In this survey round you will be asked to respond to all questions in an interview and we will also play some experiments with you where you will be able to earn some money. The amount you earn will depend on your decisions as well as your luck in the experiments and responses by other youth group members. We hope you are willing to participate.

7	Are you willing to participate in the survey and experiments? 1=Yes, 2=No	Code	
	Game set 1		
a. We will introduce to you eight sharing games where you will decide what you prefer.			
b. You will have a chance to earn money by participation in these games and your answers will affect how much you and some others will get.			
c. Only one game will result in pay out but you do not know which one when you make your answers .			
d. A lottery will determine which ones will be for real after all the games are played.			
e. By making careful answers in each game, you have a greater chance of getting your preferred payout.			
S1	Sharing game 1: You can choose between two sharing options between yourself and another unknown member of your own youth group: Option 1: 20 ETB for yourself AND 20 ETB for another unknown member of your own youth group Option 2: 20 ETB for yourself AND 0 ETB for another unknown member of your own youth group	Choice of sharing option: 1 or 2	

S2	<p>Sharing game 2: You can choose between two sharing options between yourself and an unknown member of another youth group in your woreda:</p> <p>Option 1: 20 ETB for yourself AND 20 ETB for another unknown member of another youth group in the woreda</p> <p>Option 2: 20 ETB for yourself AND 0 ETB for another unknown member of another youth group in the woreda</p>	Choice of sharing option: 1 or 2	
S3	<p>Sharing game 3: You can choose between two sharing options between yourself and another unknown member of your own youth group:</p> <p>Option 1: 20 ETB for yourself AND 20 ETB for another unknown member of your own youth group</p> <p>Option 2: 20 ETB for yourself AND 40 ETB for another unknown member of your own youth group</p>	Choice of sharing option: 1 or 2	
S4	<p>Sharing game 4: You can choose between two sharing options between yourself and an unknown member of another youth group in your woreda:</p> <p>Option 1: 20 ETB for yourself AND 20 ETB for another unknown member of another youth group in the woreda</p> <p>Option 2: 20 ETB for yourself AND 40 ETB for another unknown member of another youth group in the woreda</p>	Choice of sharing option: 1 or 2	
S5	<p>Sharing game 5: You can choose between two sharing options between yourself and another unknown member of your own youth group:</p> <p>Option 1: 20 ETB for yourself AND 20 ETB for another unknown member of your own youth group</p> <p>Option 2: 40 ETB for yourself AND 0 ETB for another unknown member of your own youth group</p>	Choice of sharing option: 1 or 2	
S6	<p>Sharing game 6: You can choose between two sharing options between yourself and an unknown member of another youth group in your woreda:</p>	Choice of sharing	

	<p>Option 1: 20 ETB for yourself AND 20 ETB for another unknown member of another youth group in the woreda</p> <p>Option 2: 40 ETB for yourself AND 0 ETB for another unknown member of another youth group in the woreda</p>	option: 1 or 2	
S7	<p>Sharing game 7: You can choose between two sharing options between yourself and another unknown member of your own youth group:</p> <p>Option 1: 20 ETB for yourself AND 20 ETB for another unknown member of another youth group in the woreda</p> <p>Option 2: 30 ETB for yourself AND 40 ETB for another unknown member of another youth group in the woreda</p>	Choice of sharing option: 1 or 2	
S8	<p>Sharing game 8: You can choose between two sharing options between yourself and another unknown member of another youth group in your woreda:</p> <p>Option 1: 20 ETB for yourself AND 20 ETB for another unknown member of another youth group in the woreda</p> <p>Option 2: 30 ETB for yourself AND 40 ETB for another unknown member of another youth group in the woreda</p>	Choice of sharing option: 1 or 2	
G1 (S1-S8)	Lottery to determine which of the games is real will take place at the end of the survey interview		
	<p>Game set 2</p> <p>There will be a sequence of four games and one will be for real but you do not know till afterwards which one will be real. It is therefore important to make a careful decision in each. The game which will be real will be determined by a lottery.</p> <ol style="list-style-type: none"> In each game you will be given an amount you can decide to keep or share with another person. That other person is either one anonymous member of your own youth group or a member of another youth group in your woreda. The lottery will determine who the other person is in the real game. You will never find out who the other player you give to is and s/he will not know from whom they have received the money, just 		

	<p>whether it is a member of own group or from a member of another group.</p> <p>e. In these games the receiving persons are not asked to return any of the money you have given to them but they will play the same types of games like you.</p> <p>f. You are free to do whatever you want in these games, e.g. decide to take all the money yourself or to give everything to the other person or share the money in any proportion between yourself and the other (unknown) person.</p> <p>Enumerator instruction: Put 30 ETB in two 5 & two 10 ETB notes and an envelope in front of the respondent.</p>		
D1	You are given 30 ETB and can decide to give some to another unknown member of your own youth group and this person (decided by a lottery) will receive this exact amount you give if this becomes the real game.	Out of 30 ETB you will give	ETB:
D2	You are given 30 ETB and can decide to give some to another unknown member of another youth group in your woreda and this person (decided by a lottery) will receive this exact amount you give if this becomes the real game.	Out of 30 ETB you will give	ETB:
D3	You are given 30 ETB and can decide to give some to another unknown member of your own youth group and this person (decided by a lottery) will receive three times the amount you give if this becomes the real game.	Out of 30 ETB you will give	ETB:
D4	You are given 30 ETB and can decide to give some to another unknown member of another youth group in your woreda and this person (decided by a lottery) will receive three times the amount you give if this becomes the real game.	Out of 30 ETB you will give	ETB:
G2 (D1-D4)	Lottery to determine which of the four games will be real is coming at the end of the survey interview.		
	<p>Game set 3 Instructions:</p> <p>This is an experiment in two stages. You will play with another anonymous person. This person will either be a member of your own youth group or a member of another youth group in your district. You will never find out who the person you play with is. The experiment is about trust and trustworthiness and involves money to be sent between you and the other person. You will be both a sender and a receiver of money who decides whether to return some of the money received to the sender.</p> <p>As a sender you will first receive 30 ETB that you will decide over (split in two 10 ETB notes and two 5 ETB notes). You may decide to keep the whole 30 ETB for yourself or to invest the whole or part of it (as much as you want). The amount you invest will be tripled by us (e.g. if you invest 5 ETB we triple it to 15 ETB or if you invest the whole 30 ETB, we triple it to 90 ETB. We put the tripled amount into an envelope for your</p>		

	<p>investment. The same is done for all group members in your youth group and other youth groups in your district.</p> <p>Before you know whether you will play with another person in your own group or another person in another youth group in your district, we ask you to decide how much you will invest in each of these, knowing that only one of these will be selected for real. A lottery with equal chance for each will determine who of these you will play with.</p> <p>We also want to know how much you as a receiver will return of the tripled amount sent to you by an unknown sender in your own group or another group in the district. For each alternative amount received we want you to state how much you decide to return when the other person is from your own group and when the other person comes from another group. What you decide for each amount and for each type of person, before you know which type of person you receive money from, will be binding for you when you receive the envelope from the real person that was decided by the lottery. You will only know whether that person comes from your own group or from another youth group in your district.</p> <p>We may give an example: If the amount you find in the envelope is 30 ETB, how much of this will you return in the cases a) the sender comes from your own group, b) the sender comes from another group in your district. You are free to decide to keep the whole amount (return nothing) or return the whole amount or any amount between all or nothing. Since we do not know what amount you will find in the envelope, we need to ask you what you would return for all possible amounts you may find in the envelope for cases a) and b). It is only when we come back next time that we will bring this envelope and we can find out how much money is there.</p> <p>We will use a lottery for the distribution of the envelope among the members in your group and among members in another youth group of the same district (Woreda).</p>	
8a	How much of the 30 ETB are you willing to invest if the tripled amount of your investment is to be sent to a random group member in your own youth group?	ETB
8b	How much of the 30 ETB are you willing to invest if the tripled amount of your investment is to be sent to random group member in another youth group of the same district (woreda)?	ETB
	The lottery which determines whether you will play the game with another unknown member of your own group or with an unknown member of another youth group in the woreda will come after you have answered some more questions	
	We will now ask you how you would respond as a receiver of a random envelope from another member in your youth group (amount sent back) and youth group member from another youth group of the same woreda, depending on how big the amount in the envelope you receive is. You	

