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Reaching the Rural Poor Through Agricultural Cooperatives in Mongolia

Master's thesis

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Declaration

I declare that I worked on my Master's Thesis "Reaching the Rural Poor Through Agricultural Cooperatives in Mongolia" by myself and that I used only primary data based on my research and secondary data based on literature resources listed in the references.

15th of April 2016, Prague _____

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Acknowledgement

Abstract

The study is preoccupied with the cooperative sector in central Mongolia. Its aim is to provide new insights into the role and importance of cooperatives in regard to poor rural populations. In the study we analyzed the inclusiveness of smaller herders and farmers within the cooperatives. The research was based on data collection in selected provinces of the Töv region. The data were collected for three distinctive target groups – cooperative board members, cooperative members and non-members/herders. We found that the cooperative sector in Mongolia is strongly affected by the governmental policy of wool subsidies, which allows subsidies only to cooperative members, and is thus potentially leading to very low levels of members self-identification with the cooperative due to big increases in the numbers of new cooperative members. This policy is potentially also affecting the inner organizational structure of cooperatives. Further, we have found suggestions that poorer herdsmen tend not to be members of cooperatives and overall benefits for non-members and the general community arising from local cooperatives are rather low.

Key words: cooperatives, inclusiveness, small-scale herders, policy, Mongolia

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Abbreviations

ANOVA	Analysis of Variance
CLM	Classic Linear Model
COPAC	Committee for the Promotion and Advancement of Cooperatives
GDP	Gross Domestic Product
ICA	International Co-operative Alliance
MNT	Mongolian Tughrik
NAMAC	National Association of Mongolian Agricultural Cooperatives
NGO	Non Governmental Organization
OLS	Ordinary Least Squares
UN	United Nations
USD	United States Dollar
WB	World Bank

1. Introduction

Two thirds of the world's three billion rural population live in a smallholder farming setting. Smallholder development and a prosperous smallholder sector is viewed as a cornerstone for reducing poverty in low income countries (World Bank, 2008; Hazell et al., 2010). Institutional improvements to help small farmers overcome the challenges of market failures and increase their empowerment are becoming relevant again; part of the strategies of national governments and international donors is a revival of the "modern type" of producer organizations and cooperatives.

Various organizations, NGOs, governments, policymakers and researchers are showing renewed interest in cooperatives as means of promoting sustainable growth and poverty reduction (for example Rondot and Collion, 2001; Chen et al., 2007; World Bank, 2008; Markelova and Mwangi, 2009). Thanks to the leverage of collective action, cooperatives can help smallholders accumulate surplus outputs and thus achieve economies of scale, for example in marketing their products. By being part of cooperatives, it is also expected its members can be able to negotiate better trading terms when accessing markets (Berdegué, 2001; Rondot and Collion, 2001; World Bank, 2008). In conjunction with the work of governments and various organizations, they have the capacity to improve the welfare of poor rural population (Bernard and Spielman, 2008; Shiferaw et al., 2011). In connection with these arguments, cooperatives can potentially serve as an effective means of reaching the rural poor. But empirical evidence of their impact on the poorest members of the rural communities and thus on the reduction of the worst forms of poverty is mixed.

Cooperatives are often connected with democratic collective action and therefore viewed as more inclusive than other institutional innovations designed to help the rural poor, such as contract farming for example (Verhofstadt and Maertens, 2012). In order for cooperatives to have an impact on improving the welfare of the poorest smallholder farmers, their membership base has to be inclusive and/or bring them some benefits.

Numerous studies have tried to assess the extent onto which cooperatives are inclusive (Bernard and Taffesse, 2012; Fischer and Qaim, 2012). For instance, it has been found that human and social capital is closely linked to the extent of membership

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in such organizations (Hellin et al., 2009; Karli et al., 2006; Francesconi and Heerink, 2010). Some authors point out that poor members are often disadvantaged due to their lack of essential assets such as education, organizational skills or financial capacity (Hulme and Shepherd, 2003). Physical assets such as land and livestock ownership also play an important role as barriers for entry (Bernard and Spielman, 2008). Thorp et al. (2005) summarize the main disadvantages of the poor in group participation as: Lack of assets, lack of access to markets and networks, lack of political rights and their dependence on external interventions.

Some authors observe the middle class effect, where the poorest as well as the richest tend not to be members of organizations due to limited gains compared to their initial wealth (Bernard and Spielman, 2008). Either way, the fact that cooperatives are despite their inherent egalitarian values, to some extent exclusive, is rather obvious.

In this study we focus on small herders and extent of their participation in cooperatives in the Central region of Mongolia – Töv. The renewed interest in cooperatives is of particular importance to Mongolia as the official Rural Development strategy for Mongolia highlighted necessity for the support of herders' cooperatives in order to improve their conditions and welfare (Centre for Policy Research, 2002). According to the Mongolian Cooperative Law, the design of cooperatives should be done in a way to allow for the inclusion of poor herdsmen as well (The Civil Law of Mongolia. NR 258). However, the reality may be different.

The author of this paper take over the primary assumptions of Bernard and Spielman (2008), that in order for cooperatives to be able to effectively reach the rural poor, they must be inclusive of poorer members in at least one, or any combination of these three cases:

a) membership inclusiveness of the poorest members of rural communities

b) benefits accessible to the poor, either directly or indirectly (spillover of benefits into society)

c) organizational structure and decision making processes that represent the interests of poor

2. Background

2.1. Mongolia

Mongolia is a landlocked country neighboring with only two other states – China and Russia. The area of 1,564,116 sq km is covered from almost one third by the Gobi dessert and the rest is mainly grassy steppes and vast semi-deserts, with mountains in the west (CIA Factbook).

About 73% of land is agriculture land, however with only less than 1% of arable land and the rest being permanent pasture lands (CIA Factbook).

Mongolia is a predominantly livestock oriented country with an extensive nomadic type of production. The agricultural sector in today's Mongolia is decreasing in its share of total GDP. As of 2013 the share of GDP was only 16% (WB, 2014). However 40% of the workforce is still dependent on it and the sector is expected to be the most important in terms of the creation of jobs. The livestock sector in Mongolia is mainly extensive, dependent on grasslands and thus inherently vulnerable to natural and climatic disasters (WB, 2008).

Weather patterns occurring recently have had a negative impact on agricultural production in Mongolia. Very cold winters combined with drought and overall difficult terrain have led to poor development of infrastructure. Another factor negatively affecting the development of agricultural sector is also poor banking and credit systems. The main objectives for governmental policy are thus to broaden rural development, among many others, also by support of cooperatives. (Tsevegjay, 2003)

2.2. Cooperatives

According to ICA (1995) a cooperative is an "autonomous association of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through jointly owned and democratically controlled enterprise".

