IFAD

Investing in rural people

Mongolia

Project for Market and Pasture Management Development - Component 2: Pasture Management and Climate Change Adaptation (formerly Mongolia Livestock Sector Adaptation Project)

Terminal Evaluation Report

GEF ID No. 3695
Asia and the Pacific Division
Programme Management Department

Contents

ABBREVIATIONS AND ACRONYMS

AF	Additional Financing
AGROM	Agricultural Rural Development Mongolia
ALAGAC	Agency for Land Affairs, Geodesy and Cadastre
ARPAP	Arhangai Rural Poverty Alleviation Project
AWPB	Annual Work Pan and Budget
CCA	Climate Change Adaptation
CDPMP	Community Development for Pasture Management Project
EOP	End of Project
GEF	Global Environmental Facility
GOM	Government of Mongolia
ICA	Incremental Cost Analysis
IFAD	International Fund for Agriculture Development
IFI	International Finance Institutions
LOP	Life of Project
MARPP	Market Access for the Rural Poor Project
MOFALI	Ministry of Food, Agriculture and Light Industries
MSRM	Mongolian Society for Range Management
MTR	Mid-term Review
NAMEM	National Agency for Meteorology and Environmental Monitoring
PDR	Project Design Report
PHG	Pasture Herder Group
PIF	Project Identification Form
PM	Pasture Management
PMCCA	Pasture Management and Climate Change Adaptation
PMPMD	Project for Market and Pasture Management Development
PMU	Project Management Unit
PPG	Project Preparation Grant
SDC	Swiss Development Corporation
SGM	Sustainable Grasslands Management Project
SLP	Sustainable Livelihoods Project
SP	Service Provider
TE	Terminal Evaluation
UB	Ulaan Baatar
UNDP	United Nations Development Program
WB	World Bank
WG	Women’s Group

Executive Summary

1. The goal of the Project for Market and Pasture Management Development (PMPMD) was to empower poor rural women and men to achieve higher incomes and sustainable improvements in their livelihoods. The project's development objective (DO) was to reduce poverty, improve livelihoods of poor herder and *soum* and *aimag* centre households in the project area. The PMPMD was based on two earlier, previously prepared projects which were integrated at the request of the Government by a design mission that took place in January 2010. During that design mission a climate change adaptation proposal for grant funding was formulated and integrated into the project. The resulting design consisted of two components, market development and pasture management and climate change adaptation.

2. The focus of the PMCCA component was on building community organisations that promoted sustainable pasture use and equity through inclusive approaches and socially responsible practices. The PM sub-component aimed to work with the resource user group as the primary institution to manage pastoral mobility (e.g., seasonal moving, rotational use of pastures, the effective resting or "release" of pasture etc.); a key strategy for sustainable pasture use. Sub-component activities included the participatory definition of pasture units (PU), the establishment, registration and training of pasture herders' groups (PHG), the attribution of user rights to those groups, the drawing up of pasture management plans (PMP), their approval by the *soum* government and the implementation of these plans by the groups with technical support.

3. The selected adaptation measures supported under the CCA sub-component related to two types of impacts of climate change: (i) gradual long-term changes (degradation of quantity and quality of pasture); and (ii) changes in the frequency and intensity of extreme events (drought and *dzud*), which mainly focused on increasing the efficiency and effectiveness of current measures. Adaptation measures proposed to reduce the impact of long-term changes on the livestock sector included improved pasture yield including the revival of traditional pasture management (which involves the use of one pasture only for the length of one season), restoration of degraded pasture including reforestation of flood plains and increased vegetation cover, expansion/rehabilitation of pasture water supply, development of irrigated pasture and modifying the schedule of grazing.

4. Project financing consisted of a highly concessional loan from IFAD of about USD 11.4 million or 63% of the total costs. A grant of USD 1.5 million (8% of project total) from GEF's Special Climate Change Fund (SCCF) would finance climate change adaptation (CCA) activities under the sub-component of the same name. The component's targeted groups were primarily poor herders, and women living in project-supported *soums*.

5. The objectives of the Terminal Evaluation (TE) were to: (i) examine the extent and magnitude of project outcomes to date and determine the likelihood of future impacts especially relating to environmental sustainability; (ii) provide an assessment of the project performance, gender disaggregated achievements and the implementation of planned project activities and planned outputs against actual results; and (iii) synthesize lessons learned that may help in the design and implementation of future IFAD, IFAD-GEF or pasture management and climate change adaptation related initiatives. The main focus of the evaluation was on the PMPMD's GEF-funded pasture management and climate adaptation component and in line with the scope of the PIRs completed during project implementation. Nevertheless, the evaluation did include a review of all relevant project documentation (e.g., SPR mission AMs, RIMS surveys, etc.) and where activities/issues were identified from other components that affected implementation progress of the GEF-funded component these were brought into the evaluation. The evaluation took place over the period 18 September 2017 - 10 November 2017. During this period a field visit was completed to Mongolia over the period 8 – 21 October, 2017. In addition to interviews and meetings in Ulaan Baatar site visits were conducted to *soums* in 3 of the 5 project-supported *aimags*.

6. Significant changes that were found over the life of project during the evaluation were: (i) the reallocation of funds for both the loan and grant based on local demand was requested and approved by IFAD; (ii) a one year extension to meet project disbursement targets was requested by GOM and granted by IFAD; (iii) the financial crisis that began in 2014 that affected market prices and negatively affected rural household livelihoods that may have served to undermine some of the component's achievements.

7. Key factors identified that may have affected the implementation and outcomes of the component were: (i) IFAD's earlier experience derived from the RPRP based on the creation of RMMCs that evolved into PMGs supported under the existing component; (ii) lack of a clear legal framework with respect to pasture user rights; (iii) achieving consensus between PHG supported herders and remaining herders on PHG plans at the *bagh* level in particular with respect to boundary definition of the PMPs; (iv) a project concept stemming back to its initial formulation that contributed to a lack of synergy between the Market Development and PMCCA components; and (v) the use of a "rolling" logframe that continued to suffer from a number of weaknesses that not so much affected the achievement of the component's outputs and outcomes as impeded their measurement

8. The overall project is rated as satisfactory. The component on pasture management and climate change adaptation, co-funded by the IFAD loan and GEF grant, is satisfactory, and the component on market development, funded by the IFAD loan, is moderately satisfactory. In particular, *the sub-component on CC adaptation, for which GEF primarily focused its support, is rated as highly satisfactory*. This assessment is mainly based on the findings that the GEF component achieved most of its targeted output beyond 100%. Pasture herder groups (PHGs) were formed, PHGs developed their pasture management plans (PMPs), PMPs were implemented through either *bagh*-/*soum*-level administration or project investment (depending on each *soum*'s decision), capacity building activities for herders to manage pastures and adapt to climate change were provided as planned, financial means for PHGs were extended by the project through revolving funds and climate resilience investment. As a result, the resilience of local communities to climate related shocks and stresses has been strengthened. Group organization and collective action, trainings and investments have empowered project beneficiaries and local communities to better mitigate, prevent, or prepare for climate related problems, and increased their resilience to climate related shocks. The key CCA actions taken by the projects were: a) Construction and renovation of hay sheds and fodder storage facilities in *aimags*, *soums*, and reserve pastures; b) Provision of small-scale tractors with hay making capabilities to herder groups; c) Guarding hay making areas for *soum* hay reserves in collaboration with *soum* administration; d) Tested fields and demonstrated green fodder production; and e) Fenced haymaking areas to demonstrate the natural restoration of pasture.

9. Notable outcomes of the GEF-supported component include doubled hay preparation capacity of project supported herders (from 1.7 tons to 3.2 tons), 12% increase in purchased hay as preparation to the harsh winter, a dramatic increase in the use of hay-making machinery (from 2% to 78%), increased number of herders to prepare hay and fodder from regulated hay making areas and decreased use of unregulated lands (from 68% to 30%) and increased capacity of hay and fodder storage. The TER also finds that the SCCF financing yielded several benefits in terms of knowledge management and capacity building, particularly through (i) increased awareness among herders and others of the nature climate change impacts; (ii) greater ability to identify potential CC impacts and take adaptation measures; (iii) knowledge and availability of additional tools for pastoral risk management; and (iv) a significant number of poor herders with the skills to compete for non-farm employment. This knowledge was expected to increase the resilience of natural pastures to climate change and reduce the vulnerability of herder communities to climate induced shocks.

10. Lessons learned focused on: (i) plan utility and the different uses of the PMPs once the process was placed in the hands of the PHGs contributing to a richer experiential data base useful for future project design; (ii) the value of providing a more diverse menu of incentives for the establishment of RFs to respond to local conditions and needs of the PHGs; (iii) need for greater awareness associated with the unintended

consequences of dividing herders into project and non-project supported groups; (iv) the value of ensuring the integration of the PMPs into a broader multi-sectoral land use planning process; and (v) the difficulties faced in achieving bio-physical targets in complex ecosystems affected by a range of externalities in a defined time frame typical of investment projects (e.g., 5 years).

11. At the time of the TE (October 2017) 97% and 84% of the grant and associated component loan had been disbursed, respectively. GEF remaining balance is USD 44,224. Outstanding activities remaining to be implemented under the grant are the hiring of two aimag PMCCA facilitators currently awaiting government nominations, training of PHG leaders in the transition period to additional financing and staff costs (approx. US$ 40,000). Full disbursement under the grant and the loan is expected to be reached by September 2018.

12.The man recommendations were to: (i) continue to provide support to existing PHGs under the AF in particular in the better management of the RF and assisting in the shift to PMG-based cooperatives; (ii) support a logframe workshop w/ facilitator in support of the AF phase of the project with active participation of the PMU; (iii) establish a baseline with provision for bio-physical parameters to complement parameters used in RIMS; (iv) develop a PIM for the AF phase to facilitate early start-up to project execution; (v) the project facilitators were a major asset over the life of project and actions should be taken to retain contact for their possible future support in the AF (e.g., as consultants, knowledge management, trainers etc.); (vi) ensure the future sustainability of the PMPs supported under the project (and AF) is to promote their integration into the on-going ALAGAC national land use planning program. Under AF, consideration should be given to sharing the costs of plan preparation costs with ALAGAC, Green Gold Project and other potential financing entities; and (vii) bring herders into the monitoring of pasture and associated meteorological conditions an approach that should be considered if only on a pilot basis under the AF.

I. INTRODUCTION

A. Project Identification Table

Country:	Mongolia
Grant Title:	Project for Market and Pasture Management Development: Component 2: Pasture Management and Climate Change Adaptation (formerly the Mongolia Livestock Sector Adaptation Project)
Grant Type:	Full-sized Project
GEF ID Number:	GEF 3695
GEF Focal Area	CC
GEF-Strategic Objectives	Increase the resilience of Mongolian livestock system to changing climatic conditions by strengthening the adaptive capacity of the livestock system as well as the capacity of herders' groups to cope with climate change impact
GEF Implementing Agency:	IFAD
IFAD Grant Agreement:	GEF-FSS-1-MN
Umbrella Project:	Project for Market and Pasture Management Development (PMPMD)
Other Executing Partners:	IFAD and Ministry of Food and Agriculture, Mongolia

(i) Key Dates

GEF/PIF Approval	GEF/PPG Approval	GEF Approval	IFAD Approval	Signing	Effective-ness	Mid-Term Review	Final Evaluation	Completion		Grant Closing	
								Orig.	Actual	Orig.	Est.
1 Jun 2008	20 Feb 2009	23 Dec 2010	May 2011	17 Jun 2011	26 Aug 2011	15 Jun 2014	Oct 2017	30 Sep 2016	30 Sep 2017	31 Mar 2017	31 Mar 2018

(ii) Component 2 - Proposed Financing (USD '000)

GEF		Co-financiers				Project Total
PPG	Project Grant	IFAD*	Government	Beneficiaries	Others	
125	1,500	2,852	602	168	-	5,247

*Includes IFAD contribution during project formulation.