know that we have tripled the amount that the other member from your youth group and/or youth group member from another youth group of same woreda put in the envelope.		
The amounts you decide to return now will be binding for what you have to return when you get the real envelope – but the amount you find there is unknown till you open it as it depends on the decision of the sender (trustor) of that envelope. You will never know who the sender is.		
10a	How much will you leave in the envelope (return to the sender who is a random anonymous person in own youth group) if the amount in the envelope is 90 ETB?	ETB
10b	How much will you leave in the envelope (return to the sender who is a random anonymous member of another youth group in the same district (woreda)) if the amount in the envelope is 90 ETB?	ETB
11a	How much will you leave in the envelope (return to the sender who is a random anonymous person in own youth group) if the amount in the envelope is 75 ETB?	ETB
11b	How much will you leave in the envelope (return to the sender who is a random anonymous member of another youth group in the same district (woreda)) if the amount in the envelope is 75 ETB?	ETB
12a	How much will you leave in the envelope (return to the sender who is a anonymous person in own youth group) if the amount in the envelope is 60 ETB?	ETB
12b	How much will you leave in the envelope (return to the sender who is a random anonymous member of another youth group in the same district (woreda)) if the amount in the envelope is 60 ETB?	ETB
13a	How much will you leave in the envelope (return to the sender who is a random anonymous person in own youth group) if the amount in the envelope is 45 ETB?	ETB
13b	How much will you leave in the envelope (return to the sender who is a random anonymous member of another youth group in the same district (woreda)) if the amount in the envelope is 45 ETB?	ETB
14a	How much will you leave in the envelope (return to the sender who is a random anonymous person in own youth group) if the amount in the envelope is 30 ETB?	ETB
14b	How much will you leave in the envelope (return to the sender who is a random anonymous member of another youth group in the same district (woreda)) if the amount in the envelope is 30 ETB?	ETB
15a	How much will you leave in the envelope (return to the sender who is a random anonymous person in own youth group) if the amount in the envelope is 15 ETB?	ETB

15b	How much will you leave in the envelope (return to the sender who is a random anonymous member of another youth group in the same district (woreda)) if the amount in the envelope is 15 ETB?	ETB	
16a	How much of the tripled amount you have sent to the random member of your youth group do you expect to get back? 1=Less than one third, 2=One third, 3=Half, 4=more than half, 5=Nothing as I sent nothing.	Code	
16b	How much of the tripled amount you have sent to the random member of another youth group in same woreda do you expect to get back? 1=Less than one third, 2=One third, 3=Half, 4=more than half, 5=Nothing as I sent nothing, 6=Nothing although I sent some	Code	
17a	As a receiver in the game, how obliged do you feel to return an amount at least as big as the amount sent by the anonymous sender from your own youth group? 1=Extremely obliged, 2=Somewhat obliged, 3=Not obliged at all.	Code	
17b	As a receiver in the game, how obliged do you feel to return an amount at least as big as the amount sent by the sender from another youth group of the same woreda? 1=Extremely obliged, 2=Somewhat obliged, 3=Not obliged at all.	Code	
G3	Lottery for whether the receiver will be another person from own group or from another group: Use 20-sided die: Numbers 1-10 is for own group, Numbers 11-20 for another group in the district. The die shall be thrown only once.	Die Outcome number	
	Enumerator: Triples the amount for the appropriate receiver and marks the envelope for whether it is for within group (I=Ingroup) or outgroup (O) . The envelope is given to the Supervisor who is responsible for collecting and redistributing all envelopes. The unique registration number must specify the type of game (G3), Ingroup (I) or Outgroup (O) based on the lottery, the Woreda (W) and Youth Group ID and Member ID of the sender (to make sure the envelope is returned to the correct sender).	Env. R. No.	
Note: The stated amounts returned will be used also to determine how much they have to return when they get the envelopes from the unknown player they play with . E.g. if they find 30 ETB in the envelope they have to return what they stated they would return in the table above for the type of trustee they received the envelope from.			
Game 4. Instructions This is a lottery experiment with money but you may decide to buy yourself out of the lottery. We give you a lottery where you can win 90 ETB with 50% chance. Whether you win or not is determined by throwing a 20-sided die. If it lands on numbers 1-10, you lose and get nothing. If it lands on numbers 11-20 you win the 90 ETB.			

<p>You can decide to buy yourself out of the lottery. You can get 5 ETB for sure for every 15 ETB you reduce the lottery amount with. You have to make the choice among the following alternatives before we throw the die to determine the lottery outcome:</p> <p>1=keep full lottery at 90 ETB and no sure amount, 2=reduce lottery to 75 ETB and get 5 ETB for sure, 3=reduce lottery to 60 ETB and get 10 ETB for sure, 4=reduce lottery to 45 ETB and get 15 ETB for sure, 5=reduce lottery to 30 ETB and get 20 ETB for sure, 6=reduce lottery to 15 ETB and get 25 ETB for sure, 7=convert the whole lottery to 30 ETB for sure.</p>		
18	Do you understand the game and agree to play it? 1=Yes, 2=No	Code
19a	Out of the lottery of 90 ETB, do you want to convert some of it to sure money? 0=No, 1=Yes	
19b	<p>Out of the 90 ETB lottery that you can decide to play, how much do you want to convert to a safe amount? (15 ETB lottery amount = 5 ETB secure amount)</p> <p>1=keep full lottery at 90 ETB and no sure amount, 2=reduce lottery to 75 ETB and get 5 ETB for sure, 3=reduce lottery to 60 ETB and get 10 ETB for sure, 4=reduce lottery to 45 ETB and get 15 ETB for sure, 5=reduce lottery to 30 ETB and get 20 ETB for sure, 6=reduce lottery to 15 ETB and get 25 ETB for sure, 7=convert the whole lottery to 30 ETB for sure.</p>	Code
<p>You give the amount you decide not to risk back to the interviewer who converts it to one third of the amount. The interviewer then plays the lottery with you for the remaining lottery amount with the die where numbers 1-10 imply loss and numbers 11-20 imply that you win.</p>		
20	Outcome of lottery, 1=Win, 0=Loss if answer to 19b<7 (skip if 19b=7)	Code
	You use a Receipt Form and fill in the amount that the respondent has secured + won in game G4. The respondent signs the form when receiving the amount	

General information on the Youth group and Member

S.No.		Unit	Response
1	Group name	Name	
2	Group Leader's name	Name	

4	Group number (ID) (from Youth Group Census) (Prefilled)	Number	
5	Year of establishment of youth group (Prefilled)	Year GC	
7a	Member information: Keep old member IDs for group members already interviewed. For new groups use the following system Unique Member Id 1=Leader, 2=Vice leader, 3=Secretary, 4=Accountant, 5=Treasury, 6-12=Ordinary member	Code: 1-12	
7b	Name of member	Name	
8a	Mobile number of Member	Number	
8b	Is this your personal mobile phone? 1=Yes, 0=No		
9	Age of member (cross check with year & month of birth)	Years	
10	Sex of member, 1=Female, 2=Male	Code	
11	Have you been a member of the group since its establishment? 1=Yes, 2=No, I joined at a later stage	Code	
12	If you joined the group at a later stage, when was this?	Year GC	
13	What is your position in the group currently? 1=Leader, 2=Vice-leader, 3=Secretary, 4=Accountant, 5=Treasury, 6=Ordinary member	Code	
14	Have you had any of the (other) board positions earlier? 1=Yes, 0=No	Code	
15	If yes, which position(s) did you have earlier? 1=Leader, 2=Vice-leader, 3=Secretary, 4=Accountant, 5=Treasury	Code(s)	
16	If yes, which period did you have this position?	From year To year	
17	Marital status: 1=Unmarried, 2=Married, 3=Separated, 4=Divorced, 5=Widowed	Code	
18	Where do you live? 1= In the house of parents, 2=Own house on separate place, 3=Own house on farm of parents, 4=Live in house of in-laws, 5=Other, specify:	Code	
19	How far is your home from the area allocated to the youth group? Distance in km	Km	
20	How long does it take you to travel from home and to the youth group land? Minutes travel time	Minutes	
21	Main means of transport from home to youth group area. 1=Walking, 2=Bicycle, 3=Bus, 4= Mule/Horse , 5=Other, specify:	Code	

22	Education of member: Number of years of education completed:	Years	
23	Migration history of member: 0=Never migrated, 1=Internal seasonal or temporary migration within Ethiopia (for work), 2=Internal temporary migration within Ethiopia but outside your woreda (for education) (at least for one year), 3=International migration (for work)	Code(s)	
24	If international migration experience, where did you go? 1=Saudi Arabia, 2=Emirates, 3=Sudan, 4=Eritrea, 5=Other, specify:	Code(s)	
25	If international migration experience, how long did you stay abroad? Indicate period	Total months From year To year	
26	If you have migrated internationally, why did you return? 1=Forced to return, 2=Bad experience abroad, 3=Earned enough money & want to work at home, 4=Other, specify	Code(s)	
27	Do you consider to migrate out of the country (again or for the first time?), 1=Yes, 0=No, 2=Do not know	Code	
28	If yes, what is holding you back? 1=Family responsibilities, 2=Risk of migration, 3=High cost of migration, 4=Youth group membership and opportunity, 5=Other, specify:	Code(s)	
29	If no, what is holding you back? 1=Family responsibilities, 2=Risk of migration, 3=High cost of migration, 4= Youth group membership and opportunity, 5=Other, specify:	Code(s)	
	Personal endowments		
31	Indicate which of these types of personal endowments you own: 1=Ox(en), 2=Plough, 3=Cow(s), 4=Donkey/Mule/Horse, 5=Camel, 6=Cart for ox or donkey/mule/horse, 7=Bicycle, 8=Motorbike, 9=House, 10=Other, specify: 11=None	Code(s)	
	Indicate number of the types of personally owned endowments by Code	Code (from above): 1= Ox(en)	