In its statement on the Cooperative Identity ICA (1995) also stated cooperative principles:

1. **Voluntary and Open Membership** – meaning that nobody can be forced to join the cooperative and no gender, racial, social, political or religious discrimination can be applied for members.

2. **Democratic Member Control** – cooperatives must be run democratically with each member having equal voting rights (one member = one vote), regardless of the portion of their shares.

3. **Member Economic Participation** – members should contribute equitably and at least some part of the capital should be common property of the cooperative.

Other principles include the emphasis on education and training for its members, concerns for community and cooperation among other cooperatives. ICA in its statement also highlights the values upon which cooperatives should operate. Such as self-help, self-responsibility, democracy, equality, equity and solidarity.

2.2.1. Cooperatives as institutions

Among many and various efforts on how to reduce the global poverty, the promotion of cooperatives holds an important place. The year 2012 was announced the "International Year of Cooperatives" by UN, which tried to raise public awareness of the invaluable contributions of cooperatives to poverty reduction (COPAC, 2011). Cooperatives are generally seen as an important tool in achieving broad economic and socio-political goals. They are viewed as grassroots, self-help, democratic organizations that have significant potential to benefit the poor because they operate on local level, rather than detached business firms. They are perceived to be "putting people before profit" (COPAC, 2011).

When trying to define the concept of cooperatives, we will find several major unifying characteristics, important for describing these institutions. Cooperatives are voluntary organizations that aim to bring economic benefits for its members through

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common enterprises on the basis of self-help and mutual cooperation. The income of such organization should then be distributed to the individual members according to their contributions (Mustafa, 1998).

2.2.2. Cooperatives as a tool for poverty reduction and development

Cooperatives are now facing the new actuality, as we have seen the reorientation of development theories towards decentralization, self-help and bottom-up approach (Holmén, 1990).

However, this view of cooperatives as means for poverty reduction is subjected to criticism. There is ongoing debate whether cooperatives can even achieve such goals. There is no doubt that cooperatives, as a topic, evoke strong emotions and many authors and organizations that are directly involved in the issue see their potential rather too optimistic. For example ICA stated that "It is believed that theoretically and in long run cooperatives will resolve most if not all problems of development" (ICA, 1978). However, even the very question of whether cooperatives as institutions can help alleviate poverty, took a strong blow in the great wave of criticism during the 70s. The general growing discourse showed, that there is growing awareness that the poor had not been reached. A view, which echoed among multiple authors of the time (Laidlaw, 1978; Holmén, 1990). Many structural flaws and deficits were highlighted in the theoretical design of cooperatives. One of numerous examples could be Newiger's explanation of the inability of cooperatives to serve as a tool for poverty reduction, because of the unequal redistribution problem (Newiger, 1983). Multiple case studies support this argument. Mustafa, based on the study of cooperatives in Punjab, shows that the uneven distribution of benefits among the members of cooperatives leads to greater social stratification. He concludes that the impact of community structure onto cooperatives is stronger than the impact of cooperatives onto the community (Mustafa, 1998).

Following this critique, the important landmark in the discussion was the ICA report from 1978, where the organization acknowledged the potential of cooperatives

for generating wealth but simultaneously also admitted that the problem of efficient and fair distribution of income can be only achieved when addressing prerequisites and conditions necessary for efficient usage of cooperatives potential. Meaning that factors, such as land tenure rights, general governmental policies, cooperative laws, taxation, education, social services, infrastructure etc. must be taken into account when assessing the cooperatives potential for reaching the rural poor (ICA, 1978).

This shows, that only in the right environment where all these prerequisites are ensured on sufficient level, cooperatives can indeed work as a mean for development. Similar change in approach underwent in UN. The organization also sees cooperatives as a possible tool for poverty reduction but newly also proposes the bottom up approach and building up the overall socio-political and economical environment, rather than direct support focused merely on subsidizing cooperatives themselves. (Birchall, 2003)

2.2.3. Cooperatives in Mongolia

The collapse of the Soviet Union meant an escape for Mongolian agriculture out of an almost seventy year long period of the state collectivization. The forced collectivization began in the late 20s, but its catastrophic failure forced the Mongolian government under Soviet influence to retreat from its policy. Instead, it started to encourage herders to enter and contribute with their livestock to collectives *(negdels)* "voluntarily" through a combination of punitive taxation and favouring policies, for example for buying equipment or providing winter shelter for livestock. By the beginning of 60s the vast majority of herders were members of state-controlled collectives (Fratkin and Mearns, 2003).

After the collapse of the Soviet Union in 1991 there was a radical transformation of Mongolian agriculture. The state retreated from direct control over production and a number of agricultural cooperatives transformed into joint-stock companies and soon after into private companies and individual household enterprises. In 1990 68% of herders were in collectives, while in 1996 90% of herders owned their livestock privately. This very rapid shock transition from command to market economy, together

with a decrease in productivity and the generally difficult economic conditions of the new market, led to a revival of the idea of cooperatives as viable institutions for improving the livelihoods of the rural population.

As of today there are 5 national organizations in the cooperative sector of Mongolia: The Central Union of Mongolian Trade and Consumer Cooperatives (CUMTCC), Central Union of Mongolian Industrial Cooperatives (CUMIC), Union of Mongolian Production and Services Cooperatives (UMPSC), Mongolian Confederation of Credit Unions (MOCCU) and National Association of Mongolian Agriculture Cooperatives (NAMAC). All these organizations established cooperative information and training center in 1998 and formed Mongolia National Co-operator's Association (MNCA) in 2008. (NAMAC, Leaflet)

To support further the development of cooperatives, the Government Act N221 came into force in July 2013. In its second appendix, the Act states that only members of cooperatives are able to access the state subsidy for sheep wool. In the past, wool subsidies were available for non-members of cooperatives alike but this changed abruptly at the end of 2013.

2.2.3.1 NAMAC

In Mongolia part of the agricultural cooperatives is gathered under the National Association of Mongolian Agricultural Cooperatives. It is a non-governmental organization established in 1992 which has 22 provincial offices and about 599 cooperatives as members.