(iii) Component 2 – Actual Financing (USD '000)

GEF		Co-financiers				Project Total
PPG	Project Grant	IFAD*	Government	Beneficiaries	Others	
43.9	1,500	2,519	236	1,637	-	5,936

*Includes IFAD contribution during project formulation.

(iv) Project Ratings

AM Evaluation parameters	GEF Ratings					
	2012 Supervision	2013 Supervision	2014 MTR Mission	2015 Supervision	2016 Supervision	2017 TER Mission
Overall Project Assessment	S	MS	MS	NA	NA	S
Overall Component 1	MS	MUS	MS	S	S	MS
Overall Component 2	MS	S	MS	S	S	S
Overall PM sub-component	MS	S	MS	S	NA	S
Overall CC adaptation sub-component	MUS	S	MS	S	NA	HS
PM component	S	MS	NA	S	MS	MS
PI performance	S	S	S	NA	MS	S
M&E	MS	S	MS	S	S	MS
Gender focus	S	S	S	S	S	MS
Poverty focus	S	S	MS	S	S	MS
Targeting focus	S	S	S	S	S	S
KM	MS	MS	S	S	S	S
Focus on CC and environment	NA	NA	NA	S	NA	S
Partnerships	NA	MS	MS	NA	NA	S
Fiduciary management	MS	MS	MS	MS	MS	MS
Disbursement	MS	S	S	MS	MS	S

Counterpart funding	NA	MS	S	NA	S	S
Covenant compliance	NA	MS	S	S	S	MS
Procurement	NA	MS	MS	S	S	S
Audit	NA	MS	MS	S	S	MS
Effectiveness	NA	NA	NA	NA	NA	S
Agricultural Productivity	NA	NA	NA	NA	NA	S
Adaptation to CC	NA	NA	NA	NA	NA	HS
Policy engagement	NA	NA	NA	NA	NA	HS
Rural people's organization	NA	NA	NA	NA	NA	MS
Human and social capital	NA	NA	NA	NA	NA	S
Quality of beneficiary participation	NA	NA	NA	NA	NA	S
Responsiveness of SP	NA	NA	NA	NA	NA	MS
Environment and NRM	NA	NA	NA	NA	NA	S
Sustainability	NA	NA	NA	NA	NA	MU
Scaling-up	NA	NA	NA	NA	NA	S
Quality of project management	NA	NA	NA	NA	NA	MS
Innovation	NA	NA	NA	NA	NA	S
Coherence between AWPB and implementation	NA	NA	NA	NA	NA	S
SECAP	NA	NA	NA	NA	NA	S

B. Background

1. Mongolia became a member of IFAD in January 1994 subsequent to which the Arhangai Rural Poverty Alleviation Project (ARPAP) was approved in April 1996. This was followed by a second loan for the Rural Poverty Reduction Programme (RPRP) which was approved in September 2002 and became effective in July 2003. It covered the *aimags* of Arhangai, Huvskul, Henti and Bulgan. In 2007 IFAD prepared an Inception Report that outlined the Fund's strategic vision in Mongolia and proposed three projects for the period 2007– 2009, coinciding with the PBAS allocation cycle. These were: (i) Pro-Poor Market Access Development Project, (ii) Rural Finance Pilot Project and (iii) a Natural Resources Management Initiative. Under the latter, the proposed project would attempt to promote greater resilience among herders to natural calamities and to increase sustainable land management practices through community-led approaches. In addition to land management, the promotion of renewable energy and energy saving devices for the rural population would be supported. Given the innovative nature of the project IFAD proposed it should be funded through a grant.

2. In August 2007 the aforementioned Inception Report (and the three proposed projects) were endorsed by IFAD management followed by Government of Mongolia (GOM) approval in March 2008. Following Board approval, the Market Access for the Rural Poor Project (MARPP) was formulated in September 2007. This was followed by the design of the natural resource management initiative, the Community Development for Pasture Management Project (CDPMP) in 2009. The CDPMP covered the remaining two sectors identified in the 2007 Inception Report, pasture management and micro-finance.

3. In parallel with these developments IFAD at the request of the GOM, initiated the preparation of a proposal seeking grant funding for a Climate Change Adaptation (CCA) project under the Special Fund on Climate Change (SCCA) administered by the Global Environment Facility (GEF). Initially entitled the Mongolia Livestock Sector Adaptation Project, the Project Identification Form (PIF) and Project Preparation Grant (PPG) were approved on June 2008 and February 2009, respectively.

4. To achieve greater efficiency, Government requested that IFAD combine the two designs into one project. As a result, in 2009 Government and IFAD agreed to use the entire PBAS allocation for Mongolia for the period 2010 – 2012 to fund a single project incorporating the three priority sectors. The new Project for Market and Pasture Management Development (PMPMD) was based on the two

earlier prepared projects which were integrated by a design mission that took place in January 2010. As best as can be ascertained, a GEF/SCCF consultant joined that mission and was responsible for preparing the draft CEO Endorsement Template that subsequent to and following internal IFAD review, was submitted to SCCF and approved in December 2010.[1] In the resulting project design, microfinance went to the project's 1st component and the CCA activities became a sub-component joining pasture management under the project's second component. In May 2011, IFAD approved a loan on highly concessional terms for PMPMD.

5. The project target area covered five *aimags*: Arkhangay, Bulgan, Gobi-Altai, Huvsghul, and Khentii. Site selection for the Pasture Management and Climate Change Adaptation (PMCCA) component was based on the following criteria: (i) government's priority to keep donors in specific geographical areas to avoid overlap; thus IFAD would continue to work in the four *aimags* where it had had one or more of its previous projects (i.e., Huskhul, Arhangai, Bulgan and Henti); and (ii) in light of the fact that three of the former *aimags* were in the Central Region and one in the Eastern Region (see Map 1), Gobi-Altai was selected to achieve a better regional balance.[2]

6. Within those 5 *aimags*, 15 *soums* were selected for the PMCCA component. A few of these *soums* were common to both components (see Map 2 and Table 1). For purposes of cost-effectiveness under PMCCA component three *soums* per *aimag* were selected using the following criteria: (i) degree of poverty incidence; (ii) presence of extensive livestock practices; (iii) presence of mountain steppe, forest-steppe and/or steppe[3]; and (iv) absence of other major development projects and industrial mining activities (Map 2). Adjoining *soums*, meeting these criteria were preferred. Overlap with the SLP II demonstration *soums* were avoided.[4]

7. Project financing consisted of a highly concessional loan from IFAD of about USD 11.4 million or 63% of the total costs. A grant of USD 1.5 million (8% of project total) from GEF's Special Climate Change Fund (SCCF) would finance climate change adaptation (CCA) activities under the sub-component of the same name. The Government would finance all the taxes and duties, amounting to USD 0.9 million or 5% of the total costs, while other financiers, including financial institutions, companies and the beneficiaries would finance about USD 4.5 million or 24% of total.

8. The Project Completion and Closing Dates were 30th September 2016 and 31st March 2017, respectively. These dates were extended by one year to complete disbursement of loan and grant funds subsequent to which the Project was extended by 5 years together with additional financing (AF) of SDR 6.48 million (equivalent to USD 9.06 million at the time of approval). No new grant financing was part of the AF. The Government of Mongolia (GOM) and IFAD agreed to complete PMPMD associated activities by September 2017. Because GEF is fully integrated with the IFAD loan project, IFAD portfolio management systems allows it to be extended until the end of PMPMD AF and completed together with the IFAD loan. However, given that the geographical target areas are different and GEF resources are already exhausted for the IFAD PMPMD original loan target areas, it was agreed that the GEF completion date will be extended until the PMPMD AF launch. Therefore, GEF project completion would be done by March 2018 provided that the PMPMD AF is launched by early 2018 enabling the full transition to PMPMD AF without disruptions.

[1] The only documentation found to support this statement was a draft terms of reference for the design mission that had included newly added TORs for the SCCF consultant.
[2] Initially one *aimag* from the Western Region was considered (Dzavhan Aimag) as it borders Huvskul and Arhangai *aimags* however it was found to be unsuitable since it overlapped with the pasture management project supported by the Swiss Development Cooperation.
[3] *Soums* with desert-steppes and desert areas were to be avoided as the pasture management approach of the Project would not be suitable in such areas.
[4] The selection of *soums* in each *aimag* would need to be acceptable to IFAD. This would be stated in the Letter to the Borrower.

Project Goal and Development Objective

9. **Goal and DO**. The PMPMD goal was to empower poor rural women and men to achieve higher incomes and sustainable improvements in their livelihoods. The project's development objective (DO) was to reduce poverty, improve livelihoods of poor herder and *soum* and *aimag* centre households in the project area.

Component Outcomes and Outcome Indicators

10. **Outcomes and Key Indicators**. At the time of the PDR two outcomes were proposed for component 2. The first outcome was: pasture herder groups (PHG) and herder households (HH) in the project area plan and manage livestock and pastures in a more sustainable manner. The proposed indicators were: (i) livestock numbers maintained within ±10% of estimated carrying capacity, (ii) livestock mortality decreased and (iii) local governments formally recognize pasture unit boundaries and pasture management plans.

11. The second outcome was vulnerability of herders in the project area to climate change impacts is reduced. The proposed indicators were: (i) joint pasture planning results in an increase in seasonal movements compared to the baseline, (ii) animal water supply improved allowing extension of grazing areas by 10% and (iii) at least 70% of PHG households adopt project climate risk reduction methods.

12. Revised Outcomes and key indicators #1. Following the findings of the first supervision mission a new set of outcomes and indicators was established. The first outcome was 9,450 HHs collaborate effectively in joint management of pastures executing 135 PMPs. The proposed indicators were: (i) number of PMPs issued, (ii) 95% of PHG member HHs moving on time in relation to PMP spring/summer pasture rotation targets, (iii) number of violations of PMP and (iv) improvement in pasture health.

13. The second outcome was 9,450 HHs are better able to cope with climate variability and extreme events. The proposed indicators were: (i) livestock mortality and livestock diseases, (ii) milk and meat yields, and (iii) % of PHGs that increase haymaking and fodder production to the original group target level.

14. The third outcome was HG PMPs are integrated and actively enforced by local government (policies, regulations and budget). The proposed indicators were: (i) at least 3 *aimags* and 12 *soums* allocate budgets for direct support to PMPs and (ii) number of user-rights contracts between *soum* governments and PHGs.