		2= Plough 3= Cow(s) 4=Equine(s) 5=Camel 6=Cart 7=Bicycle 8=Motorbike 9=House 10=Other, specify: 11=None	
32a	If you have a personal mobile phone, when did you first obtain such a phone? _____	Year (GC)	
32b	When did you buy the mobile phone you currently have?	Year (GC)	
32c	What make is your mobile phone?	Make/model	
32cc	Is your mobile a smart phone? 1=Yes, 0=No	Code	
32d	How much did you pay for the phone you currently have?	ETB	
32e	What is approximately your monthly expenditure for using the mobile?	ETB	
32f	Indicate (tick) the types of things you use your mobile phone for and rank the three most important uses:	Rank (1-3) Tick	
	i) Communicate with family/friends ii) Communicate with other youth group members iii) Use it for private business iv) Use it to organize youth group activities v) Use it to communicate with tabia authorities vi) Use it to obtain market information (prices, availability etc.)		

	vii) Use it for entertainment (listening music, playing games etc..) viii) Other uses:		
	Family situation and land access for the family		
33	Are your parents still alive? 0=No, 1=Yes, both of them, 2=Only my father, 3=Only my mother	Code	
34	Does your parent(s) still hold a farm in the tabia ? 1=Yes, 0=No	Code	
35	How many brothers and sisters do you have?	No of brothers No of sisters	
36	What is your birth rank?	Birth rank	
37	How many brothers do you have that are elder than you?	No of brothers	
38	How many sisters do you have that are elder than you?	No of sisters	
38a	Do you have any brothers and/or sisters that are members of the same youth group as yourself? 1=Yes, 2=No	Code	
38b	If yes, how many brothers and sisters of you are members of the same youth group?	Number	
39	If your parents have land, do you expect to inherit some of this land? 1=Yes, 0=No, 2=Do not know	Code	
40	Have you or any of your brothers and sisters inherited any land from your parents (or other relatives)? 1=Yes, 0=No	Code	
41	If yes, how many of your brothers and sisters including yourself have inherited land and how much land? Give names and areas in tsimdi Area unit: 1=Tsimdi, 2=square meters	Name/ yourself Yourself	Area unit: area
41b	Has your spouse inherited any land from his/her parents or other relatives? 1=Yes, 2=No, 3=Not applicable (no spouse)	Code	
41c	If yes, how much land? Give area in tsimdi	Tsimdi	
41d	Have you applied to the tabia land administration to get land through land redistribution? 1=Yes, 2=No	Code	

41dd	If yes, when did you apply? Year (GC) and month	Year Month	
41e	If you have not heard yet from the tabia, what is your level of expectation of getting land from the tabia through land redistribution? 1=Very high, 2=High, 3=Average (50-50), 4=Low, 5=Very low	Code	
41f	Has your spouse applied to the tabia land administration to get land through land redistribution? 1=Yes, 2>No, 3=Not applicable (no spouse)	Code	
41ff	If yes, when did you apply? Year (GC) and month	Year Month	
41g	What is his/her level of expectation of getting land from the tabia through land redistribution? 1=Very high, 2=High, 3=Average (50-50), 4=Low, 5=Very low	Code	
41h	Have you already gotten land from land redistribution in the tabia? 1=Yes, 0>No	Code	
41i	If yes, type of land: 1=Farmland, 2=Houseplot,	Code	
41j	If yes, how much land: 1=Area in tsimdi, 2=Area in square meters	Code:Area	
42	Did you have access to any land in the land rental market, e.g. sharecropping any land the last 12 months? 1=Yes, 0>No,	Code	
42a	If yes, how many land rental and sharecropping contracts did you have the last 12 months?	Number	
43	Did you access any land through the land rental market in any earlier years (after you joined the youth group)? 1=Yes, 0>No	Code	
44	If no in previous question, did you try to access such land at any time? 1=Yes, 0>No	Code	
45	If you rented in land the last 12 months , how much land did you rent (and sharecrop) in?	Tsimdi	
46a	What type of land rental or sharecropping contract(s) did you have the last 12 months? Specify for each contract if you have more than one contract the last 12 months: 1=Sharecropping (only sharing of output), 2=Sharecropping (output sharing) with cash payment up front, 3=Output and input sharing, 4=Cash rental contract	Contract 1 Contract 2 Contract 3 Contract 4	
46b	If you rented or sharecropped in land the last 12 months , from whom did you rent in land? Specify for each contract: 1=From relative, 2=From neighbor, 3=Other villages in home tabia, 4=From villager in other tabia	Contract 1 Contract 2 Contract 3	

		Contract 4	
46c	For each land rental/sharecropping contract you had for the last 12 months, specify the type of land: 1=Rain fed land, 2=Irrigated land	Contract 1 Contract 2 Contract 3 Contract 4	
47	If you rented or sharecropped in land the last 12 months , what kind of agreement did you have? Specify for each contract: 1=Oral contract without witnesses, 2=Oral contract with witnesses, 3=Written contract signed by both parties, 4=Written contract signed and reported to tabia,	Contract 1 Contract 2 Contract 3 Contract 4	
48	If you rented or sharecropped in land, what is/was the duration of your renta/sharecropping contract? Specify for each contract: 1=For one year/season, 2=Open ended (can be renewed one year at the time), 3=For a fixed number of years	Contract 1 Contract 2 Contract 3 Contract 4	
49	If the rental or sharecropping contract is/was for a fixed number of years, how many years? Specify for each contract where relevant	Contract 1 Contract 2 Contract 3 Contract 4	
49a	If you sharecropped or rented in land the last 12 months but have no oxen of yourself, how did you cultivate the sharecropped/rented in land? 1= Rented in oxen from a neighbor, 2= Borrowed oxen from relatives, 3= Rented from somebody offering ploughing services, 4= Oxen for free from relatives , 5=Other, specify:	Code	
50	Rank your sources of income based on their importance as share of income during the last 12 months : 1=Youth group activity, 2=Land renting/Sharecropping, 3=Trade, 4=Construction work, 5=Support from family, 6=Own farm, 7=Other, specify:	Code for Rank 1 Rank 2 Rank 3	
51	What do you expect to be your main source of income in the future, let us say 5 years from now: 1>Youth group activity, 2=Land	Code	

	renting/Sharecropping, 3=Trade, 4=Construction work, 5=Support from family, 6=Own farm, 7=Other, specify: 99=Do not know/Very uncertain		
52	What would you have chosen as livelihood strategy if you did not join this youth group/(did not have this type of opportunity)? 1=Migrated to urban area to search for employment, 2=Rented/ Sharecropped in (more) land, 3=Migrated out of the country, 4=Gone to school to get more education, 5=Looked for other employment opportunity in the neighborhood/tibia/nearby woreda centre, 6=Own farm, 7=Other, specify:	Code	
53	How satisfied are you with your current livelihood situation? 1=Very satisfied, 2=Quite satisfied, 3=Acceptable situation, 4=Not satisfied, 5=Very unsatisfied (unbearable situation)	Code	
54	If answer 4 or 5 to q.53, provide additional information: Reasons for level of satisfaction Specify:		
55	What are the main challenges you currently face in relation to your livelihood? 1=Lack of/Limited cash income, 2=Low/No income from youth group activity, 3=Lack of complementary sources of income, 4=Poor cooperation in youth group, 5=Poor housing conditions, 6=Poor market access for outputs & inputs, 7=Lack of skills, 8=Lack of capital for investments, 9=Insecure tenure rights for the land, 10=Other, specify:	Code Rank 1 Rank 2 Rank 3	
56a	How likely is it that you will give up the youth group activity and look for another source of livelihood? 1=Very unlikely, 2=Quite unlikely, 3=Quite likely, 4=Very likely.	Code	
58	What are the most important advantages you see from having joined the youth group? 1=Allows me to develop a livelihood in my own tibia/stay close with family, 2=Good social relation within the youth group/share responsibilities, 3=Can be combined with other activities – an additional source of income, 4=Helps to generate capital for investment in the future, 5=Other, specify:	Code(s) Rank 1 (most important) Rank 2	

