MONGOLIA
Livestock and Agricultural Marketing Project (LAMP)

Impact Evaluation Concept Note

Development Impact Evaluation Initiative

April 2013

Contents

List of Acronyms

AVSF – Agronomes et Veterinaires Sans Frontieres

DIME – Development Impact Evaluation Initiative

GAFSP – The Global Agricultural and Food Security Project

GIZ – Gessellschaft fur Internationale Zusammenarbeit

ICC – Intracluster Correlation

IFAD – International Fund for Agricultural Development

IPA – Innovations for Poverty Action

IE – Impact Evaluation

LAMP – Livestock and Agricultural Marketing Project

MIA – Ministry of Industry and Agriculture

MCC – Millennium Challenge Corporation

MNT – Mongolian Tugrugs

NLP – National Livestock Policy

PDO – Project Development Objective

PIU – Project Implementation Unit

SDC – Swiss Development Corporation

SLP – Sustainable Livelihoods Project

SP – Service Provider

USAID – United States Agency for International Development

WB – World Bank

1. Introduction

This Concept Note presents the impact evaluation (IE) work underway by the Development Impact Evaluation (DIME) team in Mongolia under its collaboration with the Global Agriculture and Food Security Program. The GAFSP-funded Livestock and Agricultural Marketing Project (LAMP) project is an innovative program designed to improve the livelihood of herders by linking them to markets and investing in animal quality. This IE uses a randomized controlled trial to estimate the effect of LAMP's investments in value chains and animal productivity on herder livelihoods. The IE will provide evidence for donors and the government of Mongolia on the value of this approach and will inform scale-up decisions.

1.1 Strategic Context

While Mongolian poverty levels have decreased since the period immediately following the collapse of the Soviet Union, they remain above 30%. Poverty is especially common for the roughly 35% of Mongolians who depend on livestock herding for income. Herders typically sell unprocessed output individually to middle men, who do not offer differential pricing based on quality. Herders have little incentive to make investments into the quality of their herd and the most common income maximizing strategy is to increase the size of their herds. Accordingly, the total number of animals in Mongolia increased from 26 million in 1996 to 43 million in 2010. However, larger herd sizes make livestock vulnerable to severe wintertime climatic conditions known as *dzuds*.

Collective action problems, credit constraints, inadequate knowledge of market opportunities, and low quality of livestock output all work together to keep herders' incomes low. The Livestock and Agricultural Marketing Project aims to address the various constraints simultaneously, by linking herders to markets and providing services to improve livestock productivity and quality. The impact evaluation will test the hypothesis that the LAMP's approach of addressing both supply and demand-side issues of low prices will lead to higher herder household incomes and more investments in animal quality.

1.2 Implementation arrangements and capacity building

The DIME team has been working closely with operational and program management staff from both MIA and the Bank from the inception of this IE. The team consolidated the design of the IE during DIME's capacity building workshop in Naivasha, Kenya (April 2012). During this workshop, the LAMP team was trained on IE evidence and methods, through case studies on the use of IE for project management. The team then traveled to Mongolia and adapted the design to the capacity and needs on the ground.

Throughout this process, the MIA and WB teams have been supported by a full-time DIME field coordinator based in Ulaanbaatar who oversees day-to-day IE activities and ensure full communication across the various entities (research, operations and management).

To maximize the policy impact of the IE work, survey results will be produced in real time using computer assisted personal interviewing technology, which significantly shortens the field-to-analysis period. IE missions are organized around main dissemination dates and

ahead of season planning to ensure the absorption of the analytical findings into the operational schedule.

1.4 Audience and Research Impact

The direct audience for this IE and its outputs consists of the LAMP implementation unit, the Bank operations team, and the MIA Monitoring & Evaluation unit. Each of these actors will be involved in the implementation and supervision of part of the IE. The objective is that, by the end of a cycle of IE, each partner will have become an informed consumer of IE.

The impact evaluation will affect policy through a few different pathways. The project operations team (at both the Bank and MIA) can use baseline data to help target project activities, and will use the IE results available at midterm to assess project effectiveness and make and necessary adjustments for the second half of implementation.