NAMAC's mission is to be a uniting body supporting the cooperation and strategy planning for member cooperatives. Specifically, the missions as stated in their leaflet goes:

1. To upgrade the management of cooperative organization
2. To develop human resource for cooperative organizational
3. To expand the number of cooperatives and strengthen their economic viability

4. To extend international relationship of cooperative organization
   (NAMAC. Leaflet)

There are about 566 cooperatives, which are registered to NAMAC. The member cooperatives of NAMAC comprises more than 100 thousand individual members of 38 thousand households throughout Mongolia and about 200 thousand people benefit from the cooperative activity. (NAMAC. Leaflet)

3. Aims of the thesis

As to the recent research on the issue of cooperatives in Mongolia, most of the literature is preoccupied with the issue of the transition from command to market economy (for example Abeywickrama, 1996; Bilskie, 2002; Nixson and Walters, 2004; Sheehy, 1996; Mearns, 2004). And issues closely related to this topic, such as the responsibility of risk management in the new economic environment, are often discussed (for example Templer, 1993). When directly addressing the issue of herders cooperatives in Mongolia, numerous studies describe the old model soviet collectives (Humphrey, 1978) or look at the issue from a more theoretical perspective; such as the approach of trying to explain and illustrate the concept of community when dealing with risk management in cooperatives (Mearns, 1996) or the study of concepts of cooperation in the Mongolian environment in a more theoretical way (Cooper, 1993; Fernandez-Giménez, 2002). Another much reported issue directly related to the study of cooperatives is the topic of land rights (Fernandez-Gimenéz et al., 2008).

While there are numerous studies focusing on the issue of cooperatives' capacity for effectively reaching the rural poor in various countries (Ortmann and King, 2006 for South Africa; Thuvachote, 2011 for Thailand; Verhofstadt and Maertens, 2012 for Rwanda), there is no such study done in the context of Mongolia.

Therefore, this study attempted to address this knowledge gap and to provide a framework for further study of whether and how cooperatives can help the poor and rural development in the country. It aimed to provide new insights into the role and

importance of cooperatives in Mongolia in regard to reaching and benefiting the smallest herders and farmers.

As stated in the introduction we have looked into three main objectives in order to establish whether cooperatives have the ability to help the rural poor. We have checked whether they are (1) inclusive of poorest members, (2) provide any benefits for the rural poor and/or (3) whether their organizational structure and decision making processes represents their interests.

4. Data sources and methodology

4.1. Study Area

The research was conducted in the province - Töv *aimag*. It is a central region located around the capital city Ulan baataar. The province has a total population of 88,400 people; half of this population, with 13,000 households, is rural. Out of these, 9,400 households are considered to be herdsmen households with almost 18,000 herdsmen in the region (NAMAC, 2014).

According to the National Association of Mongolian Agricultural Cooperatives' (NAMAC) review of cooperatives in Töv *aimag*, there were 153 cooperatives registered with the NAMAC office in 2014. Out of these, 83 were operational in the year 2014 and 78 out of those were registered as agricultural cooperatives. These operational agricultural cooperatives have in total 2,935 registered members (NAMAC, 2014).

The smaller administrative unit under the "aimag" is the "soum". Out of the 27 *soums* of Töv *aimag*, we randomly selected 7 *soums* where our data collection took place. In the northern areas the three *soums* of Bornuur, Jargalant and Bayanchandmani, in the east the *soums* of Erdene and Bayandelger and in the West the *soums* of Ondorshireet and Altanbulag.
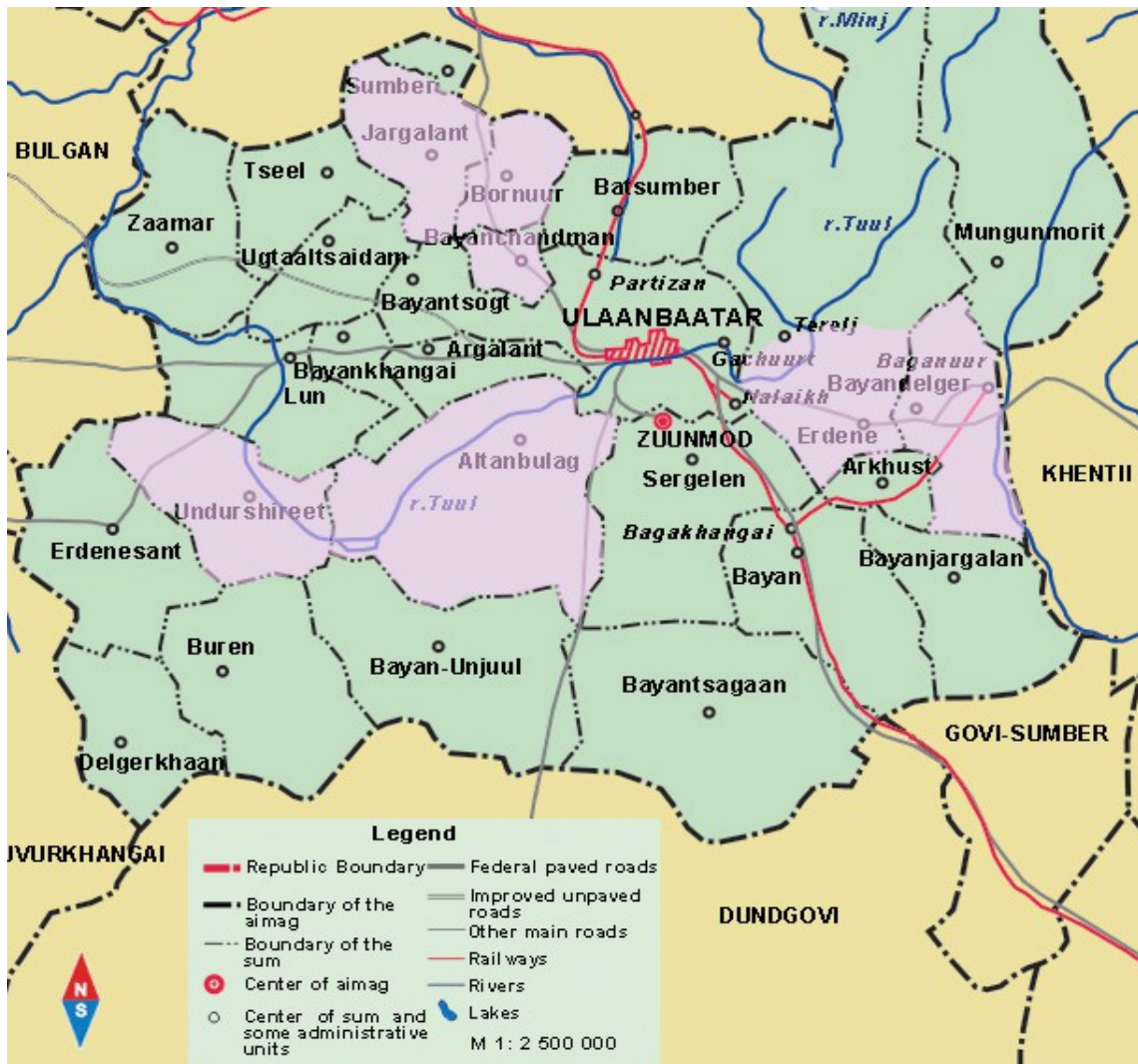
Figure 1. Map of the Töv *Aimag* with highlighted *soums* where data collection took place

4.2. Sample Size and Research Design

In each *soum* a number of cooperatives was conveniently chosen from a list provided by the regional NAMAC offices. A total of 25 cooperatives was approached.