59	In your youth group, how satisfied are you with your fellow youth group members' performance? 1=Very satisfied with all members, 2=Very satisfied with most members, 3=Quite satisfied with most members, 4=Not satisfied with how the group majority performs, 5=Very unsatisfied with group performance	Code	
60	How satisfied are you with the (other) board members in your youth group, overall? 1=Very satisfied, 2=Quite satisfied, 3=Acceptable, 4=Somewhat unsatisfied, 5=Very unsatisfied	Code	
61	Are you satisfied with how meetings are arranged in your group? 1=Yes, 0=No	Code	
62	Is the frequency of meetings ok? 1=There are too many meetings, 2=The frequency is ok, 3=There are too few meetings	Code	
63	Are you satisfied with how the group work activities are organized? 1=Yes, 0=No	Code	
64	How do you consider the amount of work that the group is undertaking? 1=Too much work activity, 2=Appropriate amount of work activity, 3=Too little labor investment	Code	
65	How do you consider the punishment rules for late coming/not coming to youth group meetings? 1=They are necessary and important for group performance and not too tough, 2=They are unnecessarily tough/should be relaxed, 3=They are too mild and should be made stronger, 4=They are not followed and that is good, 5=They are not followed/enforced and that has negative effects on group activity, 6=Other, specify:	Code	
66	How do you consider the punishment rules for late coming/not coming to youth group work activities? 1=They are necessary and important for group performance and not too tough, 2=They are unnecessarily tough/should be relaxed, 3=They are too mild and should be made stronger, 4=They are not followed and that is good, 5=They are not followed/enforced and that has negative effects on group activity, 6=Other, specify:	Code(s)	
67a	How satisfied are you with the leader of your youth group? 1=Very satisfied, 2=Quite satisfied, 3=Acceptable performance, 4=Not so satisfied, 5=Very unsatisfied	Code	
67b	How satisfied are you with the vice-leader of your youth group? 1=Very satisfied, 2=Quite satisfied, 3=Acceptable performance, 4=Not so satisfied, 5=Very unsatisfied	Code	

68	How many meetings in the group have you attended during the last month (last 30 days)?	Number	
69	How many hours did you spend in group meetings during last month (last 30 days)?	Hours	
70	How many days have you joined youth group work activities during last month?	Days	
71	How many full working days have you had for the group during last month including group work and individual work as guard and other group activities such as board member responsibilities?	Days	
72	How much Net income has the youth group work activity given you during the last 12 months?	Et. Birr	
73	How much expenses have you had in relation to the youth group activities during last 12 months?	Et. Birr	
74	How many full working days have you spent on complementary (other) income generating activities during the last month (30 days)?	Days	
75	How much time have you spent on other work activities to help family etc. during last month (30 days)?	Days	
76	<p>How much net income have you made on other complementary sources of income during last 12 months? Specify the net income for each of these sources:</p> <p>1=Farming on own land 2=Farming on rented land 3=Construction work 4=Trade 5=Other, specify:</p>	Tick + amount	
77	How much cash expenses have you had during the last 12 months related to your complementary sources of income?	Et. Birr	

77b	How much cash consumption expenses have you had during the last month (30 days)? (Money the respondent controls)	Et. Birr	
78	What was the most important expenses that you had during the last 30 days? Specify for 1= Food and related expenses 2=Non-food expenses	ETB Food Non-food	Cost
79	Do you think that the amount of work that you contribute to in the group is: 1=Much too little, 2=A bit too low, 3=Enough, 4=A bit too much, 5=Much too much	Code	
80	Have you experienced any conflicts in your group since you joined it? 0=No conflicts (skip to q.86), 1=Yes, some less serious conflicts, 2=Yes, some serious conflicts	Code	
81	If you have experienced some less or more serious conflicts, what were these conflicts about? 1=Priority of work activities, 2=Sharing of income, 3=Bad/irresponsible behavior of individuals, 4=Theft/violation of group rules, 5= Conflict with outside agent(s) , 6=Other, specify:	Code(s)	
82	If conflict experience within group, were you directly involved yourself? 1=Yes, 0=No	Code	
84	Who (else) were involved in the conflict(s)? 1=Chairman, 2=Vice chairman, 3=Accountant, 4=Secretary, 5=Treasury, 6=Other group member(s), 7= All	Code(s)	
85	What was the outcome of the conflict(s)? 1=It was resolved within the group and is no longer a problem, 2=It has been resolved but still affects the group cooperation, 3=It is still unresolved and affects the group, 4=It is unresolved but has no serious effect on group performance, 5=Some had to leave/left the group as a consequence of the conflict, 6=Other	Code(s)	
86	What is your opinion on the joint ownership and responsibility for the land and investments of the group? 1=Group ownership reduces incentives to work hard, 2=Some are free-riding on the work of others,	Ranked Code(s) Rank 1:	

	3=It improves group feeling and motivation to work hard together, 4=It facilitates sharing and rotation of responsibilities and gives more flexibility, 5=Other, specify:	Rank 2: 	
87	Do you think more individual rights to some types of investments would be preferable to the current joint rights? 1=Yes, 0=No, 2=It depends on the type of investment	Code	
88	If your answer to the previous question was =2 (depends on the type of investment), what type(s) of investments do you think it is preferable to have more individual rights for? 1=Beehives, 2=Fruit trees, 3=Eucalyptus trees, 4=Vegetables, 5=Sheep, 6=Goats, 7=Oxen, 8=Cows, 9=Other, specify: 10=None	Code(s)	
89	How do you rate the gender balance in the group? 1=Too few women relative to men , 2=Too many women relative to men , 3=It is a good balance in number but not in power , 4= Good balance in number and power .	Code	
90	If you think the balance is not so good, explain why: 1=The boys are dominating too much, 2=The girls cannot do some of the heavy work, 3=The girls contribute to better cooperation in the group, 4=Other, specify:	Code(s)	
91	What do you think about the current group size? 1=It is too big related to the available land, 2=It is too small related to all the work that needs to be done, 3=It is too big and difficult to organize the group, 4=Some group members should have been excluded as they do not perform well, 5=Some members should have been replaced by new members as they are not performing well/lack motivation/do not do their share of work, 6=Other, specify:	Code(s)	
92	What do you see as the main challenges that your youth group faces in becoming a successful business and livelihood opportunity in the future (Rank by importance)? 1=Capital for investment in productive activity, 2=Skills of group members, 3=Motivation to work hard among group members,	Rank 1 (most important) Rank 2	

	<p>4=Ability to work together as a group for joint benefit, 5=Punishment of free-riders within the group to ensure work effort, 6=Outside threat by neighbors threatening the resources of the group, 7=Lack of market access/too long distance to market for outputs, 8=Poor access to inputs/input market, 9=High production risk in the activity/vulnerability,</p> <p>10=Lack of complementary income sources for members, 11=Lack of housing for members, 12=Poor infrastructure/road to land area, 13=Lack of water/irrigation access, 14=Too little land/low productivity on the land for current activities, 15=Alternative/complementary production activities needed, 16=Other, specify:</p>	Rank 3 Rank 4	
93	How do you rate the performance of your group from the beginning till today (change over time)? 1=Much improved, 2=Improved, 3=Stable (skip to q.95), 4=Declined, 5=Much declined/worsened	Code	
94	What are the most important reasons for the change (if any)? 1=Skill development among members, 2=Increasing return to group activity, 3=Change in motivation among members, 4=Better cooperation among members, 5=Conflicts among members, 6=Some group members have negative effect on group, 7=Limited participation in group activities, 8=Lack of complementary income among members/too busy with other activities, 9=Other, specify:	Code(s)	
95	How do you rate your own performance in the group from the beginning till today(change over time)? 1=Much improved, 2=Improved, 3=Stable (skip to q.97), 4=Declined, 5=Much declined/worsened	Code	
96	What are the most important reasons for the change in your performance (if any)? 1=Skill development, 2=Increasing return to group activity, 3=Change in motivation, 4=Better cooperation among members, 5=Conflicts among members, 6=Some group members have negative effect on group, 7=Limited participation in group activities, 8=Lack of complementary income/too busy with other activities, 9=Other, specify:	Code(s)	

97	How do you rate the level of trust among group members in your youth group? Use the general level of trust in your community (tabia) as a reference level. 1=Much higher, 2=Higher, 3=The same, 4=Lower, 5=Much lower	Code	
97a	How do you rate the level of trust among group members in your youth group? Use the level of trust among members in your own family (parents, brothers, sisters) as a reference level. 1=Much higher, 2=Higher, 3=The same, 4=Lower, 5=Much lower	Code	
98	How do you rank the social relations among members in the youth group overall? 1=Very good, 2=Quite good, 3=Ok, 4=Not so good, 5=Very bad	Code	
99	Is the youth group fractioned in polarized sub-groups that compete or do not work well together? 1=Yes, 0=No	Code	
100	Is poor cooperation in the group affecting the performance of the activities? (motivation to work among members) 1=Yes, very much, 2=To some extent, 3=No, there is no such problem	Code	
101	How do you react if you find that another group member is violating the rules of the group regarding resource extraction? 1=Report it to the group leader, 2=Confront the person and ask him/her to stop, 3=Do nothing, 4=Other, specify:	Code	
102	Have you ever been punished for violation of group bylaws? 1=Yes, 0=No	Code	
103	If yes to q.102, how many times have you received such punishment?	Number	
104	If yes to q.102, what rule/bylaw did you violate? 1=Group meeting participation, 2=Group work participation, 3=Late arrival to meeting, 4=Late arrival to group work, 5=Other, specify:	Code(s)	