Next, the MIA and Bank country management are interested in expanding the LAMP approach with a larger, IDA-funded project, and they intend to use the IE results to determine whether to proceed with the scale-up. Thus, the CMU's ownership of the activity will ensure its impact in the policy dialogue both at the country and sector levels. Brown-bag seminars will be organized between DIME and the CMU to ensure that the country office staff is aware of the work and learning coming out of this program, and that the IE work is timely and relevant for the CMU's decision-making process.

In addition to delivering evidence on key operational questions, this IE contributes to a large, global research agenda on aid effectiveness in agriculture (DIME-**aadapt**), which counts over 30 participating projects in over 20 countries. The Mongolia IE team will produce high-quality research papers for presentation at research BBLs at the Bank (e.g. DECRG and DIME seminar series), events and trainings as well as international development conferences. The findings will be published in the DIME working paper series and submitted to peer-reviewed economics and field journals, thus reaching a wide audience of researchers and graduate students worldwide. All data will be made available online on the databank for IE, following the Bank's open data policy.

Representatives from MIA and the Bank operations team have taken part in two capacity building and dissemination events of the **aadapt** community so far (Dakar, 2011; Naivasha, 2012), and will share the results and experience from the ongoing IE work in future events, thus reaching a wide audience of policymakers worldwide.

2. Livestock and Agricultural Marketing Project

Mongolian livestock policy generally has focused more on animal breeding and health rather than on deficiencies in domestic value chains. In particular, the World Bank's nationwide Sustainable Livelihoods Project (SLP) works to improve pastoral risk management, social infrastructure, local decision-making capacity, and access to

microfinance[1]. While the National Livestock Program (NLP) of 2010 calls for the establishment of "processing and marketing structures", LAMP will be the first government project dedicated to these types of goals.

The LAMP's innovation is to focus on increasing herder household incomes through value chain interventions aimed to improve livestock quality. It will be implemented in 15 *soums* spread across 5 *aimags* of the country[2]. This covers an area that includes slightly more than 4 percent of all Mongolians who depend on herding for their livelihood, so the LAMP is accurately characterized as a pilot. The Mongolian Ministry of Industry and Agriculture (MIA) would like to understand precisely how effective the LAMP is at achieving its goal of increasing herder household incomes. The impact evaluation of the LAMP will enable MIA to base scale-up decisions on rigorous evidence.

2.1 Project Description

The LAMP aims to increase herder household incomes through enhanced livestock productivity, market access and diversification in livestock-based production systems. The project has two primary components[3]:

1. **Linking Herders to Markets:** The objective of this component is to create productive partnerships between formalized herder groups and processors of animal products (meat, dairy and fiber). The project will also work with herder cooperatives to improve the collection, handling, cleaning, sorting, packaging, and storage of livestock products. Improved market access for more valuable, processed output should provide incentives to invest in herd quality. This component will also support income diversification via dairy and horticultural processing.
2. **Raising Livestock Productivity and Quality:** This component will complement the first by improving the productivity of the traditional species (sheep, goat, horse, cattle/yak and camel) through breeding, feeding and animal health sub-components. The breeding sub-component will increase the quality of livestock output by improving the genetic characteristics of Mongolian animals. This will be achieved through the introduction of higher quality animals for breeding and the formation of proper nucleus herds. The animal nutrition sub-component is intended to alleviate problems associated with the most important constraint in Mongolian livestock production—lack of fodder. Specifically, investments will be made into forage plots, silvo-pastoral activities and micro-scale processing units. The animal health sub-component supports the development of export market opportunities through the strengthening of disease-free zones and veterinary services. In addition to the support and implementation of

[1] The summary report of SLP is provided here: http://www.slp.mn/reports/report1_en.pdf. It should be noted, however, that the evaluation findings utilize a study that did not include a control group.
[2] In Mongolia, aimags and soums are first- and second-level administrative divisions, respectively. The country contains a total of 331 soums in 23 aimags. The aimags in the project area have an average of 24,203 inhabitants, and soums have an average of 1,153 inhabitants. Study area aimags are 99,165 km sq. and soums are 3,850 km sq. on average.
[3] The third component, project management, will not be covered by the impact evaluation.

national-level programs, animal health will be addressed at the local level through veterinarian training and service upgrading.