15. Revised Outcomes and Key Indicators #2. Following the findings of the MTR a third set of outcomes and indicators were established. The first outcome was: (i) at least 50% of herder households in 15 target *soums* collaborate effectively in joint management of pastures that are part of the *soum* land management plan. The proposed indicators were: (i) number of PMPs issued, (ii) number of PMPs integrated into the *soum* land management plan (a proposed output in the PDR), (iii) 95% of PHG member HHs moving on time in relation to *soum*-wise PMPs spring/summer pasture rotation targets, (iv) number of hectares of pasture land rotated by herders in 15 *soums* and (v) improvement in pasture health.

16. The second outcome was knowledge and capacity of local government and 50% of herder households in 15 target *soums* to adapt to climate change improved to better cope with climate variability and extreme events. The proposed indicators were: (i) livestock mortality and livestock diseases, (ii) milk and meat yields, (iii) % of PHGs that increase hay-making and fodder production to the original group target level, (iv) 50% of all households including all members of PHGs trained in improved pasture

management practices and (v) number of extension workers trained and working for animal husbandry, well maintenance.

17. The third outcome was *soum* land management plans which integrate PHG's PMPs are actively enforced by local government (policies, regulations, budget) to increase resilience of herders to climate change impacts. The proposed indicators were: (i) 5 *aimags* and at least 12 *soums* allocate budgets for direct support to PMPs and (ii) number of user-rights contracts between *soum* governments and PHGs.

18. During the TER, IFAD also conducted a mission for PMPMD additional financing, and the Logframe for PMPMD AF was updated using new IFAD Core Indicators which were introduced after the EB approval of PMPMD AF. After TER, the PMPMD project will be monitored and evaluated against this updated logframe. The new logframe looks more concise, includes less number of indicators and includes more practical means of surveying the achievement. It would have been beneficial this corporate-level approach was introduced much earlier and the GEF-supported component was able to utilize it.

19. **Project's Targeted Groups:** The component's targeted groups were primarily poor herders and women living in project-supported *soums.*

Changes in the project design

20. **Original Component 2: Pasture Management and Climate Change Adaptation (PMCCA):** In the PDR design, PMCCA consisted of two sub-components: (i) pasture management (PM) and (ii) climate change adaptation (CCA). Under the PM sub-component support would be provided for the formation of 120 PHGs[5] with a membership ranging from 40 – 100 herder households each for purposes of managing their common geographic pasture unit (PU) through the development of PMPs and their legalization and building community organisations that promote sustainable pasture use and equity through inclusive approaches and socially responsible practices. The process and product would be integrated in the *soum* level land use planning, following the Agency for Land Affairs, Geodesy and Cadastre (ALAGAC) land use planning manual and supported by the World Bank Sustainable Livelihoods Project II (SLP II). It was stated that the process would lead to the attribution of user and/or possession rights. These activities would be preceded by an extensive and participatory sensitisation and information campaign in each of 15 project *soums*, covering all herder households. The process is described in greater detail in Attachment 1).

21. The CCA sub-component would provide the resources for implementation of the PHG PMPs for purposes of increasing capacity and resilience of herders to cope with climate change impacts and manage pastoral risks. Specific investments identified in the PMPs would include both collective activities (e.g., construction of new shallow wells for livestock watering to extend access to grazing areas, fencing of hayfields for winter pasture conservation and fodder preparation, construction of winter shelters for livestock, etc.) and activities targeting poor households (e.g., renewable energy to reduce dependence on wood and fossil fuel). At the time of the PDR design the mission specified activities were indicative and the actual items would be identified during the participatory pasture management planning process. Training activities supported under the sub-component would focus on three categories of trainees: (i) veterinary technicians, (ii) well-maintenance technicians and (iii) vocational training for poor herders.

22. **Revised Component:** There was no revision to the component however the component was reorganized into 3 sub-components and order reversed with the first component at the time of MTR contributing to confusion in subsequent supervision missions.

[5] At the time of the PDR there was a discrepancy in this figure between the text and logframe one stating 120 and the other 135. It was subsequently decided to retain the former.

23. **Reallocation of funds**. Based on local demand and consultation with funding organizations and the implementing ministry, a re-allocation of funds from both the loan and grant was requested and approved by IFAD. As a result, the highest amount was allocated to loan and loan guarantee activity, and investments in loan resources. (see Table 2).

24. **One-year extension.** At the time of the 4th Supervision Mission, in light of the remaining time before project completion (15 months) and the financial projections for project disbursements, it was judged unlikely that both the IFAD Loan and the GEF Grant could be fully disbursed by September 2016. As a result it was agreed that GOM would submit a request for a one -year extension for the project activities. With respect to the PMCCA component the request was justified on the basis of enabling the consolidation and sustainability of institutions and activities implemented under the project (e.g., PHGs/cooperatives and Pasture Management Planning). More specifically, it was recommended to IFAD management that only successfully implemented activities under the component (e.g., financial and non-financial support to herders communities for the creation of PHGs) would be supported. The request was approved and the new completion date was for September 2017 and the new closing date will be March 2018.

II. EVALUATION

A. Scope, Objective and Methods:

25. The objectives of the Terminal Evaluation (TE) were to: (i) examine the extent and magnitude of project outcomes to date and determine the likelihood of future impacts especially relating to environmental sustainability; (ii) provide an assessment of the project performance, gender disaggregated achievements and the implementation of planned project activities and planned outputs against actual results; and (iii) synthesize lessons learned that may help in the design and implementation of future IFAD, IFAD-GEF or pasture management and climate change adaptation related initiatives.

26. The specific tasks of the TE were to: (i) assess strategic alignment and relevance of project to local/country contexts/developments and other performance domains following the relevant guidelines and templates; (ii) assess and report on the progress towards long-term impacts and the extent to which the key assumptions of the project's theory of change hold; (iii) assess the technical/physical results and financial achievements of the project since the approval of the Grant Agreement, including alignment with GEF policies and strategies, attainment and measurement of global environmental benefits and mobilisation of co-financing; (iv) assess the results achieved focusing primarily on the SCCF-funded Pasture Management and Climate Change Adaptation Component (Component 2) in the respective *aimag* and *soum* levels, against the project logical framework, Annual Work Plans and Budget (AWPB), Procurement Plans; (v) assess stakeholder engagement (including community) in the component in general and in specific interventions, and their level of benefit from and satisfaction with implementation; (vi) identify strengths and weaknesses, as well as challenges and opportunities encountered during implementation (his would include a review of project delivery mechanism of the project, including the functioning of counterparts); (vii) assess any risks affecting sustainability of project outcomes; (viii) assess performance and robustness of project M&E system for recording results, informing implementation and facilitating learning; (ix) review the performance of financial management and flow of funds arrangements, and procurement and contract management; (x) review compliance with Grant Agreement Covenants; (xi) collate all knowledge products and assess their relevance, quality and outreach in advancing the projects objectives; and (xii) synthesize lessons learned and best practice, and provide guidance on key areas that need further attention (detailed TORs can be found in Annex 1).

27. The main focus of the evaluation was on the PMPMD's SCCF-funded pasture management and climate adaptation component and in line with the scope of the PIRs completed during project implementation. Nevertheless, the evaluation did include a review of all relevant project documentation (e.g., SPR mission AMs, RIMS surveys, etc.) and where activities/issues were identified from other components that affected implementation progress of the GEF-funded component these were brought into the evaluation.

28. The approach to the TE was phased sequentially. Prior to the arrival of the mission in Mongolia this consisted of the following: (i) obtaining and reviewing project documentation including evaluating for completeness; (ii) screening the IFAD xdesk library for project and country information relevant to the TER; (iii) contacting IFAD and PMU for outstanding documentation; (iv) preparing a list of data needs and tables to provide the PMU in anticipation of the mission's arrival; (v) finalizing site selection criteria for the field portion of the mission; (vi) researching the internet for relevant non-project related documents (e.g., national government plans and strategies, IFI project documents and strategies for Mongolia, GEF SOs and SPs, etc.); and (vii) finalizing the round of meetings with partners and other relevant individuals/institutions in UB to support the TE.

29. The field portion of the TE was based largely on the: (i) review and assessment of written project and knowledge products and stakeholder workshop summaries (not provided previously to the mission); (ii) aforementioned meetings to be held in Ulaan Baatar (UB); (iii) field visits divided between empirical observations of project interventions and semi-structured interviews with project beneficiaries, project support staff, government officials and women's groups; and (v) preparing and presenting the initial findings of the mission with the PMU and government staff to review for accuracy.

30. The evaluation took place over the period 18 September 2017 - 10 November 2017. During this period a field visit was completed to Mongolia over the period 8 – 21 October, 2017. In addition to interviews and meetings in UB, site visits were conducted to *soums* in 3 of the 5 project-supported *aimags* (see Map 3). A list of people met and sites visited is presented in Annex 2. Selected photos from project sites have been included with the TER (see Photographs of Project Funded Investments).

B. Project Theory of Change:

31. Mongolia, covering an area of some 1,564,100 km^2, is one of the world's largest landlocked countries surrounded by Russia to the north and China to the east, south and west. The country contains very little arable land, as much of its area is covered by grassy steppe, with mountains to the north and west and the Gobi Desert to the south. The country is divided into six basic natural zones, differing in climate, landscape, soil, flora and fauna. These are: High Mountain (or Montane) Zone, Taiga (or Boreal) Forest Zone, Mountain Forest Steppe Zone, Steppe Zone, Desert Steppe Zone and Desert Zone. The main agro-ecological zones that support extensive pastoral livestock production in Mongolia are the High Mountain, Mountain Forest Steppe, Steppe and Desert Steppe.[6] The climate is continental, with long, cold and dry winters and mild and relatively wet summers. Annual precipitation ranges from 600 mm in the Khentii, Altai, and Khuvsgul mountains to less than 100 mm in the Gobi. Snow melt provides an important source of water resources.

32. At the time of project preparation the total population of Mongolia was an estimated 2.7 million persons of which approximately half lived in the country's urban centres dominated by Ulaan Baatar, the nation's capital. Migration to urban centres was (and remains) strong, mainly for employment or education. The rural population is engaged in extensive herding, crop farming and in micro- and small-scale enterprises and services in *soum* and *aimag* centres.

[6] The IFAD RPRP project includes part of the High Mountain, Mountain Forest Steppe and Steppe Zones.

33. In 2008, Mongolian agriculture accounted for 19% of gross domestic product (GDP) and 37% of employment. Livestock production accounted for approximately 80% of agricultural output and is traditionally the main source of rural income, employment and food security.

34. A number of related factors have had a significant influence on the structure and dynamics of the livestock sector over the past 20 years.[7] In particular following the abrupt transition from a socialist to a market oriented economic system has influenced the number of households engaged in pastoral activities, contributed to an expansion of livestock numbers, induced changes in pasture management practices and changes in herd structure and led to extensive pasture degradation. In 2000 it was reported that 20% of natural pastures in Mongolia had undergone a high degree of degradation. Recent data suggest that the scale of pasture degradation of various degrees may have reached as high as 70%. A comparison of livestock density with pasture carrying capacity norms indicated that in 2007, while overall national norms were exceeded by only about 10%, three of four IFAD RPRP project *aimags* demonstrated an average stocking rate of 200% of the recommended norm or more. The grazing pressure on pastureland is reflected in declining productivity of livestock.