105	If yes to q.102, do you think the punishment was fair? 1=Yes, I accept it, 2=No, it was outside my control/not my fault, 3=No, it was too big punishment, 4=Other, specify:	Code(s)	

Household Characteristics for household of Youth Group Member living with family:

1. Ask these questions about the parent household also to Youth Group Members no longer living with their parents. If the youth group member has take over as head of household the information about the parents should still be collected

S.no	Questions	Unit	Answer
1	Name of head of household	Name	
2	Relationship between youth group member and head of household 1=Head is father, 2=Head is mother, 3>Youth group member is head of household (taken over family farm), 4=Head is brother, 5=Head is spouse, 6=Other, specify:	Code	
3	Sex of household head, 1=Female, 2=Male		
4	Household size, number of persons staying in the household and eating together and dependents staying elsewhere (school children)	Number	
5	Number of male labor force in adult equivalents	Number	
6	Number of female labor force in adult equivalents	Number	
7	Ethnic group: 1=Tigray, 2=	Code	
8	Religion: 1=Orthodox, 2=Islam, 3=Protestant, 4=Other _____	Code	
9	Education of household head/ parent of youth group member (if youth group member is head of household) : Number of years of school completed	Years	
10	Skills of parent: 1=Carpenter, 2=Driver, 3=Farming, 4=Manson, 5=Drawer, 6=Merchant, 7=Broker, 8=Engineer of rural land, 9=Soldier, 10=Weaver, 11=Builder, 12=Butcher, 13=Other, specify:	Code(s)	
11	Position in community of parent: 1=(Ex-)Chairman of the tabia, 2=(Ex-) Secretary, 3=Priest/Religious leader, 4=Party member, 5=(Ex-) Social court judge, 6=Conflict mediator, 7=Women's group leader, 8=Land Administration Committee member, 9=Other, specify:	Code(s)	

	10=None of these		
12	Off-farm employment of parent : 0=No, 1=Seasonal agricultural labor, 2=Unskilled non-agricultural labor, 3=Skilled employment, 4=Government job, 5=Businessman, 6=Self-employed, 7=Food-for-work (PSNP or other), 8=Cash-for-work (PSNP or other) 9=Other, specify:	Code(s)	
13	Marital status of head of household/ parent : 1=Married, 2=Divorced, 3=Widow, 4=Separated, 5=Single	Code	
14	Number of children of head of household/ parent (staying in household or dependent of household, can include grand children)	Number	
15	Age of children staying in parent household currently (create space for more children if necessary)	Child 1 Child 2 Child 3 Child 4 Child 5 Child 6	
16	Years of schooling of children staying in parent household currently	Child 1 Child 2 Child 3 Child 4 Child 5 Child 6	
17	Health status of household head/ parent : 1=Very good, 2=Good, 3=Poor, 4=Very poor	Code	
18	Sickness in family last 12 months : 1=Very severe sickness, 2=Severe sickness, 3=Less severe sickness, 4>No sickness	Code	
19	Death of family members last 12 months ? 1=Yes, 0=No	Code	
20	Asset holding of household: Number of houses currently	Number	
21a	House with corrugated iron roof: 1=Yes, 0=No	Code	
21b	Number of rooms in house(s)	Number	
22	Bicycle(s): 1=Yes, 0=No	Code	
23	Other transportation equipment: 1=Yes, 0=No, if yes, specify:	Code	
24	Ox plough: 1=Yes, 0=No	Code	

25	Radio: 1=Yes, 0=No	Code	
26	Mobile phone(s): 1=Yes, 0=No	Code	
27	Number of oxen:	Number	
28	Number of cows:	Number	
29	Number of young cattle:	Number	
30	Number of sheep	Number	
31	Number of goats	Number	
32	Number of donkeys/mules/horses (equines)	Number	
33	Number of camels	Number	
34	Does the parent household have any own land? 1=Yes, 2=No	Code	
35	If yes, Number of own parcels of land?	Parcels	
36	Does head of household/family have land certificate(s)? 1=Yes, has 1 st Stage Land Certificate, 2=Yes, has 2 nd Stage Land Certificates, 3=No, has no land certificate yet but expect to get (land has been registered) , 4=No	Code	
37	Number of parcels on 1 st Stage Land Certificate	Parcels	
38	Number of parcels with 2 nd Stage Land Certificate	Parcels	
39	If you have 2 nd Stage Land Certificates, how large area of land do they jointly cover?	Tsimdi	
40	If you have 2 nd Stage Land Certificates, is there still some other parcels of land that you own but for which you did not get 2 nd Stage Land Certificate(s)? 1=Yes, 0=No	Code	
41	If yes, what is the reason for not having received 2 nd Stage Certificate(s) for this/these parcel (s)? 1=Too small, 2=Delay in the process, 3=Dispute about ownership of the plot(s), 4=Other, explain:	Code(s)	
42	Total Farm size (own land including rented/sharecropped out land but excluding rented/sharecropped in land)	Tsimdi	
43	Have there been changes in the amount of land this household controls during the period 2006-2016 (last 10 years)? 1=Yes, 0=No	Code	
44	If yes; Has the household lost or gained land? 1=Lost, 2=Gained	Code	

45	If yes; What was the reason? 1=Redistribution, 2=Land dispute, 3=Inherited from husband's family, 4=Inheritance from wife's family, 5=Gave to children, 6= Expropriation , 7=Other, specify	Code	
46	Number of rented in (including sharecropped) parcels the last 12 months	Number	
47	Number of rented out (including sharecropped) parcels the last 12 months	Number	
48	Rent-in and sharecropped in plots: Area in tsimdi, total	Tsimdi	
	<i>Investment in perennials on farm</i>		
49	Fruit trees, type:0=None, 1=Guava, 2=Mango, 3= Papaya , 4=Orange, 5=Lemon, 6=Other, specify:	Code(s)	
50	Eucalyptus trees >10 years old	Number	
51	Eucalyptus trees 6-10 years old	Number	
52	Eucalyptus trees 3-6 years old	Number	
53	Eucalyptus trees less than 3 years old	Number	
54	Other timber trees, type:1=Acacia, 2=Juniperus, 3=Pine, 4=Grevillea, 5=Other, specify: 0=None	Code & Number	
56	Other perennials, by area, type: 1= Cactus, 2=Chat, 3=Coffee, 4=	M2	
	<i>Droughts/Climate risk (parent household)</i>		
57	How seriously was the household affected by the 2015 drought? 0=Not at all, 1=Somewhat affected, 2=Quite severely affected, 3=Very severely affected	Code	
58	Is the parent household member of the Productive Safety Net Program (PSNP) after 2015 ? 1=Yes, 0=No	Code	
59	Did the household receive any support related to the 2015 drought? 1=Yes, 0=No	Code	
60	If yes to q.59, what kind of support was received? 1=Free food, 2=Free fodder, 3=Cash-for-work, 4=Food-for-work access.	Code(s)	

61	If affected by the 2015 drought, did the household have to sell any assets/livestock because of it? 1=Yes, 0=No (skip to next session)	Code	
62	If yes to q.61, what assets were sold by the household? 1=Ox, 2=Cow, 3=Calf, 4=Sheep, 5=Goat, 6=Equines, 7=Camel, 8=Other, specify:	Code(s)	
63	If affected by the 2015 drought, did it cause any household members to migrate? 1=Yes, 0=No(skip to next session)	Code	
64	If yes to q.63, who in the household migrated? 1=Brother(s), 2=Sister(s), 3=Father, 4=Mother, 5=Other, specify:	Codes	
65	If yes to q.63, where did this/these household member(s) migrate to? 1=Mekelle, 2=Addis Ababa, 3=Saudi-Arabia, 4=Other, specify:	Code(s)	
	End of parent household questions		
	Recent changes in livelihood situation and future investment plans by youth group members		
1	Have there been some important changes in your livelihood situation over the last 12 months ?	1=Yes, 0=No	
2	If yes, explain		
3	Have you experienced some form of shock(s) over the last 12 months ?	1=Yes, 0=No	
4	If yes, type(s) of serious shocks (indicate more than one if relevant): 1=Death in family, 2=Sickness in family, 3=Crop failure, 4=Loss of job opportunity, 5=Personal sickness, 6=Violence, 7=Theft, 8=Other, specify:	Code (s)	
5	Rank up to three shocks, 1=most severe (put code from above)	Rank 1 Rank 2 Rank 3	
6	What is the most serious consequence for you of this shock? Explain		