Out of these, 10 cooperatives were mainly crop oriented – their operations were focused on plant production, such as wheat, potatoes and vegetables. 7 cooperatives were livestock oriented, focusing on the production of dairy products, meat and wool. And 8 cooperatives were mixed, combining livestock production with crops.

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As a proxy indicator of the wealth of individuals in terms of assets we used the number of livestock owned, which seems to be an appropriate indicator in the cultural context of rural Mongolia. All animals were converted to an equivalent in sheep units, according to the methodology used in the NAMAC Report (2014).

4.3. Data Collection

Three distinctive target groups for our data collection were selected and classified as: 1. cooperative board members, 2. cooperative members and 3. herders (non-members of cooperatives). For each of these groups a semi-structured questionnaire was prepared. In total we collected responses from 30 board members of cooperatives, 74 cooperative members and 87 non-members. Questionnaires and personal interviews were conducted during September 2014.

The questionnaires were prepared individually for each of the three target groups and the structure reflected our three objectives. In the sections focusing on membership and inclusiveness mainly questions regarding the requirements for new members joining were asked. For the section on inclusiveness and benefits questions regarding the benefits arising from being a member of the cooperative were posed. On the level of herders/non-members, we tried to find out whether there were any spill-over benefits from local cooperatives for them or what entry barriers they were facing if they were interested in joining local cooperatives. For our last section concerning inclusiveness and governance, the variables of education and the number of livestock owned were used when establishing a causal relationship to their participation in cooperatives.

We are aware of the limitations of our data collection mainly due to the convenient sampling method, which limited the randomness of our sampling. Some cooperatives were inaccessible at that time and some refused intentionally to participate in the research.

4.4. Data Analysis

All the answers from questionnaires were translated with the help of local students and the information were rewritten into and Excel file and subsequently coded into a statistical software STATA.

We performed a standard OLS estimation of the effects presented on collected cross-sectional data. The methodology also suggested pooling all the three samples and reporting their coefficients to find the impact of any particular effect. One might consider double checking the effects on the number of animals and income, hence, we decided to take into account both of these models. A description of the variables used can be found in Table 1.

We present the dependent variable in logarithmic form for weighted animal numbers and incomes respectively. The three groups (non-members, members and board members) are treated as follows: the members group are considered as the zero scenario, the particular effect (of being non-member or board member) on the dependent variable is presented as a regression table.

As to the analysis, standard Classic Linear Model Assumptions are presented and tested, two of them are worth mentioning (one violated). Heteroskedasticity is strongly present in our sample, and the use of robust standard errors produces HC (Heteroscedastic Consistent) estimates. We tested the normality of residuals in our samples and the null hypothesis cannot be rejected for any of our estimations. Therefore, CLM assumptions were taken to be met.

Table 1. Description of used variables

variable	meaning
board	person who is a member of the board of cooperative
coop_sell_perc	percentage of production sold through cooperative
educ_sec	person with secondary education
educ_terc	person with terciary education
l_income	logarithm of the annual household income
non_member	person who is not a member of cooperative, individual herder
serv_count	number of services provided by cooperative
sheep_adj	number of sheep
speak	participation on any general meeting, person ever spoke
vote	participation on any general meeting, person ever voted for any decision
weighted_animals	weighted sum of household animals
years_in	number of years for a person as a member of cooperative

5. Results

Reflecting our initial objectives, we organize the results section of this paper into three sub-sections.

5.1. Inclusiveness and membership

Our first objective was to assess to what extent cooperatives are inclusive of smaller herders. The indicators of the number of animals owned, education level and annual household income were used. We found a suggestion (See Table 2.) that smaller herders, less educated and with lower annual income tend not to be members of cooperatives. Similar distinction was found between cooperative members and cooperative board members. Board members have higher annual household income and higher education.

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Table 2. Comparison of Wealth and Education levels for respondent groups

Group	Non-members	Members	Board members
Total no. Of livestock (no.of heads as per sheep)			
Mean	260	598	512
Std.Dev	(318)	(479)	(799)
Education			
Primary	16.1%	24.3%	0%
Secondary	68.9%	55.4%	50%
Terciary	14.9%	20.3%	50%
Household annual Income (millions MNT)[1]			
Mean	7.3	8.6	16.4
Std.Dev	(20.8)	(12.9)	(23.3)

[1] The exchange rate of 1 USD=1,870 MNT as of December 5, 2014.

The Analysis of Variance (ANOVA in Table 3, 4) tests the response variables against their treatment groups (non-member, member, board member) – this analysis serves as an econometrical basis for Table 2.

The standard F-test tested if the response variable dataset is invariant with respect to the treatment (binary) variable. Rejecting the null hypothesis signals the existence of a significant difference in the variance of the treatment and non-treatment group.

Table 3. ANOVA

No. of animals

Response:	weighted_A	F (1, 186)	14.9141
Treatment:	non_member	P-value	0.0002
H0:	**REJECTED**		
Response:	weighted_A	F (1, 186)	10.812
Treatment:	member	P-value	0.0012
H0:	**REJECTED**		
Response:	weighted_A	F (1, 186)	0.636
Treatment:	board	P-value	0.4260
H0:	**NOT REJECTED**		

Income

Response:	income	F (1, 186)	1.889
Treatment:	non_member	P-value	0.1709
H0:	**NOT REJECTED**		
Response:	income	F (1, 186)	0.143
Treatment:	member	P-value	0.7051
H0:	**NOT REJECTED**		
Response:	income	F (1, 186)	5.930
Treatment:	board	P-value	0.0158
H0:	**REJECTED**		

Table 4. ANOVA

Education – secondary

Response:	educ_sec	F(1, 186)	0.0329
Treatment:	non_member	P-value	0.8561
H0:	**NOT REJECTED**		
Response:	educ_sec	F(1, 186)	4.673
Treatment:	member	P-value	0.0319
H0:	**REJECTED**		
Response:	educ_sec	F(1, 186)	7.229
Treatment:	board	P-value	0.0078
H0:	**REJECTED**		

Education – tertiary

Response:	educ_third	F(1, 186)	4.498
Treatment:	non_member	P-value	0.0352
H0:	**REJECTED**		
Response:	educ_sec	F(1, 186)	0.298
Treatment:	member	P-value	0.5853
H0:	**NOT REJECTED**		
Response:	educ_sec	F(1, 186)	14.153
Treatment:	board	P-value	0.0002
H0:	**REJECTED**		

In Model 1 (Table 5) the estimated effects show a significant drop in the number of animals for both non-member and board member groups. The education effect seems to be insignificant and the signs of the predicted impacts are questionable. However, the secondary education coefficient is close to the significance border, thus we tried to confirm its size and relevance in the second (income based) model. The overall model is strongly significant, the R-squared of about 17% can be considered as appropriate for this kind of social science experiment.