35. The transition to a market economy also contributed to the dissolution of the livestock collectives. The breakup of these collectives, which had planned and directed pasture management, established and maintained water supplies, provided animal husbandry (breeding and health) services, arranged winter fodder preparations, provided markets for livestock products, and ensured relief from climatic disasters, exposed herders to the risks of pastoral livestock husbandry. With the loss of collective infrastructure and services many herders lacked the understanding of the practice and importance of pasture rotation and lacked the resources as individuals or small household groups to effectively manage breeding and animal health activities, make adequate winter fodder preparation, maintain water supply infrastructure or respond to severe climatic events. In the absence of a pasture management program, the lack of traditional or collective-enforced tenure security, and lacking mobility, fewer herders made their traditional seasonal movements and those that did tended to move shorter distances. This further contributed to localized pasture degradation frequently in the vicinity of urban centers with better access to social services and market outlets.

36. This situation was further exacerbated by the affects of climate change in the country. A study of the ecological and economic impacts of climate change concluded that in the future, Mongolia was projected to be increasingly dry and hot, while winters will be milder with more snowfall.[8] The study identified that the peak of pasture biomass had already declined by 20 to 30 per cent during the past 40 years and the proportion of high nutrient plants in the pasture had decreased by 1.5 to 2.3 times over the past 60 years and projected that pasture biomass would decrease in the forest-steppe and steppe and increase in the high mountains and desert. The rising temperature and uncertainties in rainfall associated with global warming were likely to increase in frequency and magnitude of climate variability and extremes. On the other hand, changes in climate would also increase the risk of unexpected changes in nature and environment. The key risks from climate change to livestock were increased incidence of drought and *dzud*. More than 80 per cent of the county's territory was defined as highly vulnerable to climate extremes. It is significant that during a period of four years prior to the study, about 3,000 water sources including 680 rivers and 760 lakes, have dried up. The report concluded that the resilience and adaptive capacity of traditional networks and land use systems to cope with climate variability/extremes was weakening, while frequency and magnitude of climate variability and land use intensity were on the rise combining to contribute to increasing vulnerability of the Mongolian rangelands, livestock and people.

[7] Much of the descriptive information that follows was taken from the working paper 4 of the PDR.
[8] See Punsalmaa Batima, P. 2006. Climate Change Vulnerability and Adaptation in the Livestock Sector of Mongolia.

37. Sustainable livestock husbandry and pasture management in Mongolia faced a formidable set of constraints These included: (i) physical constraints (e.g., extensive nomadic pastoral grazing, seasonal rotational of pastures to increase production, fodder conservation); (ii) local institutional and organizational constraints (herders currently lack the social organization to collectively address these issues at the level of the geographical pastureland unit); (iii) market constraints (e.g., widely dispersed and highly fragmented nature of livestock ownership which makes quality control difficult), which increases the cost of assembling marketable quantities of livestock products and influences producer response to market signals); and (iv) limited financial resources (see Attachment 1 for a summary of issues and actions needed that provided the basis for identifying project-supported interventions).

38. At the time of project formulation there was an emerging consensus within government and among donors regarding the measures necessary to promote sustainable pastureland management. Government, with donor support, participated in the testing and implementing of a range of measures, which addressed the aforementioned constraints. At that time these efforts included: (i) Government's formulation of a draft law on Pasture Land, (ii) the Pastoral Risk Management component of the World Bank supported Second Livelihoods Project (SLPII), (iii) the EC-supported Animal Health and Livestock Marketing Project, (iv) the Green Gold Pasture Ecosystem Management project (SDC) and (v) IFAD's Rural Poverty Reduction Project.

39. The project strategy for the pastureland management and climate change adaptation (PMCCA) component was to focus on creating and building the capacity of herder level institutions to manage the common Pasture Unit (*belcheeriin negj*) they depend on for their annual cycle of seasonal livestock activities – including winter, spring summer and autumn grazing areas and to provide support for the ecological knowledge and physical inputs necessary for effective management. The component would distinguish between the organization of Pasture Herder Groups (PHG) inclusive of all pasture users to manage the Pasture Unit and the formation of common interest herder groups with the objective of undertaking income generation activities based on value addition of livestock products. It was hoped that this approach would address the identified constraints through measures that were receiving least attention from the projects described above. Herder based organizations would also provide a foundation for the future coordination of livestock marketing activities and advocacy of pasture users interests in local and national forums.

40. The focus of the PMCCA component would be on building community organisations that promote sustainable pasture use and equity through inclusive approaches and socially responsible practices. The PM sub-component aimed to work with the resource user group as the primary institution to manage pastoral mobility (e.g., seasonal moving, rotational use of pastures, the effective resting ("release") of pasture etc.); a key strategy for sustainable pasture use. Sub-component activities would include the participatory definition of pasture units (PU), the establishment, registration and training of pasture herders' groups (PHG), the attribution of user rights to those groups, the drawing up of pasture management plans (PMP), their approval by the *soum* government and the implementation of these plans by the groups with technical support. Funding for the implementation of the plans would be provided by the members of the user groups (in proportion to their herd size), the Government and the sub-component, the latter on a grant basis. Pasture herders' groups would also be supported to adopt ecologically-based pasture management methods. The establishment of PUs and PHGs at the time was in line with the currently used local land use planning process and can draw on the land law as a legal basis.

41. The selected adaptation measures supported under the CCA sub-component would relate to two types of impacts of climate change: (i) gradual long-term changes (degradation of quantity and quality of pasture); and (ii) changes in the frequency and intensity of extreme events (drought and *dzud*), which mainly focus on increasing the efficiency and effectiveness of current measures. Adaptation measures

proposed to reduce the impact of long-term changes on the livestock sector would focus on improved pasture yield including the revival of traditional pasture management, which involves the use of one pasture only for the length of one season, restoration of degraded pasture including reforestation of flood plains and increased vegetation cover, expansion/rehabilitation of pasture water supply, development of irrigated pasture and modifying the schedule of grazing and others. It is also important that the livestock do not exceed the carrying capacity of the pasture.

42. The component would be implemented by a service provider (SP) who at the same time would provide on-the-job training for a team of *soum* associations who overtime would take on responsibilities in establishing and strengthening community organizations and in facilitating participatory planning with stakeholders on household, group, *bagh* and *soum* level. The activities under the component would include safeguard measures in order to ensure inclusion of poor and vulnerable households, participation of women and a participatory monitoring and evaluation system to capture impacts on poverty in all its dimensions and to measure progress in the adoption of more sustainable pasture management practices.

43. An innovative approach would be adopted to build local capacity for participatory planning and stakeholder cooperation and to enhance sustainability of project outcomes. The SP would contract and train facilitators that would take on responsibilities in awareness raising, facilitating group formation and planning, linking groups to each other, to local government and to other resource agencies after the SP is phased out from the process. A three-year time frame was anticipated for the SP's full engagement in the entire area of a *soum*. To ensure quality in facilitation and adherence to IFAD targeting strategies, the SP would also be involved in the initial stages in the formation of each PHG. In PY1, the SP would establish and strengthen PHGs in each *soum* (total of about 10 PHGs) and support the preparation of their three-year PMPs and their annual activity plans for the upcoming year, while providing on-the-job training for the PHG facilitators.

44. Benefits identified with group formation included division of labour, mutual assistance in establishing and maintaining crucial infrastructure, reductions in vulnerability of member households freeing up time for women to pursue other productive activities and pooling of resources. Government supported group-based approaches regarding well maintenance and the draft pastureland law envisioned possession of pastureland by groups of herder households, at least in non-Gobi (desert, dry lands) areas. Moreover, the establishment of PHG (i.e., PUGs) had been tested in the Swiss Development Cooperation (SDC) project "Green Gold". Local training and facilitation capacity, and experiences in community organization, would also be introduced using innovations, drawing on the skills developed with support of other programs and particularly on the local trainers/associations trained under an IFAD Small Country Grant**.**

45. Building on IFAD's earlier experience with RPRP Project and resulting experiences and capacities created, the new Project would carry further the lessons learnt from this and similar interventions[9] currently in Mongolia. IFAD would provide grant funds to test an alternative approach to rangeland management by strengthening the ownership of the members of the grassland institutions implying a gradual separating of their functions from those assumed by the public institutions focusing first on the voluntary formation of herder groups and, eventually in a possible second phase, the development of federative structures. Specifically, the grant would include: (i) group formation supported by local and international NGOs; (ii) capacity building using service providers (including NGOs); (iii) support to economic and social activities of groups; (iv) promoting federation of interested RMMCs and other relevant groups whose members have a direct interest in rangeland management supported with

[9]Including the UNDP funded "Sustainable Grassland Project; SDC supported "Green Gold Project and the World Bank funded "Sustainable Livelihood Program."

capacity building and development of economic activities and (v) facilitating local government to progressively delegates rangeland management authorities to RMMC.

46. The component would contribute to the overall goal of the Government and IFAD to empower poor rural women and men to achieve higher incomes and sustainable improvements in their livelihoods. At the time of component design the approach was considered complementary to that of the SLPII as well as that of the Green Gold project supported by the Swiss Development Corporation (SDC) in that it would create the grassroots organizations and provide additional resources that could contribute to preparation and implementation of *soum* level pasture management plans. The approach was also viewed as complementary to the Government's proposed legal and regulatory framework for pastureland management and would demonstrate through the application of proven technology the benefits of informed ecologically-based natural resource management supported by pasture user rights.

C. Assessment of Project Results:

OUTPUTS

47. ***Overall rating of outputs is satisfactory.*** There were a large number of outputs generated by the component supported by GEF grant. A list of investment-related outputs separated by beneficiary is provided in Table 4. A more comprehensive list of outputs is provided in Table 5 that present data on accumulated output targets using GEF/SCCF annual Project Implementation Reports (PIR). Data on other outputs are provided in greater detail under the appropriate sections below (e.g., training and knowledge management).

48. Component outputs as measured by the indicators presented in the PDR logframe are presented in Table 6 (no new outputs indicators were recommended at the time of the MTR). Under the effective pasture management output the targets that could be evaluated and were met were the: (i) formation of project herder groups (PHGs) and (ii) development of pasture management plans. Under the investments serving to increase resilience among herders to the impacts of CC no targets were found to have been met (or were found either to be an inappropriate indicator or were judged to be no longer relevant after the first supervision mission – see below). All indicator targets were met under the increased knowledge of herders and local government on CC and the reduction of vulnerability output.

49. Following the first supervision mission indicators and/or targets judged to be no longer relevant were primarily under the second output. These were: (i) water points improved or constructed (in the design document the construction of new wells referred to shallow wells which were judged to be inappropriate given the depth of the aquifer in project areas), (ii) the replacement of fencing for pasture protection with herder guards (the latter was determined to be more cost-effective), (iii) additional winter shelter investments were determined to represent a form of direct cash transfer to beneficiaries and was not supported by GOM (however 19 shelters were built for demonstration purposes) and (iv) renewable energy facilities were discontinued due to the World Bank's Renewable Energy and Rural Electricity Access Project which supported the distribution of solar panels.