The value chain development activities of the first component are expected to be the primary channel through which the LAMP affects herder household incomes. Formalized herder groups (cooperatives) will be developed and linked with buyers and/or processors of meat and fiber. The intention is to encourage partners in livestock output value chains to jointly formulate profitable strategies and coordinate operations by overcoming collective action problems amongst herders, and solving matchmaking problems between groups of herders and buyers. Herders are expected to benefit through their engagement in value-adding activities, which will in turn allow them to sell improved livestock products at relatively high world prices. This focus on market opportunities for herders is part of a new approach from MIA, as it has traditionally worked to serve herders through breeding and animal health programs.

2.2 Project Implementation

Value chain and dairy market development from the first component and animal nutrition efforts will be promoted and implemented through partnerships between formal herder cooperatives and contracted Service Providers (SP). In the case of the animal health and animal breeding sub-components, however, some activities will be implemented aimag-wide (i.e., beyond treatment soum borders). More specifically, Foot and Mouth disease and brucellosis surveillance and control efforts and nucleus herd-formation activities will affect herders in control as well as treatment soums[4]. Thus, the evaluation of the overall effect of the project will be net of the effects of these aimag-wide aspects of the animal health and breeding sub-components. In other words, the impact evaluation will measure the joint effects of improved linkages between herders and buyers, increased access to fodder, upgraded veterinary capacity and improved access to male animals for breeding purposes.

The project will take place in five aimags. These are Arkhangai, Bayankhongor, Govi-Altai, Khuvsgul and Zavkhan. Khuvsgul, Zavkhan and Arkhangai have relatively temperate climate, while substantial parts of Bayankhongor and Govi-Altai are semi-desert. These aimags were chosen by MIA officials due to their disease-free status[5]. Three soums within each project aimag will be affected, for a total of fifteen project soums. It is expected that 28,385 individuals in 8,110 herder households will directly benefit from the LAMP.

3. Impact Evaluation Design

The impact evaluation measures the effect of LAMP activities on herder household incomes and other high-level indicators. The primary focus of the evaluation will be on how the project affects income earned from livestock products. In addition, data on animal quality

[4] Nucleus herd formation activities are expected to have particularly small effects. These activities will primarily only involve very small numbers of herders' animals being lent to or purchased by the project.
[5] Locating the LAMP in disease-free areas should allow the greatest export opportunities

investments will be used to help understand the channels through which incomes might be affected.

3.1 Research Questions

The impact evaluation of the LAMP will identify the overall effect of the project on herder livelihoods and investments in animal quality. Data on a wide variety of intermediate outcomes, including cooperative membership status and exposure to different project activities, will be used to document the contributions of different project activities to the overall effect. The main evaluation questions will be as follows:

- To what extent does the LAMP achieve improvement in the following PDO level results indicators?
    - HH income from livestock and in selected cases horticultural products
    - Share of marketed products going through contracts and established companies
    - Percent increase in output of livestock products (meat, milk, wool, cashmere)
    - Change in per capita consumption of various food ingredients
- Does the combination of market linkages and animal quality activities provided by LAMP induce farmers to invest in the quality of their stocks?
- What are the effects of the LAMP on herd sizes and compositions? Do increased livestock numbers endanger pasture quality?

The impact evaluation will exploit the random assignment of eligible soums in the program. Out of a set of 30 eligible soums evenly spread across 5 aimags, the LAMP will be implemented in a randomly selected group of 15 soums, with the remaining 15 constituting the control group.