In Model 2 (Table 6) we were focused on income changes, which resulted in a predicted 28% decrease of income for non-members, but a 45% increase for board members. Such a difference (set against the first animal-based point of view) may be explained by changes in income structure for board members with higher social status.

The important point is the significance of *board* and *educ_sec* variables. The education signs are as expected (taking into account local economic standards). The overall model is strongly significant, the R-squared of about 11% can be considered appropriate for such kinds of research.

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Finally, one may point out that members had the highest predicted number of animals, the other groups were expected to have lower numbers. However, the estimation shows an interesting phenomenon, that increasing the level of education from primary to secondary brings an increase in the predicted income, but a decrease in the predicted number of animals in the community, which basically implies a shift in the income structure.

Table 5. Model 1

Model 1: OLS, using observations 1–188 ($n = 169$)
Dependent variable: weighted_animals
Heteroskedasticity-robust standard errors, variant HC1
Legend: p-value $< 0.01^{***} < 0.05^{**} < 0.1^{*}$

	Coefficient	Std. Error	t-ratio	p-value
const	5.41827	0.220879	24.5305	0.0000 ***
non_member	−1.39812	0.232886	−6.0035	0.0000 ***
board	−0.867076	0.361310	−2.3998	0.0175 **
educ_sec	−0.361402	0.267200	−1.3526	0.1781
educ_terc	0.233886	0.255883	0.9140	0.3620

Mean dependent var	4.444037	S.D. dependent var	1.584832
Sum squared resid	343.3935	S.E. of regression	1.447018
R^2	0.186203	Adjusted R^2	0.166354
$F(4, 164)$	10.15382	P-value(F)	2.28e–07
Log-likelihood	−299.7093	Akaike criterion	609.4185
Schwarz criterion	625.0680	Hannan–Quinn	615.7694

Table 6. Model 2

Model 2: OLS, using observations 1–188 ($n = 180$)
Dependent variable: L_income
Heteroskedasticity-robust standard errors, variant HC1
Legend: p-value $< 0.01^{***} < 0.05^{**} < 0.1^*$

	Coefficient	Std. Error	t-ratio	p-value
const	15.0011	0.225646	66.4805	0.0000 ***
non_member	−0.285586	0.169846	−1.6814	0.0945 *
board	0.453292	0.231433	1.9586	0.0517 *
educ_sec	0.503109	0.223996	2.2461	0.0260 **
educ_terc	0.156353	0.203088	0.7699	0.4424

Mean dependent var	15.40555	S.D. dependent var	1.090761
Sum squared resid	189.2595	S.E. of regression	1.039944
R^2	0.111319	Adjusted R^2	0.091007
$F(4, 175)$	5.513565	P-value(F)	0.000333
Log-likelihood	−259.9235	Akaike criterion	529.8471
Schwarz criterion	545.8119	Hannan–Quinn	536.3201

Following the non-member survey we found that the majority (88.5%) of respondents questioned declared that they had some sort of access to some cooperative in their area. However, 73.6% of them stated that they did not try to join. Among the prevalent reasons for not joining belonged: too high initial entry fee and fear that membership would not bring them any benefits in return. Another reason declared was that with a smaller number of animals the benefits of being part of a cooperative would not be sufficient. These results could suggest that smaller households do not tend to participate in cooperatives either because they cannot afford the initial fee from the very beginning or because the perceived return of benefits would be too low for them.

Based on the data from board member interviews, the initial fee required when joining a cooperative ranged from 10,000 MNT (5.3 USD) to 300,000 MNT (160.4 USD) with the modus value being 100,000 MNT (53.4 USD).[1]

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[1]

The exchange rate of 1USD=1,870MNT as of December 5 2014.

The results from data on the board members level are shown in Table 7. When asked about the possibility of accepting new members, 86.7% of questioned cooperatives said that they accept new members. 86.7% of cooperatives declared that many new members are currently joining every month. This could be connected to latter findings, where cooperative membership is tied strongly to governmental policy on wool subsidies.

When asked about restrictions on new member applications, the majority of cooperatives said that there are not any. Where some restrictions on applications were present, they were mainly limited to the ability to pay the entry fee and geographical proximity to the cooperative. About half of the cooperatives asked (56.7%) required certain assets as a criterion for joining.

Table 7. Cooperatives accepting new members, board level (n=30)

Indicator	(%Yes)
Have you ever spoken on the general meeting?	33.8
Are you interested in the financial reports of cooperative?	23.1
Do you know the income of your cooperative?	6.8
Are you selling through cooperative?	89.2
Did you vote for board members?	27.1
Would you like to be a member of board?	8.1

4.2. Inclusiveness and benefits for members and non-members

Following the non-members survey, we collected data stating that 53% of non-members received some support from their local cooperative. See Fig.2 for the specific benefits for non-members arising from local cooperatives.

Among these, most often declared was the benefit of buying their production. Based on field observations, we may have found suggestions that when a non-member sells their production to a member of a cooperative he/she still may be able to receive higher price than when directly selling to the market. This is due to the fact that the cooperative member who has bought his production will later declare it as his/her own and receive state subsidies, thus, he/she is able to pay a higher price for the production

bought. The fact of openly buying production from non-members and selling it as subsidized production by a member significantly challenges the intended governmental impact of wool subsidies and the basic characteristics of cooperatives as member-driven organizations. There is a strong monetary incentive for such free riding due to the widespread participation of non-members in the economic benefits of cooperatives.
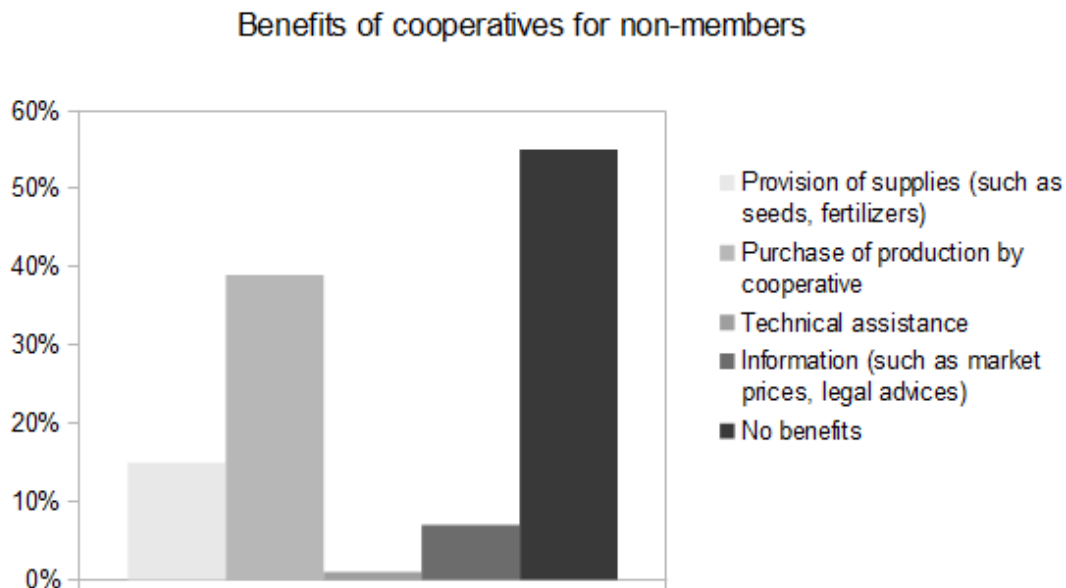
Figure 2. Benefits of cooperatives for non-members