50. Indicators that were found not to be suitable for measuring outputs and could not be objectively evaluated were: (i) the measurement of the satisfactory implementation of PMPs, (ii) number of constructed and rehabilitated hay sheds and fodder storage facilities at *soum* level (no target was provided) and (iii) poor households assisted with seasonal mobility (this was judged not to be an appropriate output indicator, proved to be difficult to measure and interpreted by government to reflect some form of direct monetary transfer which was not in compliance with government policy and was eliminated after the first supervision mission).

51. The two output indicators that were not met were: (i) the participation of women in PHG decision-making bodies (however 36 women were PHG leaders (30 percent) and 40% were members of revolving fund approval committees); and (ii) PU pasture lands under improved management (80 vs 24 %).

52. IFAD supervision of 2017 evaluates that by physical targets set during the mid-term review, the Pasture Management and Climate Change Adaptation component achieved 100% of its targets with several activities having achievements exceeding 100 %. Up to 2017, the following investments were made: 64 new wells were drilled (2017 target 46), 16 hay shed and fodder storage facilities were built (2017 target 10), 10 water collection points were built (2017 target 5), fencing and protection for 94 spring sources was installed (2017 target 100), 120 small-scale tractors were provided to herder groups (2017 target 120), and co-funding was provided for the installation of automated weather stations in 150 project soums. Moreover, the rehabilitation of 16 engineered wells, the renovation of herder training and information rooms in 15 soums, the reservation of 70,000 hectares of pasture for hay making, construction of 25 livestock shelters, support for 5 soum meteorological stations or posts, the provision of Mobigator (a mass text messaging system for delivering weather forecasts to herders), and rodent control activities were carried out by the project. Capacity building to reduce vulnerability to climate change included 7,500 people in the following: (i) cooperative management training, (ii) climate change adaptation training, (iii) vocational training, (iv) Index Based Livestock Insurance (IBLI), (v) a workshop on fodder cultivation technology, (vi) veterinary and breeding education, and (vii) pasture management.

For aggregated achievements up to 2017, the resilience of local communities to climate related shocks and stresses has been strengthened. Group organization and collective action, trainings and investments have empowered project beneficiaries and local communities to better mitigate, prevent, or prepare for climate related problems, and increased their resilience to climate related shocks. The key CCA actions taken by the projects are: a) Construction and renovation of hay sheds and fodder storage facilities in aimags, soums, and reserve pastures; b) Provision of small-scale tractors with hay making capabilities to herder groups; c) Guarding hay making areas for soum hay reserves in collaboration with soum administration; d) Tested fields and demonstrated green fodder production; and e) Fenced haymaking areas to demonstrate the natural restoration of pasture.

OUTCOMES

53. **Overall.** Many of the project's initial logframe indicators were found not to be appropriate to measure the achievement of outcomes. The project's achieved outputs and outcomes did not have sufficient indicators to be measured against. Although IFAD reached an agreement with the PMU for the revised logframe during the preparation of additional financing, this set of indicators will be utilized only after 2018. Thus the TER selectively adopted initial and revised indicators that reports on the monitored results (i.e. data availability) without considering the performance reported per indicators (in order to provide sound assessment). In addition, the PMU provided additional information using a different set of indicators to assess the achievement of these outcomes based on evidences.

54. The component contributed to the goal and DO by demonstrating achievement of the three Outcomes revised at the time of the MTR as measured against key indicators. The first Outcome indicator was measured against the number of PMPs integrated into the respective *soum* land use plans (Table 7). The component's second Outcome was also achieved as measured against the two indicators: (i) number of herders participated in local, government-led training workshops and (ii) percentage of HHs reporting decrease in livestock mortality and livestock disease. The third Outcome was achieved as measured by the indicator 5 *aimags* and at least 12 *soums* allocate budgets for direct support to PMPs. The outcomes were found to be in conformity with national policies on the livestock sector and

cooperatives and with GOM CCA Strategy. For these reasons the rating for the Overall Outcome was rated Satisfactory. ***Overall rating: Satisfactory.***

55. **Outcome Relevance.** The Project was highly relevant at the time of entry due to the IFAD's assistance strategy as set out in the Implementation Report and Mongolia's Livestock and CC priorities. Arguably it is even more relevant at the time of closure. Not only is there considerable evidence that the environment generally and pasture ecosystems specifically continue to deteriorate but the resulting concern and efforts to mitigate the situation is being given higher priority than in recent years. The draft pasture law appears to be back up for discussion in parliament, the land use planning approach is gaining momentum and government seems highly receptive to continue support for the formation of cooperatives and adopting climate change measures supported under the component such as fodder storage facilities. ***Rating: Satisfactory.***

56. **Outcome Effectiveness:** The development of PMPs among PHGs appeared to be based on a process among herders leading to an agreement on the boundaries, resources, camps and dates of arrival and departure depicted in graphic form that could eventually be integrated into a *soum* land use management problem (see photo 3). However there appeared to be a number of different trajectories and "fates", at least at the time of the assessment found for the spatial version of these plans. These included the development of a plan by one HG that was never submitted to the *bagh* and used primarily just among the members of the HG themselves, (ii) the approval of a PHP by the *bagh* but the refusal to accept the approved plan by the *soum* due to boundary uncertainties between the *soum* and the *aimag* over the national pasture reserve, (iii) approval of the plan per component design. Despite these different trajectories the process and end product appeared to be a highly useful exercise in facilitating members talking to each other, agreeing on basic principles associated with pasture management and having a common understanding among themselves to discuss with the at the *bagh* level. Key outcomes can be summarized as following:

- The project (by 2017) has provided 120 small-sized tractors with haymaking equipment to the 120 project-supported PHGs. The financial arrangement for these investments included a 20% subsidy from the project, while 80% would be paid back by PHGs members and would constitute the PHG revolving fund. Without project, a herder household prepared 1.7 tons of hay on average. After project, those herders who received project support nearly doubled hay preparation to 3.2 tons. Also the amount of hay purchased by HHs increased by 12% after the project, rising from 228 kg to 256 kg, and the money spent on hay increased from 126,000 MNT to 308,000 MNT. A dramatic increase in the use of hay preparation tools shows an improvement in hay making capability and quality of life. Of surveyed households, 93% reported that they used hand-held tools to make hay before the project. This has now reduced to 10% in 2016. There is also a dramatic increase in the use of a tractor. Before the project, only 2% said of using their own tractors and tools. After the project, 78% claimed they used their own tractors or a group's tractors after the project. Moreover the average number of days to harvest hay has reduced from eight to five after the project's support.
- Hay and fodder storage facilities were built in 16 areas, including project soums and in inter-aimag otor areas, giving 15,000 herder households the opportunity to access good quality hay and fodder at a low cost. All project Soums (as opposed to 5 only before project implementation) in 2017 have storage capacity for 1,825 tons of hay and 5,960 tons of fodder.
- The practice of guarding larger grazing reserves guarded by appointed herders was introduced successfully in project soums, and is a far more cost-effective method of seasonal protection of pasture lands than fencing (from 2013-2014, 240 hectares of hay fields were fenced). Consequently, some soums are now producing 100% of their hay needs. In total, 78,000 hectares were guarded by soum governors' orders and 11,739.8 tons of hay were harvested in 2015-2016.

- According to a project survey, 11% of respondents reported that they harvested hay from protected areas for hay making in 2016 while only 4% said they did before the project. In contrast, the number of households that prepared hay from unregulated areas fell from 68.3% to 30%. The size of fields for prepared hay expanded from 3 hectares to 14 hectares, growing 4.5 times larger, for each household compared to before the project. These positive changes show the benefits of intervention by protecting grazing fields.
- Aside from the physical benefits, herders and local administrators have acquired the capability to fence and protect pasture areas, and are now calculating the costs and benefits of pasture improvement thanks to project demonstrations. Demonstration of green fodder cultivation was conducted in five select soums. Before the project, it was estimated that 15 kg of fodder was planted each year by each household, while 360 kg was purchased, including green fodder, oats, and bran. In 2016, as estimated by the herders themselves, the amount of green fodder grown was 64 kg and 542 kg was purchased.
- The development of Pasture Management Plans (PMP) among PHGs appeared to be based on a process among herders leading to an agreement on the boundaries, resources, camps and dates of arrival and departure depicted in graphic form that could eventually be integrated into a *soum* land use management problem (see photo 3). It appeared to be a number of different trajectories and "fates", at least at the time of the assessment found for the spatial version of these plans. These included one development plan did not get to submitted to the *bagh* and used primarily just among the members of the HG themselves and the *Bag*h-approved plan not included in the soum plan due to boundary uncertainties between the *soum* and the *aimag* over the national pasture reserve. Other times, there are several plans approved and accepted by *bag*h and *soum*. Despite these different trajectories the process and end product appeared to be a highly useful exercise in facilitating members talking to each other, agreeing on basic principles associated with pasture management and having a common understanding among themselves to discuss with the at the *bagh* level.

57. Based on the above outcomes observed, ***outcome effectiveness is rated as satisfactory.***

58. **Outcome Efficiency:** No CBA, IRR or ERR was completed for the component at the time of the PDR however an incremental cost analysis (ICA) was done for the CEO Endorsement Submission to SCCF. The basis of the analysis was that the "business as usual" approach did not directly address the issues of expected climate change impacts. A range of recommended adaptation measures was reviewed to determine those which could be addressed with SCCF funding with a focus on CCA and which could be tackled with IFAD funding. IFAD funded elements under the PMCCA component would create an institutional foundation for sustainable resource management by identifying PUs for management, formation and capacity building of PHGs, PMP preparation and support for the implementation of the latter through investments in pasture management and fodder conservation structures and methods, water supply, livestock shelter, herder mobility and household-scale renewable energy. Based on the findings of the ICA the Baseline Scenario was estimated to be US$11.48 million. The SCCF Alternative built on the Baseline Scenario by complementing the economic and sustainable NRM approach of the project with a focus on climate change adaptation. The project objective of "contributing to poverty reduction and sustainable livelihood improvement of poor herder and *soum* and *aimag* centre households" would be addressed through a component under which CCA measures additional to "business as usual" will be supported by SCCF including: environmental and climate change awareness raising for herders, local government representatives and key officials; herder group livestock insurance; pasture adaptation research; strengthening of data collection systems to support climate forecasting and livestock early warning systems; improved animal husbandry methods; vocational training support for those wishing to leave herding; and demonstration of innovative technology that will facilitate adaptation to climate change at an estimated cost of US$12.98 million. The additional cost financing from SCCF of US$ 1.5 million would yield mainly local benefits. These were: (i) increased

awareness among herders and others of the nature climate change impacts; (ii) greater ability to identify potential CC impacts and take adaptation measures; (iii) knowledge and availability of additional tools for pastoral risk management; and (iv) a significant number of poor herders with the skills to compete for non-farm employment. This knowledge was expected to increase the resilience of natural pastures to climate change and reduce the vulnerability of herder communities to climate induced shocks. ***Rating: Satisfactory***

Other Outcomes and Impacts

59. There were a number of unexpected, additional outcomes, identified by the TER mission, associated with the component 2.