3.2 Identification Strategy

The evaluation is a randomized controlled trial; the project will be implemented in a randomly selected set of soums. The evaluation strategy is motivated by a simple budget constraint: while the Mongolian government decided that the project would take place in 5 aimags, there were not enough project funds to serve all of the soums in these aimags. In each project aimag, most LAMP activities will take place in only three soums. These three soums will be treatment soums, while three other eligible soums (in the same aimag) will serve as control soums. Project effects will be identified using a difference-in-difference of project outcomes between sampled households in treatment versus control groups.

The treatment and control soums were chosen as follows. The 30 soums deemed eligible to be treated by MIA officials were pairwise stratified with respect to climatic zone and geographic closeness (in that order). Then, for each pair of eligible soums in all aimags, one was chosen at random to be a treatment soum. The randomization itself involved MIA, WB and DIME staff blindly choosing one of two pieces of paper containing soum names from

one another's hands. This resulted in sets of 15 treatment and 15 control soums[6]. Figure 1 shows a map of treatment and control soums, and Appendix Table 1 gives geographic and economic data on each soum.

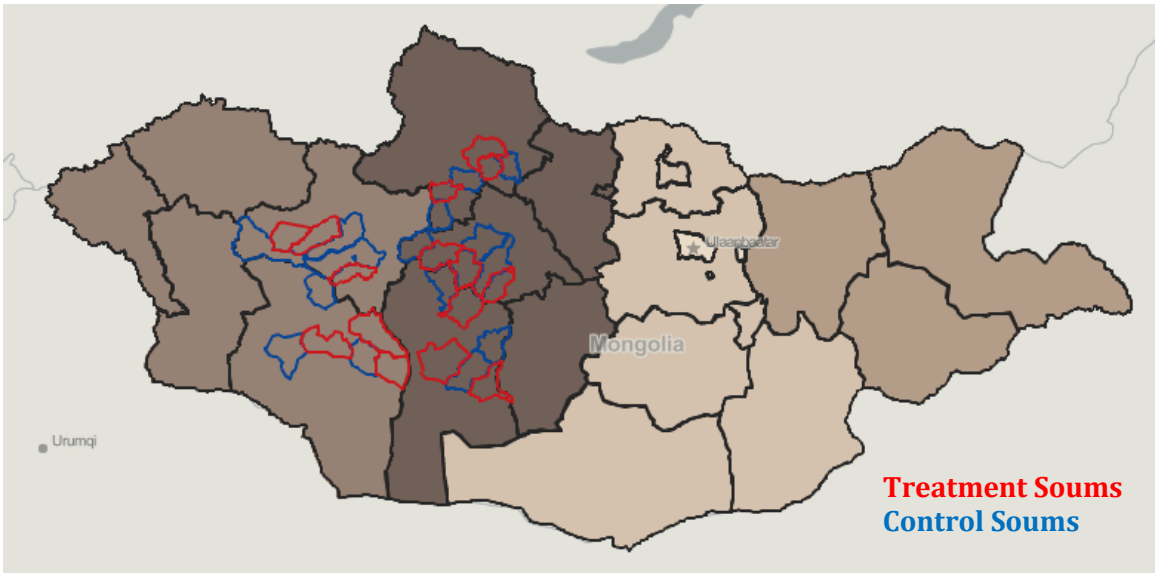

Figure 1: Map of Treatment and Control Soums

3.3 Sampling & Power Calculations

The study soums correspond to the set of 30 soums that were deemed eligible by MIA officials to be treated. Eligibility was determined by a set of objective indicators on the soum's access to markets, number of organized herder groups, suitability of land and climate for fodder and horticultural production, existence of other livestock interventions, and demand for value chain development.

Most LAMP interventions will be implemented at the level of herder cooperatives, which will be formed at the beginning of project activities. The project intends to include all herder households in the treated soums in cooperatives, meaning that all herder households in treatment soums will potentially benefit from the LAMP. The impact evaluation sample will therefore consists of 60 randomly selected households in each study soum (treatment and control) from complete lists of all herder households.[7] The list of herder households will be compiled from the 2012 Livestock Census and administrative lists maintained by soum officials.