We found that 39% of non-members are selling their production through some cooperative while 52.9% sell directly to the market or consumers. We found a few non-member respondents who stated that they were selling all of their wool production to the cooperative, but were selling their dairy and meat products to the market directly. This could be viewed as an argument for the above described tactic of obtaining state subsidies.

For the sake of triangulation of the evidence, we asked board members what benefits their cooperatives provide to their members and non-members alike. We can see (Table 8) that cooperatives' major benefit for non-members is the purchase of their outputs. Only a small percentage of cooperatives provide other services to non-members.

Table 8. Cooperatives providing services for members and non-members (n=30)

Service	Non-members (%Yes)	Members (%Yes)
Provision of supplies	12.5	25.4
Buying production	33.3	49.2
Technical assistance	1.1	5.1
Information	6.3	16.7

In terms of the provision of social services or extra benefits to the local community, only 18.4% of questioned board members responded positively. The most common benefit to the community from cooperatives was the maintenance of local infrastructure or pasture land management.

One of our main findings is based on the cooperative members' survey and the perceived benefits of cooperatives to them (Fig.3). We found that 41% of cooperative members joined the cooperative only to be able to obtain governmental subsidies on wool. This is certainly an alarming situation in terms of the quality of Mongolian cooperatives as "bottom-up" established institutions supporting social capital, democratic collective decisions and business cooperation among the rural population.

The majority of our respondents were also very new cooperative members, 80% joined only in the years 2012-2014. The reason may be again that in 2012 the government announced a newly planned policy giving wool subsidies only to cooperative members.

Only 26% of respondents indicated actual cooperation among members, their specialization within the organization and their team spirit as advantages of being in a cooperative. When asked about whether they were familiar with any of the principle of cooperatives, 57.3% respondents answered negatively. Only 6.6% of respondents were able to state that cooperation among members was a cornerstone of the cooperative institutional set up. An overall low identification of individuals with the objectives of their cooperative was prevalent.
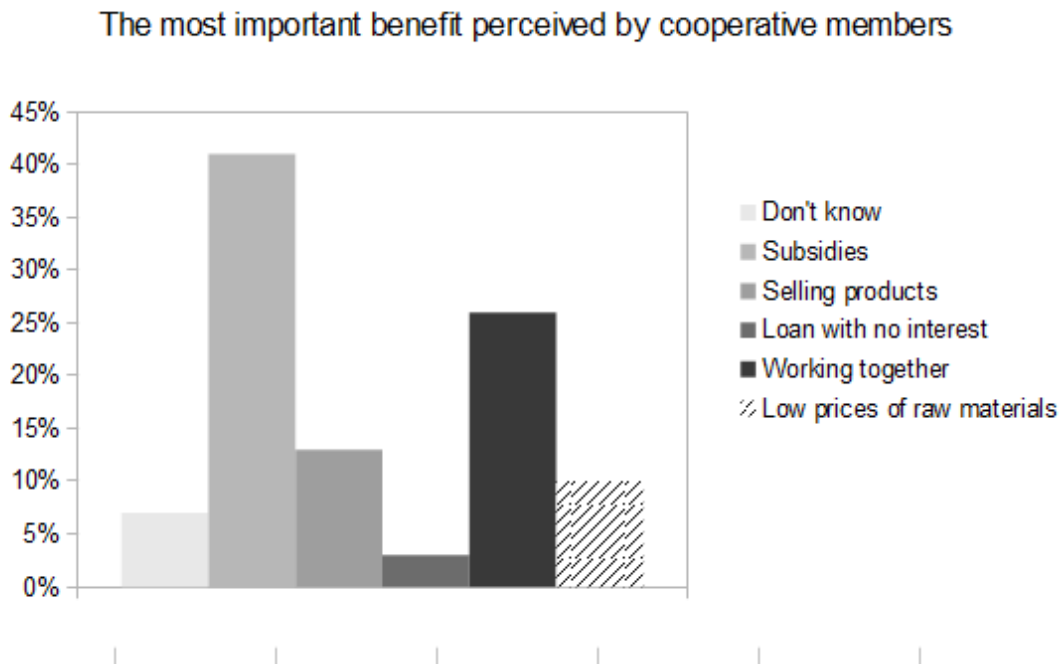
The most important benefit perceived by cooperative members

Figure 3. The most important benefit perceived by cooperative members

4.3. Organizational structure and inclusiveness

The last objective was to find out whether cooperatives disadvantage the poorer members in their organizational structure and in their access to decision making processes.

On the level of cooperative members we asked questions regarding their participation in decision making processes and the governance structures of the cooperative. Only 27% of members had ever voted for any of their board members (Table 9). The vast majority (82.4%) of members were not able to respond to the question whether they know any principle of the cooperative and whether they could name any differences in governance between cooperatives and ordinary business companies. When asked whether they know about the financial results of their cooperatives, 16% of respondents answered positively, however, only 6.8% were able to state the actual income or turnover of the cooperative.

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Table 9. Participation in organization of cooperative (n=74)

Indicator	(%Yes)
Have you ever spoken on the general meeting?	33.8
Are you interested in the financial reports of cooperative?	23.1
Do you know the income of your cooperative?	6.8
Are you selling through cooperative?	89.2
Did you vote for board members?	27.1
Would you like to be a member of board?	8.1

The Multinomial Logit model estimation (Table 10) demonstrates an increased probability of revealing the preferences of a member in a general meeting. The authors decided to prefer the *speak* variable to the *vote* variable, since almost all the examined effects were negligible or insignificant, on the other hand, the coefficient of correlation between both variables is 49% in the sample. Such behaviour can be explained by the open voting system at general meetings, which may have the object of constraining the publicly presented decision making process of any particular member. We consider the *vote* variable as slightly biased by such phenomena and we decided to use the *speak* variable as proper proxy for the unbiased behaviour.