7	Did you make any investments in durable goods or assets during last 12 months ?	1=Yes, 0=No	
8	If yes, type(s) of investments: a) Consumer goods, specify: 1=Mobile phone, 2=Radio, 3=Bicycle, 4=Furniture, 5=Other, specify: b) Animals, specify: 1=Cow, 2=Ox, 3=Donkey, 4=Sheep, 5=Goat, 6=Chicken, 7=Beehive, 8=Camel, 9=Horse, 10=Mule c) Other productive assets: 1=Plough, 2=Ox-cart, 3=Hoe, 4=Sickle, 5=Other tools, 6=Fertilizer, 7=Improved seeds, 8=Other, specify: d) Other investments: 1=House, 2=Travel, 3=Business, specify:	Code(s)	a: b: c: d:
9	If you have invested in any of the four categories over the last year, how much (ETB) did you invest in each during the last 12 months ? a) Consumer goods, specify: 1=Mobile phone, 2=Radio, 3=Bicycle, 4=Furniture, 5=Other, specify: b) Animals, specify: 1=Cow, 2=Ox, 3=Donkey, 4=Sheep, 5=Goat, 6=Chicken, 7=Beehive, 8=Camel, 9=Horse, 10=Mule c) Other productive assets: 1=Plough, 2= Donkey/horse -cart, 3=Hoe, 4=Sickle, 5=Other tools, 6=Fertilizer, 7=Improved seeds, 8=Other, specify: d) Other investments: 1=House, 2=Travel, 3=Business, specify:	ETB	a: b: c: d:
10	What are your future investment plans? What are your most preferred items to invest in over the coming 1-2 years? Rank by most preferred (Rank 1) a) Consumer goods, specify: 1=Mobile phone, 2=Radio, 3=Bicycle, 4=Furniture, 5=Other, specify: b) Animals, specify: 1=Cow, 2=Ox, 3=Donkey, 4=Sheep, 5=Goat, 6=Chicken, 7=Beehive, 8=Camel, 9=Horse, 10=Mule c) Other productive assets: 1=Plough, 2=Ox-cart, 3=Hoe, 4=Sickle, 5=Other tools, 6=Fertilizer, 7=Improved seeds, 8=Other, specify: d) Other investments: 1=House, 2=Travel, 3=Business, specify:	Use codes from above (letter + number, e.g. goat=b 5)	Rank 1 Rank 2 Rank 3

	Environmental preferences: Respond to the following statements with the following alternatives:		
E1	Community compulsory work is very important to protect the natural resource base and secure the future livelihood of people in the community 1=Strongly disagree, 2=Disagree, 3=Uncertain, 4=Agree, 5=Strongly agree	Code	
E2	It is important that youth participate in the conservation of land resources in the community. 1=Strongly disagree, 2=Disagree, 3=Uncertain, 4=Agree, 5=Strongly agree	Code	
E4	The current level of compulsory free labor of 45 days for conservation of the natural resources in the community is: 1=Much too high, 2=Too high, 3=Appropriate, 4=Too low, 5=Much too low.	Code	
E5	How many days are you willing to work for free in the community per year to help conserve the natural resources (soil and water conservation, tree planting)? No. of days/yr: _____	Days per year	

	Second part of Game 3		
G3	You receive an envelope (from the Supervisor) from an Ingroup (anonymous member in your own group) or and Outgroup (anonymous member in another group in your district). We give you the envelope so that you can open it and see the amount.		
1	How big amount did you find in the envelope? 1=0, 2=15, 3=30, 4=45, 5=60, 6=75, 7=90	Code	
2	Envelope Registration Number (not to be asked to the respondent but for the enumerator to verify)	Number	

3	Check stated amount to be kept given by type of trustor (Ingroup or Outgroup) and amount found in the envelope by going back to the answers in G3 Game questions 10a-15b.	Et. Birr	
4	Ensure correct amount is put in the envelope to be returned to the sender (trustor). Give this envelope to the Supervisor who will return it to the sender (immediately for ingroup members and as soon as possible for outgroup members – we need to discuss how best to do this we may have to wait till next survey round)	Et. Birr	
5	Return the sent envelope to the sender with the returned amount=	Et. Birr	
6	The respondent has to sign the Receipt Form for the amount taken from the envelope		

	<p>Final game arrangements (random sampling of games, payouts, etc.)</p> <p>You need to do the random selection of real games first (G1 & G2) and get the envelope from the sender (ingroup or outgroup member) in G3 (trust game), before you can go back and check their choices which affect their payouts and transfers to other youth group members in each of these three games.</p> <p>Each respondent will be a sender of 3 envelopes (G1, G2 & G3) and a receiver of 3 envelopes (G1, G2 & G3). It will vary whether each of these envelopes is for an Ingroup or an Outgroup member. The supervisor has to orchestrate this. The distribution of G1 and G2 and the return of the G3 envelopes to the sender can be made in the Second Experiment and Survey round because of the need to redistribute envelopes across groups.</p>		
G1	<p>Lottery to determine which of the six games will be real: Use the 20-sided die: Assign die numbers 1 and 11 to game S1, die numbers 2 and 12 to game 2=S2 and up to die numbers 8 and 18 to game S8. Shake the die under the cup once to see if you get a number below 19 to identify the game to choose. If die number above 18, shake the die once more to get a number below 19. The outcome determines which game was real and how much money is put in an envelope for the other unknown member</p> <p>All envelopes should have a unique registration number. Record the unique envelope registration number</p> <p>Write on the envelope the game type outcome (S1, S2, S3, S4, S5, S6): Real game: 1=S1, 2= S2, 3=S3, 4=S4, 5=S5, 6=S6, 7=S7, 8=S8</p>	Die number drawn (1,2...20)	Real Game drawn: 1, 2, 3, 4, 5, 6, 7, 8 ETB

	<p>Amount to be received by the respondent: Put aside for respondent</p> <p>The respondent has to sign the Receipt Form when receiving this amount.</p> <p>Amount to be sent to another youth group member: Put in envelope</p> <p>All envelopes should have a unique registration number that distinguishes: G1 & (Ingroup: S1, S3, S5, S7) for other members in own group, Outgroup: S2, S4, S6, S8) for members in other group in woreda. Record the unique envelope registration number</p>	ETB Envelope R.No.
G2	<p>Lottery to determine which of the four games will be real: Use the 20-sided die and cup (die numbers 1-5 (game 1=D1), die numbers 6-10 (game 2=D2), die numbers 11-15 (game 3=D3) and die numbers 16-20 (game 4=D4). Shake the die in the cup only once to determine the die number and thereby the chosen game (1-4). The draw determines which game was real and how much money is put in an envelope for the other member</p> <p>Amount to be received by the respondent: Put aside for respondent</p> <p>The respondent has to sign the Receipt Form when receiving this amount.</p> <p>Amount to be sent to another youth group member: Put in envelope</p> <p>Write on the envelope the game type (G2 outcome & whether it is Ingroup (D1, D3) or Outgroup (D2, D4)): Amounts in D3 and D4 envelopes have to be tripled. Real game: 1= D1, 2=D2, 3=D3,4= D4</p>	Die number drawn (1,2...20) Real Game drawn: 1, 2, 3, 4 ETB ETB
	All envelopes should have unique registration number. This unique number should specify the Game type (G1-G3), whether it is for Ingroup (I) or Outgroup (O), the specific Woreda (W) within which outgroup envelopes have to be redistributed, the group name and Member ID (for cross-validation of questionnaires and amounts found in envelopes. Record the unique envelope registration number: E.g. G2ID1 for an Ingroup envelope and e.g. G2OD4 for an outgroup envelope where the given amount has been tripled, Woreda code (W+number 1-5), Youth group ID, & Member ID (for verification).	Envelope R.No.

We would like to thank you for good cooperation and participation in the interview and would like you to at the end sign for the amounts of cash that you have received related to the experiments.

5	Time when experiment finished and forms signed	Hour:Minu	
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Appendix 2.