Power calculations are based on the highest-level indicator from the LAMP results framework, total household income. The data for the power calculation is provided in the Table 1 below.

[6] It should be noted, however, that some project activities will not be geographically restricted by treatment soum borders. In particular, animal disease surveillance and control efforts will be implemented throughout project aimags. Thus, the impact evaluation will identify the impact of the LAMP net of these aimag-wide effects.
[7] For the midline survey a smaller sample will be surveyed. It will be around half the full sample, or 30 herders per soum.

Outcome	Intracluster Correlation (ICC)	Number of Treatment (Control) Soums	Power Level	R^2	Number of HHs per Study Soum (Balanced)	MDES (standard deviations of the outcome)
HH income (MNT/year)	0.026	15 (15)	85%	.4	60	0.20

Table 1: Power Calculation Data

The number of treatment soums (15) is restricted by project funding, and is therefore not flexible. Given the diminishing marginal returns from increasing control soums beyond the number of treatment soums, 15 soums were also chosen for the control. Despite the constraint on the number of soums, the design can achieve power thanks to the relatively low intra-cluster correlation (ICC) at the soum level (reference data[8] shows an ICC of 0.026). We elect to sample 60 households per soum, as this is where the marginal effect of adding an additional household begins to have very small effects on power. As we do not have panel data on herder income, we assume that the baseline data will predict around 40% of the follow-up values of income (R^2), which is consistent with a number of other agricultural surveys. At 85% power and a size of .05, this design allows a minimum detectable effect size (MDES) of .20 standard deviations of the outcome, which is a standard MDES for a small/medium effect.[9]

3.4 Data

The main data for the impact evaluation will come from three household surveys: a baseline survey to be conducted from April-June 2013, a midline to be conducted from April-June 2015, and an endline survey to be conducted from April-June 2017.[10] The baseline and endline surveys will be conducted on tablet computers, and will contain the full set of indicators, while the midline survey will be more closely focused on specific intermediate indicators which are likely to have been affected after just two years of project duration. If deemed feasible, the midline survey will be conducted via mobile phones. The content of these surveys is guided by the project goals, results framework, and GAFSP monitoring and evaluation framework.

The survey will collect data that will directly measure the four PDO level results indicators that project seeks to improve. They are:

[8] ICC calculated from a recent Millennium Challenge Corporation (MCC) agricultural household survey conducted by Innovations for Poverty Action (IPA) in 2010. This survey data was collected in peri-urban areas of 6 aimags. The MCC study took place in Bulgan, Darkhan-Uul, Orkhon, Selenge and Tuv aimags plus the capitol, Ulaanbaatar. None of these aimags overlaps with the project area, but the research team deemed it to be the best available data for the power calculations.

[9] According to the results framework, the project predicts a rise in herder income of 20%. However, we lack the data (notably the ratio of variance to mean of herder income) to reliably calculate the corresponding MDES. Using data from the IPA survey, a 20% increase in income corresponds to an MDES of only .13. However, in this data the variance of income is extremely high and likely driven from outliers. The raw data is not publicly available, and therefore we cannot explore this in more detail.

1. **HH income from livestock and in selected cases horticultural products.** This will be measured through querying the production of a wide variety of agricultural products, disaggregated between sales and home consumption.
2. **Share of marketed products going through contracts and established companies**. The survey will ask respondents the buyer of all products, and their contractual arrangements.
3. **Percent increase in output of livestock products (meat, milk, wool, cashmere).** This will be measured by comparing production of the specified outputs at baseline versus follow-up.
4. **Change in per capita consumption of various food ingredients.** The survey will measure the Dietary Diversity Score of one female household member. This technique asks the respondent to list all foods they ate in the previous day, and then determines which food categories (cereals, dairy, vegetables) they consumed.