The estimated effect is stronger and more positive as the percentage of production sold through cooperative increases. The secondary education effect is strongly present and shows a positive impact on active participation in the community. Such participation is also strongly increased by the number of sheep (motivated by potential subsidies) and the number of services provided to the member (motivated by a higher potential standard of living).

The more animals the members own, the more likely they are to participate in cooperative affairs. And similarly, the bigger the portion of their total production being sold through the cooperative, the more their extent in participation.

The model has relatively high predictive power (81 % based on pseudo-R-squared and likelihood ratio tests) and can be considered as a highly relevant demonstration of the members' behaviour.

Table 10. Model 3

Model 3: Multinomial Logit, using observations 1–73 ($n = 64$)
Dependent variable: speak
Standard errors based on Hessian
Legend: p-value $< 0.01^{***} < 0.05^{**} < 0.1^{*}$

	Coefficient	Std. Error	z	p-value
const	-17.7001	5.24987	-3.3715	0.0007 ***
years_in	0.434818	0.159484	2.7264	0.0064 ***
coop_sell_perc	7.54840	2.90205	2.6011	0.0093 ***
sheep_adj	0.941743	0.468948	2.0082	0.0446 **
serv_count	1.21499	0.460535	2.6382	0.0083 ***
educ_sec	2.73495	1.25600	2.1775	0.0294 **
educ_third	0.278176	0.884679	0.3144	0.7532

Mean dependent var	0.312500	S.D. dependent var	0.467177
Log-likelihood	-22.91968	Akaike criterion	59.83936
Schwarz criterion	74.95154	Hannan–Quinn	65.79281

Number of cases 'correctly predicted' = 52 (81.3 percent)
Likelihood ratio test: $\chi^2(6) = 33.660 \; [0.0000]$

5. Conclusions and discussion

In their design, cooperatives are supposed to support small farmers to overcome market failures, decrease transaction costs, improve collective management of resources, help them fight together against natural disasters and address technical and financial problems. In other words, through stable democratic institutional arrangements to help them with the main challenges the farmers face during agricultural production and the commercialization of their outputs. During our research, we found only limited evidence that current cooperatives in Mongolia fulfill these roles.

There has been a major increase in the number of members joining cooperatives in the last two years. Our explanation for this is the fact that most members joined

cooperatives only to sell their production of wool and receive governmental subsidies. They are not aware of or do not care about the cooperative itself and do not know any of its principles. We found that this major increase in the number of members led to very low levels of self-identification of members with the institution and to negligible social capital gains - crucial factors that many authors view as important for a group's success in fulfilling its aims. As Thorp et.al (2005) state in their paper, the level of self-identification and shared ideologies within a group are an important factor for organizations to benefit the poorer members and to develop into sustainable and profitable businesses.

We have assessed the extent to which cooperatives are inclusive of the poorer herdsmen and found a clear suggestion that poorer and less educated herders tend not to be members of cooperatives. This is in line with the conclusion of some other authors (Bernard and Spielman, 2008; Thorp et al., 2005). Almost all the herders and farmers had access to cooperatives in their areas; however, the majority of them did not even try to join. Either because of the high entry fee or because of the low expected returns they would derive from becoming members.

When trying to see whether the cooperatives benefit the general community and non-members as well, we found that only a small portion of the cooperatives questioned provided any benefits to non-members. If they did so at all, in the majority of cases this was only buying their outputs, which in turn might negatively influence the sustainability of cooperatives due to the increasing free-rider effect. Only a small percentage of cooperatives help the community in any other way.

The data collected concerned with organizational structure and decision making processes showed a strikingly low number of members who took part in voting on cooperative issues. Our data shows that the percentage of production of a member sold through a cooperative, the number of sheep and the total number of animals owned by that member have a statistically significant effect on participation in decision making in cooperatives. We found the more animals a member owns and the more he/she was selling through a cooperative, the more often he/she had participated in any decision at any general meeting of the cooperative.

One of our most important findings is the one connected to the governmental sheep wool subsidies. We need to emphasize that our data on this topic is limited;

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however, they do provide suggestions that this particular policy could possibly have done harm to the proper functionality of cooperatives as democratic member-driven institutions dedicated to helping herders and farmers improve their welfare. As Chirwa et al. (2005) state in their paper, it is important for any form of external support to be committed to over a long period of time and not put pressure on organizations to expand swiftly. The authors warn against the subversion and disruption of the ability of cooperatives to genuinely serve its members, if external support is not provided in a careful way. Similar conclusions was reached by Bernard and Taffesse (2012), who show that external governmental policies towards cooperatives lead to changes in their membership structures that may potentially jeopardize their capability to fulfil their primary objectives. Thorp et.al (2005) also mention the risks of failure when external support is introduced for group formation. The policy of wool subsidies could potentially have this effect; however, it is quite new and its effect on the cooperative sector has not yet been studied thoroughly.

To offer some recommendations, firstly, we would like to stress the importance of assessing the effect of state wool subsidies and possibly adjusting their legal framework. At the moment there is no study concerning the effect of state subsidies on cooperatives. As Chirwa et al. (2005) state in their paper, external support should be handled carefully and should not rush cooperatives into over-rapid expansion. Secondly, the Mongolian cooperative movement should ensure that the democratic principle is an integral part of cooperative development. The members should be encouraged to build stronger relationships within each cooperative by active participation and voting in important and minor decisions. This recommendation is in line with the conclusions of Shiferaw et al. (2011), who stress the importance of the provision of targeted support for the enhancement of participatory governance in cooperatives. Thirdly, cooperatives should provide some kind of training to its members, possibly in coordination with state or private extension services to ensure the higher loyalty of its members and a higher level of self-identification with them.

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7. Annexes

List of Annexes:

Annex 1 – Data Collection in the Field

Annex 2 – Filled questionnaire for non-members, herders

Annex 3 – Filled questionnaire for members of cooperatives

Annex 4 – Filled questionnaire for board members

Annex 1 – Data Collection in the field, Author´s own archive, September 2014

3.

Малчид, тариаланчдаас авах санал, асуулга ⑤

1. Таны хүйс:
   А. Эр   Б. Эм ✓
2. Та ямар аж ахуй эрхэлдэг вэ?
   Эсгийгээр ноос хийдэг producing carpet by wool
3. Та боловсруулсан бүтээгдэхүүнээ худалдаалдаг уу?
   А. Тийм ✓   Б. Үгүй
4. Хэдэн толгой малтай вэ? / Хэдэн га газартай вэ?

Нийт малын тоо	14	Нийт газрын хэмжээ	
Хонь	6	Улаан буудай	
Ямаа	5	Төмс, хүнсний ногоо	
Үхэр	3	Бэлчээрийн талбай	
Тэмээ		Бусад	
Адуу			
Бусад (сарлаг....)			