60. **Empowerment of HHs**. In one PHG the consolidation among members facilitated through the meetings and preparation of PMP apparently led to the political empowerment of these herders manifested through voting in blocks (or its likelihood) providing them a more powerful voice to influence candidate positions exercised through the block voting for candidates of their choice.

61. **Diversification of use of RF**. It appeared that project design expected that RFs would be used primarily to support the purchase of equipment and other inputs for the PHG as per the priorities of either the individual member or alternatively used for common investment to be shared among the PHG. Nevertheless, during the assessment discussions with four PHGs revealed that most of the members were using the RFs as a “buffer” against periods when market and/or environmental conditions affect household incomes.

62. **Mobigator**. The mass public messaging technology was initially disseminated in Mongolia as a tool to promote transparency and democracy by ensuring news was distributed widely and freely throughout the country including to the rural population that increasing had access to mobile phones. However under the component it was employed to provide an early warning system distributed through governments to provide information on pending natural hazards, pest outbreaks and other HH-related issues and seemed to be highly appreciated by HHs.

63. **Synergy between Components**. The lack of component integration and synergy did not appear to be a lost opportunity. Rather it appeared more of means to develop separate and parallel experiences and lessons learned without the risk of over-complicating project design. With the benefit of 20:20 hindsight many of the problems experienced in the Market Development component may have affected implementation under the PMCCA component. Fortunately this did not happen. These lessons learned and experiences appear to have been brought into the design of the AF phase and will likely lead to a more integrated approach.

D. Project Performance and Impact:

Key factors Affecting Implementation and Outcomes

64. **Previous IFAD experience.** The PMCCA component generally and in particular the PM sub-component was based in part on IFAD’s experience derived from the RPRP Project. In RPRP the concept of Rangeland Monitoring and Management Committees (RMMC) was promoted and tested. The RMMCs were private-public entities made up of individual members and their groups and government officials. The RMMCs served to regroup "herder groups" and "special interest groups" which themselves are "lineage based". From this, partly informed by the experience of the Green Gold Project, component design evolved into spatially - defined PHGs.

65. **Lack of clarity in legal framework**. It is understood that **i**n Mongolia, herders have equal rights in using rangeland. According to the land law however, herders have a right to use summer and autumn pastures collectively and winter and spring pastures based on prior agreement. In addition, possession

right of land under winter and spring camps through herders' communities is legal. Nevertheless, land law has not been implemented due to unclear policy on status, and right and obligation of both herder communities and *soum* administration. This lack of clarity in the legal framework appeared to act as a constraint in some cases on the issuing of certificates to PHGs for winter and spring camps. Moreover the annual process is a complicated one and includes following agreement on a PMP, a majority approval among herders participating in a *bagh* meeting, submission to the *soum* parliament that forwards onward to *aimag* parliament that on approval returns to the *soum* parliament for final approval on an annual basis. During the evaluation it was observed that for some PHGs following the preparation of their spatial-based plans didn't submit them to this process but rather used it among themselves. In another case it was found that the *aimag* would not accept the *soum*-level plans due to uncertainties associated with a boundary dispute with a national pasture reserve.

66. **Reaching Consensus between Project and non-project supported Herders.** Project design called for the promoting of the establishment of PHGs in 15 *soums* (three *soums* in each of the 5 *aimags*). The total number of PHGs was projected to be 120 (or 135 due to a discrepancy between the logframe and text of the PDR) with an average membership of 40 to 100 HHs per PHG. Following the experience derived from the creation of the first 60 HGs the SP found that the number of HHs in the PHGs was too unwieldy and smaller-sized HGs was advocated in the creation of the second group of 60 HGs. Due to budgetary constraints, in many of the *soums* not all of the herders could be covered by the component. This resulted in the creation of two herder groups, those supported by the component and everyone else leading to tension and in some cases conflict between the herders in the two groups. Project coverage of herders in *soums* ranged between 10 and 100 percent (Table 3). Moreover, since approval of PMPs was based on public votes of herders attending the meetings of the *bagh*, success often depended on the votes of herders not supported under the component. This issue was flagged by several supervision missions. The basic remedies proposed were: (i) expansion of training activities to non-PHG members and/or (ii) use of *soum*-level Local Development Funds to cover additional herders. There did not appear to be sufficient budget to expand component supported training activities to a significant number of additional herders. LDF targets broader, vulnerable population at the soum level.

67. Moreover, one of the core activities of the PM sub-component was the participatory definition of pasture units (PU) which would be used to facilitate the initial identification of HHs to form a PHG and the subsequent drawing up of pasture management plans (PMP). The definition of the PMPs proved difficult particularly with respect to the spatial representation of the bounded area in those cases where non-project supported herders were consulted and approval sought on boundaries. This issue appeared to be mitigated at least in part by defining a PMP as an agreed set of activities (e.g., date of departure of winter camps) rather than in a map and was the basis of the formal PHG submission to the *soum*-level land use department.

68. **Project concept.** It was noted during 5th supervision mission that despite the achievements for improved pasture management and reduction in herder's vulnerability to climate change, the linkage of herders to markets had not been achieved on a larger scale. It was argued that the weak linkage between the two components was attributable to weak implementation arrangements, in particular the lack of allocation of clear responsibilities within PMU to address this linkage. However, this was a basic design issue stemming back to the origins of the project described above. It is difficult to see how clarification of roles and responsibilities in the PMU could have resolved such a fundamental issue.

69. **Logframe.** The situation of the continuing adjustment of the logframe did not affect so much the achievement of the component's outputs and outcomes as impeding their measurement. There were a number of problems identified with the logframe beginning with project design and extending through LOP. These included: (i) fundamental weaknesses (e.g., lack of use of SMART indicators, subjective

descriptions of indicators making it difficult to understand and establish quantifiable targets, examples of confusion between what represents an output and outcome indicators etc.). This situation was not remedied in the subsequent two revisions of the logframe in the first and third PYs, respectively; (ii) discrepancies between the logframe and the PDR text; (iii) the apparent use of the logframe as a framework to retrofit project outputs and evidence of outcomes rather than as a forward-looking M&E tool; (iv) putting greater emphasis on other M&E tools (e.g., RIMS and Output surveys) arguably at the expense of the application of the logframe; and (v) a lack of understanding of the importance and use of the logframe, particularly in the PMU; a situation that appeared to go back to their non-participation in its preparation at the time of project formulation and subsequent application.

Sustainability

70. The assessment judged all specified risks to the sustainability of outcomes to be Moderately unlikely.

71. **Financial risks** (Moderately Unlikely). Financial risks to component beneficiaries were assessed to be low in part due to the establishment of revolving funds (RF) that are often used by herder groups as a buffer against downturns in the markets. At the end of the pre AF-phase of the project, RFs have been retained by all PHGs with the exception of 6 herder groups that returned the funds/tractors to government. Interviews with PHGs indicated that they very much prized the funds and intended to continue to manage and grow them. Government supports the existing RFs and have appointed auditors (or other government official) at the *soum* level to monitor their use.

72. It was noted in the project completion report (PCR) that the strong and on-going downturn of the Mongolian economy over the past two years has likely undermined some of the project's positive impacts on rural incomes. According to data from the Mongolian National Statistics Office and World Bank, the poverty rate was 21.6 % in 2014, a decline from 27.4% in 2012. However, this decline slowed significantly by the 3rd quarter of 2016 (to only 0.9%). A dramatic decline in the price of some agricultural products since 2014 has negatively impacted the livelihood of rural households.[10]

73. **Socio-political risks** (Unlikely). Risks associated with socio-political environment were judged to be low in part due to inherent resilience provided by forming herders into herder groups that provide a degree of stability in face of changing political circumstances. Moreover, there does not appear to be any external source of instability that poses a risk to project outcomes that are directed toward bettering the well-being of the biggest social-economic group in the country.

74. **Institutional framework and governance risks** (Moderately unlikely). The risk to the project outcomes stemming from changes in the national institutional framework and governance was judged to be low given the importance of the sector to the Mongolian economy, the emerging role of PHGs as a potential political force capable of mobilizing votes in local elections and continued government support for the component outcomes and beneficiaries at the soma level.

75. **Environmental risks** (Moderately unlikely)**.** The short-term risks to project outcomes stemming from environmental risks associated with climate change were judged to be low due to a range of mitigation measures provided by the revolving fund, the climate change adaptation (CCA) investments supported by the component (e.g., water wells and fodder storage) and training and increased capacity among herders. However over the long term it is expected there will be a need for additional support to keep the degree of vulnerability down to an acceptable level.

Progress to Impact

[10] For example, the cost of a sheepskin was 5,000 to 7,000 MNT in March 2014, had declined to 500 MNT in March 2016.

76. The likely progress to impact was found to be satisfactory (though not rated). No specific policy intervention was supported under the component. At the time of project design it was assumed a draft law on pasture lands would be passed and the component supported some of the concepts embodied in the draft legislation. However the draft law was withdrawn. Currently there is another ongoing effort that might provide an opportunity for the project outcomes to be codified in a legal framework.

77. At the project level the overall findings from the follow-up survey suggested that there was a positive impact of the project on livelihoods of poor herders and showed a significant improvement of community participation in the project. Moreover recent official figures suggest that household welfare in rural areas has increased slightly. More specifically, it noted: (i) in 2016, households that belonged to the poorest quintile had decreased by 82 or 8.7 percentage points while households in poor quintile had increased by 34 or 4.5 percentage points compared to 2012. There was also an apparent increase across the richest quintile accounting for 9.3 percentage points. The results appeared to show a modest improvement of household welfare in the last four years.

78. At the component level, the comparative survey of RIMS baseline and impact studies under the PM sub-component showed a decrease in both the number of households that moved on time and not on time in the pasture rotation. However the number of households engaged in livestock vaccination and households that received animal feed from the *soum* grass and fodder fund increased significantly as did the number of households who insured their livestock. The comparative study also noted that that the number of households that observed a decrease in livestock mortality had increased by 187 households and those had an increase in total livestock numbers had increased by 171 households. Moreover, the number of households that had benefited from improvement in livestock breeds had also increased by 239 households and those that experienced positive changes in hay making and fodder production had increased by 23 households. On the other hand, the number of households that reported a declining number of livestock and deterioration of the livestock breeds had reduced noticeably. Nevertheless, the number of households that observed a decline in hay and fodder production had increased by 19 households. This may be due to the poor summer and drought happened in 2015.

79. Overall these generally positive trends are likely to continue in those PHGs continuing to use their RF and their transformation into cooperatives (to date 15 cooperatives have already have been formed under the first phase of the component) with the expectation of receiving government subsidies and gaining access to the availability of commercial credit. Similarly trends in improved livelihoods in PHGs are likely to continue in those *soums* where government officers trained under the component continue to provide their support supported by government budget.

80. At a more operational level there appears to be substantial opportunity for some component activities to be incorporated into the on-going *aimag* land use planning process administered by ALAGAC. Where these plans have already been completed in a spatial-based format, there is empirical evidence that where traditional pasture land winter and spring camps and dates of departure have been agreed to in the PHG followed by approval at the *bagh*, *soum* and *aimag* parliaments these have been incorporated into *soum* plans with the potential to impact in decision-making. However, at present the land use planning process is suffering from resource constraints so the rollout will likely be slower than hoped but it nevertheless appears to be a viable process.