The survey will also gather data on a number of intermediate indicators including:

- Herd sizes and compositions
- Animal health (vaccinations and other health treatments), breeding (numbers of animals of particular breeds and numbers of animals conceived via artificial insemination) and nutrition (amount of feed purchased/received and consumed) outcomes
- Migration
- Cooperative membership and access to extension services
- Income from crop cultivation (GAFSP indicator) and other sources
- Household food security (GAFSP indicator, as measured by Household Hunger Scale)
- Assets and expenditures
- Household labor supply (disaggregated by gender)

There will be a substantial focus on investments in livestock quality, as measured by animal weights. Enumerators will weigh a quasi-representative sample of year-old sheep and goats (7 each) from half of sampled households.

One potential worry about the LAMP project is that increased prices of animal products will lead to larger herd sizes and risk of overgrazing and decreased pasture quality. The causal chain may take years to materialize, and will therefore be hard to measure within the timeframe of the IE. However, the IE will analyze some leading indicators of pasture quality such as changing migration pattern and the ratio of animals to pasture land. (The latter indicator will be gathered from soum-level administrative data.)

Collection of data on tablet will allow a number of innovative methods to ensure data quality. Every two days the survey company will submit data to DIME, and it will be analyzed for quality issues. Interviews will be recorded, and a sample of them will be played

back to ensure enumerators are following correct procedures. Additionally, data from a sample of recorded interviews will be re-entered by an independent back-checker.

3.5 Analysis

The primary analysis will be a difference-in-difference estimator of each indicator of interest. The main strategy for the analysis will be to estimate the following regression:

$$y_{ict} = \alpha_0 + \alpha_1 T_c + \alpha_2 P_t + \alpha_2 P_t T_c + \alpha_4 Z_{ic0} + \varepsilon_{ict}$$

where y_{ict} is a key outcome variable for individual i, in soum c, at time t. T_C takes value 1 if soum c is a treatment soum and 0 if it is a control soum, P_t is the time period of the analysis, taking a value of 0 at baseline and a value of 1 at follow-up, Z_{ic0} represents other baseline characteristics to be used as control, and ε_{ict} is an error term that is correlated among individuals living in the same soum but not among individuals who live in different soums. The addition of Z_{ic0} is potentially necessary because due to the small sample size, some baseline characteristics may not be balanced between treatment and control. This will be determined at the time of baseline analysis.

A detailed pre-analysis plan (including analysis of heterogeneous effects) will be developed after the baseline, and registered on the J-PAL hypothesis registry.[11]

3.5 Gender Aspects of Analysis

This impact evaluation will shed light on the differential effects of the LAMP project based on gender. The survey contains a number of indicators that are specifically disaggregated by gender, such as household labor, membership in cooperatives, and access to extension services. A Dietary Diversity Score is calculated for an adult female member of each household.

These female-specific outcome variables will be analyzed to understand how the LAMP project is specifically affecting females. Additionally, heterogenous effects based on the gender of the household head will be analyzed to see whether female-headed households are equally likely to benefit from LAMP as male ones.

4. Internal and External Validity

The main threat to internal validity of this study is the possibility of the project affecting the control soums. For instance, strengthening of producer groups in treatment soums could cause them to start sourcing products from control soums. To the extent that large livestock output processing firms alter the way they deal with output suppliers (i.e., herders) thanks to project activities, herders in control soums could also be indirectly affected by the project. Due to the explicit focus of the project on individual soums and the low population density of the project areas, we believe that these spillover effects are likely to be low. We will monitor this situation closely, both through qualitative evidence from field staff and

[11] http://www.povertyactionlab.org/Hypothesis-Registry

through questions on the household survey which ask where households sell their outputs. If some spillovers are found, this will change the interpretation of the final results.

The main threats to external validity arise from the ways that the set of eligible soums and the project aimags were chosen. As mentioned, soum eligibility depended on criteria that many soums do not meet, and therefore the study soums are not necessarily representative. Similarly, project aimags were handpicked by government officials and are therefore not necessarily representative of Mongolia as a whole. However, herder lifestyle is pervasive and relatively homogenous in rural areas of Mongolia. Therefore, the results from this evaluation should have external validity.