5. Эдгээр мал /газар/ таны өмч мөн үү?
   А. Тийм ✓   Б. Үгүй
6. Таны гэр бүл хэдэн гишүүнтэй вэ?
   _1_
7. Таны жилийн орлого хэд вэ?
   Хүнсээр м² - 90 000   1 metr square – 90 000
8. Таны боловсролын түвшин?
   а. Бүрэн бус ✓
   б. Бүрэн дунд
   в. Мэргэжлийн
   г. Дээд
9. Таны амьдардаг газар ямар нэгэн хоршоо байдаг уу?
   А. Тийм ✓   Б. Үгүй
10. Та хоршоонд элсэхийг оролдож байсан уу?
    А. Тийм   Б. Үгүй ✓
11. Танай нутагт байдаг хоршоо таньд ямар нэгэн үр өгөөж өгдөг үү?
    А. түүхий эд, материалын хангамж
    Б. бүтээгдэхүүнийг худалдаж авах
    В. сургалт
    Г. техникийн тусламж
    Д. мэдээлэл (зах зээлийн үнэ, хуулийн талаар)
12. Хоршооноос танай нутагт ямар нэгэн зүйл хийсэн үү? /зам засах, ямар нэг үйл ажиллагаа зохион байгуулах г.м/
    А. Тийм ✓   Б. Үгүй
    Тийм бол юу хийсэн бэ?
    Ахуй үйлчилгээ - гутал өгдөг ⑧ renting market for booths
13. Та бүтээгдэхүүнээ хэрхэн борлуулдаг вэ?
    Хувь хүнд - захиалгаар, зуучлан to people, by B. ook -ing (order)
14. Та ямар нэгэн хоршооллын гишүүнийг таних уу?
    А. Тийм ✓   Б. Үгүй   бүгд (all of them)

Annex 2 - Filled questionnaire for non-members, herders

Хоршооны гишүүнээс авах санал асуулгын хуудас

1. Та аль хоршоонд бүртгэлтэй вэ?

"Болор туул"   Bukhug Tuul

2. Та хэзээ элссэн бэ?

_2013. 12   2013. 12_

3. Хоршоонд танд ямар үйлчилгээг түлхүү санал болгодог вэ?

А . Түүхий эд, материалаар хангах
Б. Бүтээгдэхүүн худалдаж авах
В. Бүтээгдэхүүний боловсруулалтанд туслалцаа үзүүлэх
Г. Зээл өгөх
Д. Техникийн туслалцаа үзүүлэх
Е. Бусад (…………………………………………………………….)

4. Хэдэн толгой малтай вэ?/ Хэдэн га газартай вэ?

Нийт малын тоо		Нийт газрын хэмжээ	
Хонь	-	Улаан буудай	
Ямаа	-	Төмс, хүнсний ногоо	8 га 8 hectare
Үхэр	60	Бэлчээрийн талбай	26 га 26 hectare
Тэмээ	-	Бусад	
Адуу	60		
Бусад (сарлаг.....)	-		

5. Эдгээр мал /газар/ таны өмч мөн үү?

А) Тийм   Б. Үгүй

6. Танай гэрийн жилийн орлого хэдэн төгрөг байдаг вэ?

100'000'000   100 million

7. Гэр бүлийн өнгөрсөн жилийн орлого хэд байсан бэ?

- 1. -   don't know

8. Хоршооны үйл ажиллагаанд хэрхэн оролцдог вэ?

Саалъ, уу   selling products

9. Хоршооны удирдах албан тушаалд нэр дэвшиж байсан уу? Эсвэл сонгогдож байсан уу?

А. Тийм   Б) Үгүй

10. Хоршоо хурал хэр олон зохиогддог вэ?

А) . Сар бүр
Б. Жилд 2-3 удаа
В. Жил бүр
Г. Бусад ……………………………….

11. Хоршооны хуралд хэдэн удаа оролцсон бэ?

Байнга   every general meeting.

12. Хурал дээр өөрийн санал бодлоо илэрхийлж байсан уу?

А) Тийм   Ь. Үгүй

13. Та хоршооны санхүүгийн тайлан болон бусад санхүүгийн асуудлуудыг сонирхдог уу?

А) Тийм   Б. Үгүй

14. Хэрэв тийм бол хоршооны нийт орлого хэд вэ?

_500'000'000_

Annex 3 – Filled questionnaire for members of cooperatives (Page 1)

Хоршооны гишүүнээс авах санал асуулгын хуудас

1. Та аль хоршоонд бүртгэлтэй вэ?

Швэрэт Хоршоо " *shiveet hugjil* "

2. Та хэзээ элссэн бэ?

2011

3. Хоршоонд танд ямар үйлчилгээг түлхүү санал болгодог вэ?

   А. Түүхий эд, материалаар хангах
   Б. Бүтээгдэхүүн худалдаж авах   *buying a product*
   В. Бүтээгдэхүүний боловсруулалтанд туслалцаа үзүүлэх
   Г. Зээл өгөх
   Д. Техникийн туслалцаа үзүүлэх
   Е. Бусад (...)

4. Хэдэн толгой малтай вэ?/ Хэдэн га газартай вэ?

Нийт малын тоо	400	Нийт газрын хэмжээ	
Хонь	190	Улаан буудай	
Ямаа	85 ·	Төмс, хүнсний ногоо	
Үхэр	24	Бэлчээрийн талбай	
Тэмээ		Бусад	
Адуу	101		
Бусад (сарлаг.....)			

5. Эдгээр мал /газар/ таны өмч мөн үү?
   А. Тийм   Б. Үгүй

6. Танай гэрийн жилийн орлого хэдэн төгрөг байдаг вэ?

2 - 3 сая   2,3 million

7. Гэр бүлийн өнгөрсөн жилийн орлого хэд байсан бэ?

2 сая / million /

8. Хоршооны үйл ажиллагаанд хэрхэн оролцдог вэ?

Б-ээ борлуулах / sells products /

9. Хоршооны удирдах албан тушаалд нэр дэвшиж байсан уу? Эсвэл сонгогдож байсан уу?
   А. Тийм   Б. Үгүй

10. Хоршоо хурал хэр олон зохиогддог вэ?
   А. Сар бүр
   Б. Жилд 2-3 удаа
   В. Жил бүр
   Г. Бусад ....

11. Хоршооны хуралд хэдэн удаа оролцсон бэ?

бүгд . / all /

12. Хурал дээр өөрийн санал бодлоо илэрхийлж байсан уу?
   А. Тийм   Б. Үгүй

13. Та хоршооны санхүүгийн тайлан болон бусад санхүүгийн асуудлуудыг сонирхдог уу?
   А. Тийм   Б. Үгүй

14. Хэрэв тийм бол хоршооны нийт орлого хэд вэ?

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Annex 4 – Filled questionnaire for board members (Page 1)