YOUTHBUS: NORGLOBAL2 PROJECT

Mekelle University

In collaboration with

Norwegian University of Life Sciences

Youth Group Member Survey 2019 (Second Round)

Tigray, Ethiopia

Zone _____

Code _____

Woreda _____

Code _____

Tabia _____

Code _____

Kushet Name _____

Enumerator _____

Code _____

Introduction & Survey Questions (Part 1)

S.No	Question	Unit	Response
1	Date	Date	
2	Time when interview starts	Hour:Minute	
3	Location where the interview is done?	Name	
4	Youth Group number (ID) (from Youth Group Survey)	Number	
5	Youth Group Member ID	Number	
6	Name of Youth Group Member	Name	
7	Year of birth of member	Year, GC	
8	Sex of member	0=Female, 1=Male	
9	a. Are you married? 1=Yes, 0=No b. If yes, does your spouse belong to the same youth group as you? 1=Yes, 0=No c. How many children do you have? Number d. If you have children, age of oldest child: Years e. If you have children, age of youngest child: Years		a: b: c: d: e:
10a	Are you a board member in your youth group?	0=No, 1=Yes	
10	If yes, what position in the board do you currently have? 1=Leader, 2=Vice leader, 3=Secretary, 4=Accountant, 5=Treasury, 6=Ordinary member	Code	
11	Since when have you had this position?	Year GC	
12	During the election of board members for the current board, were you active in proposing fellow members for key positions in the board?	0=No, 1=Yes	
13	Did you propose any member for the group leader position?	0=No, 1=Yes	
14	If you are not a board member, were you proposed as a board member by any other members?	0=No, 1=Yes	
15	Were there more than one candidate for the group leader position during the last election?	0=No, 1=Yes	
16	Were any female candidates proposed for the leader position in your group?	0=No, 1=Yes	
17	If no, why do you think no female candidate was proposed?	Code	

	<p>1=Our female members are not willing to be leaders</p> <p>2=It doesn't make sense to propose female members, since they have no or very small chances of being elected anyways.</p> <p>2=None of our female members are suited for the leadership position</p> <p>3=It is not appropriate to have a female group leader</p> <p>4=Other, specify</p>		
18	<p>If yes, did many members vote for the female candidate?</p> <p>1=No, she got few votes</p> <p>2=Yes, but not many enough to become leader</p> <p>3=Yes, she became the group leader</p>	Code	
19	Generally speaking, do you think that females are as suited as group leaders as males are for the type of business group you belong to? 1=Yes, gender does not matter, it is the individual characteristics that matter. 0=No,	Code	
20	<p>Do you think that your fellow <u>male</u> group members consider females, generally speaking, as suited as group leaders as males for the type of business group you belong to?</p> <p>0=No</p> <p>1=Yes</p> <p>2=I don't know</p>		
21	<p>If no, for which reasons do your fellow <u>male</u> group members consider females as less suited as leaders? (multiple answers possible)</p> <p>1=Women don't have the required skills and qualifications</p> <p>2=Women have too many obligations at home and too little time</p> <p>3=Women lack relationships to important people outside the group (e.g. business men or politicians).</p> <p>4=Women lack the required motivation and ambition.</p> <p>5=It is not appropriate for a group to have a female leader.</p> <p>6=Women don't have a leadership personality.</p> <p>7=Other reasons (specify)</p>	<p>Rank 1:</p> <p>Rank 2:</p> <p>Codes: Rank by importance (Rank 1: Most important)</p>	

22	<p>Do you think that your fellow <u>female</u> group members consider females, generally speaking, as suited as group leaders as males for the type of business group you belong to?</p> <p>0=No 1=Yes 2=I don't know</p>		
23	<p>If no, for which reasons do your fellow <u>female</u> group members consider females as less suited as leaders? (multiple answers possible)</p> <p>1=Women don't have the required skills and qualifications 2=Women have too many obligations at home and too little time 3=Women lack relationships to important people outside the group (e.g. business men or politicians). 4=Women lack the required motivation and ambition. 5=It is not appropriate for a group to have a female leader. 6=Women don't have a leadership personality. 7=Other reasons (specify)</p>	<p>Codes: Rank by importance (Rank 1: Most important)</p>	<p>Rank 1: Rank 2:</p>
24	<p>Imagine, in the next election for the group leader position two candidates are proposed. Both candidates are very similar. They have a similar age, share the same education and both are highly motivated to be the group leader. Both candidates are successful in their activities outside the group. One of the candidates is a man, while the other candidate is a woman.</p> <p>a) For whom would most <u>male</u> group members vote? 1= the vast majority would vote for the male candidate, 2=the vast majority would vote for the female candidate, 3=it would be a close election, 4=I don't know</p> <p>b) For whom would most <u>female</u> group members vote? 1= the vast majority would vote for the male candidate, 2=the vast majority would vote for the female candidate, 3=it would be a close election, 4=I don't know</p>	<p>Codes</p>	<p>a): b):</p>
25	<p>In the group meetings in your group, how active are you yourself in the discussions? 1=I rarely or never speak up, 2=I speak up when there is an issue that is important to me, 3=I am quite active and state my opinions, 4=I am very active and is one of those influencing group decisions, 5=Other, specify:</p>	<p>Code</p>	
26	<p>Do you perceive that there is a gender difference in your group regarding who is influencing decision-making? 1=Yes, 0>No</p>	<p>Code</p>	

27	If yes, which of the following characteristics do you think are correct for your group? a. Males are more active in discussions: 1=Yes, 0=No b. Males are more respected and listened to: 1=Yes, 0=No c. Female are less confident in themselves: 1=Yes, 0=No d. Males dominate the group because they are older and more experienced: 1=Yes, 0=No	Codes	a: b: c: d:
28	Do you think active and motivated female group members should be given as much responsibility in the group as male members? 1=Yes, 0=No	Code	
29	Our project is planning to provide training for female group members in some randomly chosen youth groups by picking two female members from these groups. The training will be in production planning and marketing of products the groups are producing (or potentially can produce and sell). Do you think this is a good idea? 1=Yes, 0=No	Code	
30	If no, why is this not a good idea? Explain		
31	If you agree that providing such training is a good idea, do you think the effect on the group would be different if two male members were trained instead? 1=Yes, 0=No	Code	
32	If yes, how and why do you think the outcome would be different? a. Males that are trained are more able to influence group decisions: 1=Yes, 0=No b. Females have less capacity to work for the group due to family commitments: 1=Yes, 0=No c. Females are less capable to organize group activities: 1=Yes, 0=No d. Females are more motivated and more reliable in organizing group activities: 1=Yes, 0=No e. Males are less likely to listen to ideas from female members even if they are given training: 1=Yes, 0=No	Codes	a: b: c: d: e:
33	If female members are given training and are motivated to take responsibility for organizing the group, will you select them into the group board or possibly as group leader/vice leader? 0=No, it will not happen, 1=We already have females in such group positions, and this will not change, 2=Uncertain, it depends on the female members chosen and their motivation, 3=It is quite likely, 4=It is very likely, we need more female members into these positions.	Code	
34	If you are currently not in a group board position, how would you respond if someone proposes you for such a position? 1=I would be very happy to serve in any position, 2=It depends on the	Code	

	position, 3=I do not have the confidence I can do a good job in such a position, 4=I do not have the time or motivation to serve in such a position, 5=Other, specify;		
35	If someone proposes you as the next group leader, how would you respond? 1=I would be very happy to serve in that position, 2=I would feel honored but do not have the confidence I can do a good job as group leader, 3=I do not have the time or motivation to serve in such a position, 4=Other, specify;	Code	
	Ten-Item Personality Inventory: Choose the degree to which you disagree or agree with the following characteristics of your own personality: Score: 1=Disagree strongly, 2=Disagree moderately, 3=Neutral, 4=Agree moderately, 5=Agree strongly		
41	Extraverted, enthusiastic, talkative	Score	
42	Critical, quarrelsome	Score	
43	Dependable, self-disciplined, well-organized	Score	
44	Anxious, easily upset	Score	
45	Open to new experiences	Score	
46	Reserved, quiet, shy	Score	
47	Sympathetic, warm	Score	
48	Disorganized, spontaneous	Score	
49	Calm, emotionally stable	Score	
50	Conventional, conservative, strict follower of cultural norms	Score	
51	Demand for credit? If your youth group were offered a loan of ETB 50 000 or 100 000 with an interest rate of 18% and repayment within five years, starting after two years, do you agree that the group should take such a loan (given that all group members will be jointly responsible for repaying the loan)? 1=Yes, I definitely think so, 2=I think so but am not sure, 3=No, probably not, 4=No, definitely not!	Code	
52	If your answer is 1 or 2 in the previous question, would you go for a loan of 50 000 or 100 000?	Amount	
53	If your answer is 1 or 2 in q.51, what do you think the loan should be used for? Investment in 1) Animals: what type? 2)Buildings: what type? 3)Machinery: what type? 4)Others, specify:	Code + type	

54	Individual credit demand? If you were offered a personal loan of ETB 20 000 or 40 000 with an interest of 18% and repayment within five years, starting after two years, would you take such a loan? 1=Yes, I definitely think so, 2=I think so but am not sure, 3=No, probably not, 4=No, definitely not!	Code	
55	If your answer is 1 or 2 in the previous question, would you go for a loan of 20 000 or 40 000?	Amount	
56	If your answer is 1 or 2 in q.54, what would you use the loan for? Investment in 1) Animals: what type? 2)Buildings: what type? 3)Machinery: what type? 4)Others, specify:	Code + type	
57	Does your group have a savings account at DECSI or other bank? 1=Yes, 0=No	Code	
58	If yes for Q57, how much savings does the group have in its savings account?	ETB	
59	Do you have your own personal savings account at DECSI or other bank? 1=Yes, 0=No	Code	
60	If yes for Q59, how much savings do you have in your personal savings account?	ETB	
61	How much is the current daily wage rate in your tabia/village in ETB/day	ETB	
62	How much is the current daily wage rate in the nearby town in ETB/day	ETB	
	Numeracy/math skills		
	We should have a classroom where the group members are given pen and paper and the list of exercise questions and time to calculate the answers and submit an answer sheet with the calculations and answers that we collect and grade afterwards to give them a numeracy skill score.		