81. There was no evidence that project interventions were actually being translated into improved pasture (as opposed to improved pasture management). This in part can be attributable to the short period for component interventions to be translated into improvements in complex ecosystems, the effects of externalities such as the drop in market prices associated with the financial crisis and occurrence of

drought/*dzud* and the absence of monitoring program that captures the sites supported under the component.

E. Assessment of M&E System (HS – UA)

M&E Design
Rating: Moderately Satisfactory

82. The project's M&E plan was based on the contracting of a consultant to design a results based monitoring and evaluation system that complies with the IFAD Result and Impact Monitoring System (RIMS). An M&E officer in the PMU would be trained in the utilisation of the system, the analysis of data and the appropriate reporting. Herder and/or farmer groups, PHGs and micro-finance groups would be supported in undertaking participatory monitoring. Particular emphasis would be placed on the monitoring of the impact of value chain development on producer incomes, of the activities of Self Help Group and micro-enterprises and of pasture management and the extent to which poor households benefit from it and from other project activities. A baseline household survey would be undertaken in PY1 and at completion a repeat survey would be carried out.

83. The overall M&E system would consist of: (i) regular reports and process monitoring by the PMU for the overall project, based on data provided by the implementing partners and on the project's financial accounts maintained by the PMU; (ii) participatory monitoring by selected groups involved in the project; (iii) internal and external reviews and workshops for stock-taking and learning; (iv) studies on specific issues raised within components and/or to document best practices and lessons learnt; and (v) a baseline household survey and a completion project impact study.

84. The proposed M&E system appeared to be oriented towards measuring socio-economic indicators rather than bio-physical indicators that arguably were more relevant to the PMCCA component. The M&E system described in the SCCF CEO Endorsement Template was similar to that described in the PDR. However ecological baseline data were to be collected once Pasture Units had been identified and pasture monitoring sites established using methodology compatible with the pasture monitoring practices of the Livestock Early Warning System (LEWS) project. These sites were to be monitored annually to assess pasture condition within the project area and in comparison with surrounding pasture areas by comparison with the LEWS database information. Pasture condition data from project monitoring sites will also be provided to the LEWS database. This took place in 2014.

85. There did not appear to be a systematic application of the logframe through out LOP. Rather it appeared that periodic supervision missions identified its weaknesses, suggested alternatives and tasked the PMU to follow-up.

M&E Implementation
Rating: Moderately Satisfactory

86. Methodologies applied in the RIMS and Output surveys appeared to follow standard IFAD requirements and there was no reason to doubt the validity of the data. However, there were a number of instances where supervision missions noted the need for improved monitoring of pasture conditions and the need for evidence-based and consideration of environmental impacts and conditions in selecting CC adaptation investments (e.g., PIR 1). In response and in conformity with a new national program reflecting the reaching of consensus on a simplified approach to monitor pasture "health" AGROM supported training in photo-monitoring for officers of *aimag* agricultural departments, *soum* land, pasture officers and meteorological officers of project *soums*. This served not only to expand the network of monitoring points beyond the 5-6 plots under regular National Agency for Meteorology and Environmental Monitoring (NAMEM) monitoring but also provided a better tool for local decision-making

on pasture management contributing to the establishment of data bases maintained at *soum* level. However there was no evidence that these data made there way into the existing M&E system.

87. Issues associated with the project's weak logframe mentioned above were not resolved with its revision at the time of the mid-term review as problems continued into the second half of the project. The M&E system did not appear to support the regular updating of the logframe but it is unclear whether this was a result of a problem of M&E design and implementation or lack of demand from the supervision missions as after initial attempts in the earlier missions there did not appear to be much effort in trying to improve its use as a monitoring tool. This contributed to some challenges at the time of the TE to demonstrate the successful achievement of component outputs and outcomes.

M&E utilization
Rating: Satisfactory

88. There appeared to be a high demand for the use of the M&E system in particular in support of IFAD SPR and IS missions and related external surveys (e.g., RIMS); a demand that was met efficiently. The M&E system responded well to a number of monitoring requirements. These included: (i) benchmark and impact RIMS surveys (this focused primarily on household demographic indicators, household asset indicators and child malnutrition indicators); (ii) SCCF Project Implementation Reports (PIR) which focused on monitoring annual progress of selected indicators against the annual workplan; (iii) Annual Outcome Survey (AOS) which represent a holistic attempt to assess changes at the household level, targeting efficiency, project success or failure; and (iv) project completion report. No tracking tool was required by SCCF.[11]

Justification of Rating for Overall M&E System
Rating: Moderately Satisfactory

89. The assessment of the project's M&E system was based on its design, implementation and utilization respectively. With respect to the former the system was found to be relatively robust but requiring some greater interactivity between data tables and the enhancement of existing software. There was also a greater need to include a means to monitor the component's bio-physical parameters and environment. Finally, the system suffered from the weakness of the project's logframe which affected the ability to monitor progress of the component to reach outcome and component targets.

F. Assessment of Implementation and Execution (HS – UA)

Quality of Implementation. The assessment of implementation was based on two processes, performance in ensuring quality at entry and supervision.

IFAD Performance in Ensuring Quality at Entry
Rating: Moderately Unsatisfactory

90. The rating was based on several factors.

91. Lack of Integration between Project Components. The previously described timeline of the formulation of the project explains the difficulties in providing a synergy between the projects' technical components. While there is no evidence to cite, one can assume that beginning with the formulation of MARPP in 2007, by 2010 both GOM and IFAD would have been highly motivated to move forward with formulation of the final project. This was the responsibility of the January/February mission who apparently was only just joined at that time by a GEF/CCA consultant tasked with preparing the

[11] At the time of project approval there was no SCCF monitoring tool required. The Adaptation Monitoring and Assessment Tool (AMAT) was not launched until April 2011 after the project was submitted to the IFAD for Board approval.

proposal for the SCCF grant. Given the lead-time required to meet a Board date one assumes there was very little time to refine project concept following the formulation mission and further its integration. This seemed to be confirmed by the number of changes recommended by the first supervision mission.

92. Use of PPG Resources. Related to the above, despite the approval of the SCCF PPG in support of preparation of the CCA sub-component (i.e., the SCCF project), there was limited use of GEF/SCCF project preparation resources (PPG) that in part had been designated to provide baseline information useful to assess and compare component impact. Rather it appeared that resources were only used to hire a consultant to assist with the preparation of the endorsement template and the remaining resources had to be returned to the GEF/SCCF.

93. Quality Assurance. IFAD's quality assurance (QA) for the most part focused on the VC component. Comments on Component 2 were based primarily on: (i) the need for learning from other experiences with Pasture User Groups (PUGs) in Mongolia and elsewhere as project results are mixed and often deteriorates after project completion; (ii) based on experiences elsewhere under similar conditions of high climatic variability and eroded social cohesion, it was recommended that the final design document should provide for consideration of other, more direct, incentives to PUGs and (iii) the need to possibly consider larger PH movements beyond the *soum* level to ensure a better adaptation to the prevailing extremely scattered rainfall patterns. While these comments were all found to be germane to the component the process did not appear to pick up on some issues that later affected project implementation associated with project design.

94. Logframe. The project's weak logical framework (logframe) that has been discussed at length elsewhere in the TER.

95. PIM. No PIM was prepared at the time (either in design nor at inception) and an opportunity may have been lost to facilitate a quick start-up in particular in clarifying issues of roles and responsibilities among implementing agencies that was an issue identified by subsequent missions.

96. PDR. There were discrepancies between the logframe and Project Design Report (PDR) as reported in the first supervision mission.

97. There was an inception mission and workshop in November 2011 but no documentation was found for review.

IFAD Performance in Ensuring Quality of Supervision
Rating: Satisfactory.

98. IFAD provided significant effort in the supervising of the Project. In addition to the initial (undocumented) supervision mission there were a total of 6 SPR missions (which include the MTR and combined AF mission in October 2017 mission (Table 8). Moreover where warranted, SPR missions were followed by implementation support (or follow-up) missions.[12] The SPR missions included visits to component sites that included at least one visit to each *aimag* over LOP (Table 9).

99. Finally, a number of issues affecting the project/component were identified relatively early in the implementation of the project and mitigative measures suggested with differing degrees of effect.

[12] IFAD policy is to conduct one supervision mission per year. During this mission, project progress is "scored" and reported back to IFAD HQ. When the findings of the SPR missions suggest the need for extra support to PMU, then additional small missions may be supported referred to as implementation support mission (ISM).

These included the need for hiring a PMCCA coordinator, shift from shallow to deep wells, shift from fencing to herder watchers recommending the conducting of a needs assessment etc.

Justification of Rating for Overall IFAD Performance
Rating: Satisfactory

100. The rating is justified on: (i) the circumstances behind the rapid formulation of the final project and the forcing together of a number of distinct sub-components that shared little synergy with a very tight window between presumably government pressure on one side associated with a project "input" stemming back to 2007 on one side and a pending board date on the other. This likely explains a number of the shortfalls identified above; and (ii) the not insubstantial effort IFAD made in supervision and IS missions to ensure project success beginning with the first supervision mission that attempted to address many of the issues identified above.

Quality of Execution: Borrower/Grant Recipient

Government Performance
Rating: Satisfactory

101. This rating was based in part on the relatively quick start up.[13] Most of the preparatory work was completed by the Fall of 2012 that included the recruitment of PMU staff, selection of the first SP and completion of procurement for the component by the time of the first supervision mission (September 2012). Similarly, the main PY 1 targets were achieved (60 PHGs formed, 15 local facilitators selected and training completed for 60 PHGs). There were nevertheless some delays associated with national elections in May – July 2012 and the change of government staff at local levels. By the time of the second supervision mission 60 PMP had been prepared, 60 PHGs had received component support and training and there was demonstrable cooperation with *soum* governments. At the time of the MTR the mission stated that the PMCCA component was being implemented according to plan.

102. Other factors justifying the rating were: (i) the component meeting most of its outcomes and those outputs retained in the logframe in a timely fashion; (ii) support from *soum* governments over LOP in terms of technical staff participation in training workshops and follow up support provided directly to component-supported herders coordinated by the facilitators; (iii) rapid response to the findings and recommendations from SPR missions; and (iv) the quality of financial management (FM), disbursement, procurement, audit and covenant compliance.

Implementing Agency Performance (SP)
Rating: Satisfactory

103. There were two SPs over the life of the project. These were Mongolian Society for Range Management (1912 – 1914) and the Agricultural Rural Development Mongolia (AGROM). Based on interviews with herders in 4 PHGs they appeared to value the quality of the services provided by both service providers. Nevertheless, the approaches were different. The MSRM appeared to depend chiefly on one employee to provide training while AGROM provided training from a broader range of specialists. There also seemed to be a less consultative process involved with the formation of the first 60 PHGs resulting in attrition of members as the PHG/PMP process continued over time. In the rebidding of the contract in 2012 per government procedures, MSRM did not submit a proposal despite receiving a satisfactory performance rating and AGROM was awarded the bid for the remainder of LOP.