5. Team, Budget & Timeline

5.1 Evaluation Team

This evaluation will be managed by DIME, with close collaboration with the LAMP World Bank Project Team and the LAMP PIU. The DIME team consists of:

- Florence Kondylis, Senior Economist: Task Team Leader, GAFSP-DIME Impact Evaluation Portfolio
- Daniel Stein, Economist: GAFSP-DIME Impact Evaluation Portfolio
- Maria Jones, Research Analyst: GAFSP-DIME Impact Evaluation Portfolio
- Aaron Szott, Field Coordinator: LAMP Impact Evaluation

5.2 Budget

Based on bid received during baseline procurement, we expect surveying costs to be roughly $67/survey for household surveys. This cost comes from the difficulty of locating and traveling to the households of dispersed, nomadic herders. The midline survey will be smaller and potentially conducted via mobile phone.

Another factor is the high real inflation rate in Mongolia, which has been driven primarily by a mining boom. We assume an inflation rate of 10%/year. The costs for the surveys are therefore estimated as follows:

1. Baseline survey of 1800 people = $120,600.
2. Midline survey of 900 people = $70,000
3. Endline survey of 1800 people, year 5 = $176,076.

There will also be costs associated with oversight of the evaluation and the writing of associated reports:

1. Cost of a field coordinator/research assistant for 2.5 years at $40,000/yr = $100,000
2. Travel costs for lead researchers: $10,000/yr for 5 years = $50,000

Total costs are therefore estimated to be $516,676.

5.3 Timeline

The evaluation timeline for the evaluation can be found in Figure 2 below.