Numeracy test (Conducted before and after training)

N1	If you buy an animal at 2000 ETB and you buy fodder for 500 ETB and sell the animal one year later at 5000 ETB. What is the net return in ETB?	ETB	
N2	If you spent altogether 20 days of work to take care of that animal, how much do you have per day of work for taking care of the animal?	ETB/day of work	
N3	If you get the same payment, purchase price and fodder input costs for 10 animals, what is the total return?	ETB	
N4	If you need to work 50 days to take care of the 10 animals, how much is the payment per day of work with the 10 animals?	ETB/day of work	
N5	In order to buy 10 animals at 2000 ETB each you need to borrow 75% of the amount needed. How big is the loan you need to take?	ETB	
N6	The loan needs to be repaid after you have sold the animals one year later. The interest rate on the loan is 25%. How much is the total amount you have to repay?	ETB	
N7	What is the net return per day of work when the cost of the loan and purchased fodder are subtracted?	ETB/day of work	
N8	A farmer is producing tomatoes on her small irrigated plot. She experiences that the tomato harvest varies from year to year and so do the market prices. Over the last three years she got the following production (in kg) and prices (ETB) when selling the tomatoes from her irrigation plot at the local market: Year 1: 300 kg sold at 10.00 ETB/kg Year 2: 500 kg sold at 8.00 ETB/kg Year 3: 400 kg sold at 12.50 ETB/kg What is the average production per year over the three years?	Kg	
N9	What is the average income from tomato production per year?	ETB	
N10	The irrigation plot is 0.1 tsimdi in size. How big is the average yield (kg/tsimdi) for her tomato crop?	Kg/tsimdi	
N11	She used some fertilizer on her tomato crop. The first year she used 10 kg fertilizer, the second year 20 kg fertilizer and the third year 20 kg fertilizer. The fertilizer price per kg fertilizer was 10	ETB year 1	

	ETB in year 1, 10 ETB in year 2, and 12 ETB in year 3. What was the fertilizer cost in each of the three years?	ETB year 2 ETB year 3	
N12	What was the net return after subtracting the fertilizer cost in each of the three years?	ETB year 1 ETB year 2 ETB year 3	
N13	If 10% of the people are expected to get a disease, how many out of 1000 people are expected to get the disease?	ETB	
N14	If you put 1000 ETB in a bank account now and you get 10% interest on the amount from the bank and this amount is added to your account, how much will there be in your account after 2 years? 1=1100 ETB, 2=1200 ETB, 3=more than 1200 ETB	Code	
N15	A farmer bought two animals, a goat and donkey. Altogether he paid ETB 8000. The donkey costed ETB 4000 more than the goat. What did the donkey cost?	ETB	

Appendix 3.

Youthbus

December 2019

RCT2: Empowerment Training of Female Business Group members

Objectives of the training:

- a. Give female members skills in business planning with emphasis on production planning and basic cost-benefit, investment and risk analysis related to production
- b. Give basic training in market price and profitability analysis by using spatial and seasonal price data for the relevant products produced by the groups.
- c. Give female members the task of analyzing the production of their own group, its constraints and opportunities for improvement during the training and after.
- d. Give the female members tools for interacting with their own group members upon return to their groups (mobile phones, tables for production planning, training in how to make plans)
- e. Develop the network among female candidates participating in the training through their interaction during the training and by providing mobile phones and list of names and mobile numbers of fellow trainees.
- f. Provide technical training by experts on production and marketing issues of high importance to the groups.
- g. Provide a list of contacts (with mobile phone numbers) of experts that can be reached to seek advise related to group production activities.

Organization of the training in groups

1. The initial training will be for 5 days in a joint location
2. The randomly sampled groups have been split in blocks with 4 groups per block.
3. The groups are organized in blocks based on the main production activity (Irrigation, Cattle, Sheep/Goats, Poultry, and Dairy. 23 blocks were identified
4. Two groups from each block are selected for the training. Two female members are selected for training from each group selected for training. This gives 92 persons to be trained from 46 groups. These will be split in two batches, one with all irrigation groups (20 groups & 40 members), and all livestock groups (26 groups and 52 members). The training of irrigation groups will focus more on crop production planning while for the livestock groups there will be more focus on livestock production planning.
5. The training will emphasize that members from different groups learn to know each other and can learn from each other's experiences. Members from groups with the same types of crops/animals will be joined in group work – to help each other with analyzing their own production, constraints they face, and opportunities for improvements.

ACTIVITY 0: Registration of participants, introducing the objective of the training, Round Table introduction of participants, provision of mobile phones.

Activities 1-10: Production planning skills development by preparing plans for own groups that describe current production activities

The basic group level production analysis should be done during the first two days of the training.

Each group will prepare production plans based on their existing production for standardized production units (per animal or per area unit of a crop). Standardized forms should be prepared for filling in. Calculators may be useful (one per team working together may be enough).

- a. First production output per year is quantified and prices obtained in the market are identified (for last year) to measure gross income.
- b. All variable costs are identified (input quantities and prices)
- c. Gross income – Variable costs = Net return to cover fixed costs and labor
- d. Time use by group members for the production activity
- e. Net return per labor unit/fixed costs are calculated/credit factored in
- f. Develop production calendars to visualize the seasonal pattern of activities and variation in these. Timing of activities can be crucial for prices obtained in the markets.

Activity 11: Is the full production potential of the resource available to the groups utilized or is there room for expansion? What are the constraints hindering expansion? Can these constraints be lifted? If yes, how? Organize information in tables.

Activity 12: How can production efficiency be enhanced? Can production be increased and/or input costs be reduced? How? Organize information in tables.

Activity 13: Can better prices be obtained for the products in the market? How? Selling products at different places, to different customers or at different time(s) of the year? How are groups obtaining information about prices and plan where and when to sell their products? Are there transportation constraints? Do they have a good knowledge of seasonal and spatial price variation and how to optimize related to this variation? Compare prices obtained by the groups with prices obtained from TAMPA (official price collection authority). Organize information in tables.

ACTIVITY 14: Is there a need to diversify the production to make it more robust? Is this feasible? What are the constraints?

ACTIVITY 15: Are there constraints in accessing inputs and management of crops/livestock that hamper production? What are the major constraints and what can be done with them? Can the groups learn from each other on how to handle the different constraints? Facilitate discussion among participants to explore and share experiences.

ACTIVITY 16: Discuss how participants and their youth group can benefit from having mobile phones in their planning and organization of group production and marketing of products. Do they need training/info about how to obtain such information? How do they currently obtain such information? Document in tables the information sources.

ACTIVITY 17: All participants in the training should get mobile phones and lists with the mobile numbers of all the other participants and key numbers for our project staff and other valuable source where they may seek useful information (related to inputs, technical advice and marketing). They should also get contact details for Key Project Staff at Mekelle University (research team). They should also get Contact details of experts at Woreda (district) Agricultural Offices and Tigray Agricultural Marketing and Promotion (TAMPA).

Going through the above issues and working in groups should take a couple of days.

ACTIVITY 18: A day or two may be used for technical training (field day/excursion) by livestock experts/crop production experts on handling problems they face and how organized solutions to these may be provided. The livestock groups are trained separately from the irrigation/crop groups and the experts will be different and the focus of the field days will be different. The experts participate in the production analysis the first two days to get a first hand knowledge of the production constraints and opportunities that may be there to improve the production.

ACTIVITY 19: Market price information for the relevant products are collected by the research team from TAMPA as the basis for this training. The usefulness of this information from the groups is discussed. Market risks related to perishable products and unstable prices and how to deal with these.

ACTIVITY 20: Discuss production risks, how serious these are for the different types of production, and how they may be reduced. Record information in tables.

ACTIVITY 21: Investment opportunities and funding issues

1. Discuss investment opportunities and funding issues.
2. Is it relevant to take loans to invest to increase and improve the groups' production?
3. What investments are most relevant/most profitable?
4. How risky are the investments?
5. What happens in worse cases and what are the risk factors?
6. Discuss how to cope each of the risk factors?
7. How can investment risks be reduced and profits increased?
8. Can loans be defended and paid back with a good margin?

ACTIVITY 22: Planning tools and skills: Final skill test

1. In addition to developing plans for their own groups, the participants should throughout the training be given exercises to help them develop their skills in production planning. (This will be done using the templates designed for content No. 6; that means exercised on how to calculate gross income, net return to cover fixed costs and labor, net return per unit of labor, net return per members, net return per variable cost, net return per fixed cost, and net return per credit)
2. Working on these in groups and on issues of relevance to their groups should make these more useful.
3. There should be a skill test at the end of the training to assess how much each of them have learnt and understood. (Test on how to calculate gross income, net return to cover fixed costs and labor, net return per unit of labor, net return per members, net return per variable cost, net return per fixed cost, and net return per credit). This is the basic numeracy test that they also have been exposed to earlier to compare their responses after the training with those before the training.