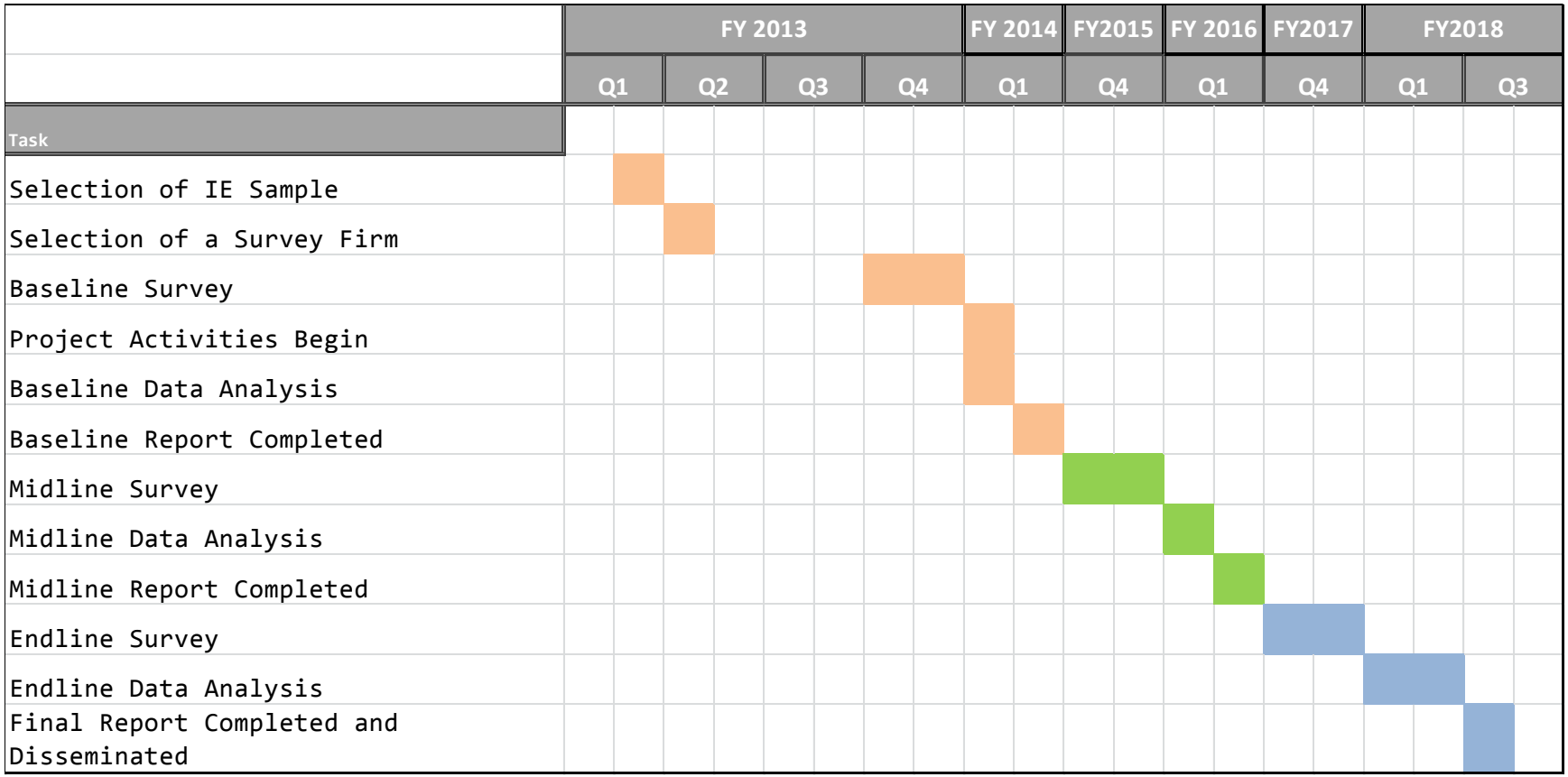

Figure 2: Evaluation Timeline

Appendix: Comparison of Treatment and Control Soums

Aimag	Pair	Soum	Treatment-Control status	Climatic zone	Distance to aimag center (km)	Proportion of HHs below poverty line
Arkhangai	1	Ondor-Ulaan	Control	Forest-steppe	166	0.32
	1	Chuluut	Treatment	Forest-steppe	127	0.29
	2	Tsakhir	Control	Forest-steppe	243	0.32
	2	Khangai	Treatment	Forest-steppe	230	0.47
	3	Ikh-tamir	Control	Forest-steppe	27	0.30
	3	Bulgan	Treatment	Forest-steppe	36	0.28
Bayankhongor	4	Jargalant	Control	Steppe	150	0.37
	4	Galuut	Treatment	Steppe	100	0.47
	5	Olziit	Control	Steppe	18	0.12
	5	Bogd	Treatment	Steppe	130	0.17
	6	Jinst	Control	Desert-steppe	100	0.13
	6	Baatsagaan	Treatment	Desert-steppe	150	0.14
Govi-Altai	7	Biger	Control	Desert-steppe	100	0.08
	7	Chandmani	Treatment	Desert-steppe	235	0.17
	8	Togrog	Control	Desert	167	0.17
	8	Khaliun	Treatment	Desert	100	0.11
	9	Jargalan	Control	Desert-steppe	100	0.16
	9	Delger	Treatment	Desert-steppe	90	0.12
Khuvsgul	10	Jargalant	Control	Forest-steppe	178	0.51
	10	Shine-Ider	Treatment	Forest-steppe	123	0.25
	11	Ikh-Uul	Control	Forest-steppe	112	0.21
	11	Tunel	Treatment	Forest-steppe	45	0.51
	12	Tomorbulag	Control	Forest-steppe	74	0.28
	12	Tosontsengel	Treatment	Forest-steppe	65	0.24
Zavkhan	13	Dorvoljin	Control	Desert-steppe	148	0.21
	13	Zavkhanmandal	Treatment	Desert-steppe	167	0.37
	14	Yaaru	Control	Steppe	56	0.34
	14	Erdenekhairkhan	Treatment	Steppe	115	0.37
	15	Aldarkhaan	Control	Steppe	32	0.20
	15	Tsangaankharkhan	Treatment	Steppe	97	.58
Control					111.4	0.25
Treatment					120.7	0.30
P-value of T-test of difference of mean between Treatment and Control					0.68	0.27

Appendix Table 1: Comparison of Treatment and Control Soums