[13] An assessment of the actions taken to ensure a rapid and efficient start-up was constrained by the absence of any documentation associated with a project implementation mission and workshop in November 2011.

Justification of Rating for Overall Borrower Performance
Rating: Satisfactory

Fiduciary Compliance

104. **Financial Management.** Overall project financial management was undertaken in a satisfactory manner. PMO financial staff played important roles during project implementation, not only in fulfilling the assigned responsibility to ensure project activities could be properly recorded and presented but also assisting the PMU director in monitoring project progress. All government entities paid due attention to the Project and the committed counterpart funds were delivered completely and on time (see section on co-financing below). The required financial reporting was submitted in a timely manner and no significant issues were disclosed by the external auditors. There were however a number of minor issues experienced over the course of the project implementation. These included the need to: (i) segregate cashier and accountant functions, (ii) development of an advance/liquidation system to accelerate project implementation, (iii) need to reimburse for custom duties and the use of interest income and (iv) shifting resources on a temporary basis between the grant and loan SAs while waiting IFAD approval for reallocation of funds between disbursement categories under the loan. This was requested and approved by IFAD subsequent to which funds were restored following approval of the reallocation request. All issues were resolved in a satisfactory matter.

105. **Procurement.** In general, the procurement progress has found to be satisfactory. Some delays were experienced in procurement in particular associated with vehicles and well development and other investments The main reasons for delays in procurement included: (i) cancelling of some contracts (e.g., due to non-compliance of the contractor), (ii) required rebidding (due to lack of response), (iii) cancelling of orders due to inflation and increase in prices and (iv) seasonality and other weather-dependent issues. These issues were all eventually resolved. By end September 2017 all goods contracts were procured and signed. All existing contract goods have been delivered and 100% of the contract amount was paid to supplier in all cases; 7 consulting services contracts were procured and signed, of which 2 are firm consultants and 5 are individual consultants. All contracts were either prior or post reviewed by the IFAD team.

106. **Audit.** In Mongolia, audits of internationally-funded projects are required to be completed by the National Audit Office following internationally accepted best practices. No significant issues were found in the certified audits sent to IFAD. There was however one delay in submitting the audit to IFAD in a timely fashion due to problems associated with the quality of English translation.

Disbursement

107. Although disbursement was slow particularly in the first year of the PMCCA component, in part due to the “knock-on” effect of the 2012 elections and change in government counterparts, remedial actions were taken by related parties to accelerate project implementation and disbursement (see Figure 1). Despite this progress by the end of September 2016 (the scheduled project completion date) only 82.1 % and 75.3 % of the grant and associated component loan had been disbursed, respectively. The lag in disbursement of both components resulted in the request and approval of a one-year, no cost extension (September 2017 was the new project completion date. At the time of the TE (October 2017) 97% and 84% of the grant and associated component loan had been disbursed, respectively. GEF remaining balance is USD 44,224. Outstanding activities remaining to be implemented under the grant are the hiring of two aimag PMCCA facilitators currently awaiting government nominations, training of PHG leaders in the transition period to additional financing and staff costs (approx. US$ 40,000). Full disbursement under the grant and the loan is expected to be reached by September 2018.

Covenant Compliance

108. The component was judged to be in full compliance with all relevant covenants.

Post-completion Operation/Next Phase

109. On 25 February 2016, the Government of Mongolia requested an increase in the financing of the on-going PMPMD Project. The requested additional financing (AF) amounted to US$ 9,060,141 from IFAD's 2016-2018 PBAS allocation for Mongolia and would be provided on blend terms. The AF request was combined with a 5-year extension of the PMPMD. On approval of the AF in September 2016 by the IFAD Executive Board, the PMPMD AF completion and closing dates will be 30 September 2021 and 31 March 2022, respectively.

110. The AF will be used to consolidate and scale up the PMPMD successful activities and to introduce innovative approaches to the PMPMD model that would contribute to greater efficiency and sustainability for project interventions, particularly in value chain development. In addition, and as part of the project's exit strategy, its interventions will increase the ability, through capacity building, of the relevant government and local institutions to monitor, supervise and replicate in other *aimags* and *soums* all project activities. This would prepare them for taking over total responsibility when the project ends. Under the AF target areas there are 6 (out of 21) *aimags* including two *aimags* (Arkhangay and Hentii) from PMPMD. Three soums from each of the *aimags* will be selected as target areas for a total of 18 soums (out of 330 nationwide). In the two *aimags* carried over from the first phase project new *soums* will be identified. The AF Project will consist of two interrelated investment components: (i) Pasture Management and Climate Change Adaptation and (ii) Market Development. Of the total project costs of US$ 11.38 million US$ 4.96 million would be used to support the Pasture Management and Climate Change Adaptation component consisting of -Pasture Management (US$ 1.09 million) and Climate Change Adaptation (US$ 3.87 million) sub-components. There will be no new grant financing.

111. There appears to be a much closer synergy between the 2 components in the AF than in the first project. Specifically, the PMCCA component will support the: (i) development of the *soum* strategy for pasture management and market development, (ii) development of local capacity to implement the strategy, (iii) formation and strengthening of PHGs (adopting the approach under the relevant component), (iv) development of a strategy for pasture management (in contribution to the *soum* annual land management planning) and market development (v) promotion of PHG-level investments (including the use of a commercial bank revolving fund for PHGs), (vi) promotion of *soum*-level investments for climate change and (vii) monitoring and evaluation of resilience of pasture land.

Institutional Strengthening and Knowledge Management

112. The limited capacity of government institutions in land and resource management was the basic rationale for the component to focus on rural communities as the lead institutions for the stewardship of natural resources upon which their livelihoods depend. As a result building capacity under the component focused on the PHGs and key government officers at the *soum* level, specifically land management, veterinary and agriculture officers. A list of training courses supported under the component is provided in Table 10.

Sustainability

113. During the evaluation a number of examples were identified that demonstrated the taking up of a range of component activities increasing the chances of sustainability. These include: (i) that outcomes are firmly in line with GOM's "Mongol Livestock" and "Cooperative Development" programmes, (ii) the appointment of a government officer at the *soum* level to ensure that the RF will continue to function and be used for their intended purpose, (iii) absorption of the operating costs associated with

mobigators, (iv) growing recognition in National Livestock Program of the importance of fodder storage facilities as a highly valuable CCA technology, (v) conformity of project outcomes with both national climate change priorities and more globally GEF/SCCF priorities, (vi) evidence of the gradual transformation of PHG into PHG-based Coops (vii) incipient integration of PMPs into the ALAGAC spatial-based *soum* land use planning process, (viii) design and approval of the Additional Finance phase of the project that will continue to provide some support to two of the initial 5 project *aimags* and (ix) continued government support for CCA activities supported through loan resources

G. Other Assessments

114. **Materialization of Co-financing (GOM).** Differences in estimated levels of co-financing at time of appraisal and end of project were found for: (i) GOM (negative due to a series of construction works in support of rural communities and local companies that are VAT free and the exemption of agricultural machinery and equipment that are also free from VAT) and import taxes) and (ii) positive for project beneficiaries (due to the monetization of their labour in constructing a number of component supported works). See Annex 4.

115. **Environmental and Social Safeguards**. The Project was classified as a Category B project In the Environmental and Social Review Note (Annex 8 from the PDR) primarily due to project support for the establishment/ expansion of agricultural processing enterprises through its value chain, small and micro enterprise interventions. However under the PMCCA component the note said the PMCCA component aimed to re-establish pasture management methods based on traditional social organization, one that has been done previously in Mongolia (e.g., Green Gold). Nevertheless, success of the inclusive approach involving all resident herders which is necessary to achieve sustainable pasture management requires that all households are able to participate in seasonal movements and other joint management practices. Thus it is important to ensure that the specific needs of poor households are considered when determining pasture management plans and women are able to participate in an equitable manner. To address these issues it was recommended that: (i) support measures targeted at the needs of poor households are included in the pasture management plans;. This was achieved; (ii) at least one of the two local facilitators engaged in each *soum* by the proposed service provider is a woman. There was only one facilitator per *soum*. Four out of the 15 facilitators were women; and (iii) a Social and Gender officer be engaged by the PMU to assist service providers and other stakeholders through sensitization, staff training and monitoring of poverty and gender targeting policies. No social and gender officer was hired by the PMU.

116. Positive environmental impacts associated with the PMCCA component identified in the Note included: (i) protection of spring water points, (ii) improvements of pasture ecosystems associated with reduction of pressure in localized areas and (iii) increased use of fodder and fodder storage areas to reduce loss of livestock during drought and *dzud* periods. Local environmental benefits generated by climate change adaptation were expected to include the avoidance of decreases in capacity of rangeland resources to support livestock production, locally available water resources, and vulnerability of herder communities to impacts of climate change.

117. No adverse environmental impacts were found with the component, which in essence was design to promote the reduction of poverty among some of the poorest communities in Mongolia and improve sustainable management of pastures with the possible exception of localized impacts on the aquifer associated with increased usage of deep-water wells in some *soums*.

118. **Gender concerns.** No gender concerns were identified in the assessment. The component made a pro-active effort to engage women in decision-making in PHGs and training and capacity building activities supported under the Project. A number of supervision missions flagged the need to promote increased participation of women in PHG and more generally participation in the PMCCA component in

particular for income generating activities. Women leaders of PHG were 30 (36 women) and 40 % among the 3 member RF committees. Participation in workshops was 39 percent (see Table 11).

119. **Stakeholder engagement**. Stakeholder engagement in the component was evaluated to be good and active particularly at the local level. Meetings with local beneficiaries, government officers and component facilitators supported this observation.

120. I**nnovativeness**. A number of innovations associated with the component were identified. These included: (i) advancing the process of creating PHGs and support for the preparation of PMP by seeking direct collaboration with and local government and their empowerment in the process; (ii) support for the use and adaptation of the mass-messaging technology provided by Mobigator and supporting its transformation from news and information dissemination to natural hazard and pest outbreak early warning system; (iii) use of "smart" technology to address permafrost constraints to water wells adopting 24 hour solar power to prevent pipes from freezing; and (iv) together with the Green Gold project, support for the rolling out of photo-monitoring technology for use by local government officers in pasture management.

121. **Partnerships.** It was expected that the component would enter a number of partnerships (as opposed to contracts). A list of institutions that participated in the component and the nature of activity (some through contracts such as the SPs and suppliers of goods) is provided in Table 11. It was recommended to the PMU during one of the supervision missions that the Ministry of Environment be approached to participate in the development of capacity building materials as they were already participating in project coordination meetings and had met periodically with the IFAD supervision mission teams. However this did not appear to take place.

H. Lessons Learned and Recommendations:

122. **Plan Utility**: The steps described in the PDR leading to the preparation of the PMP, followed by its submission and approval and eventual implementation were quite clear and followed a logical progression. Nevertheless, the fate and utility of these plans, based on discussion with PHGs in the evaluation revealed that they took on a life of their own once the process was placed in the hands of the HGs. This did not seem to undermine their utility and in fact enriched the experiential data base and demonstrated a number of lessons useful for future projects not least of which are: (i) the sensitivity of use of spatial boundaries among different groups of herders, (ii) conversely, the utility of putting information on a map among members of a PHG, (iii) demonstration of interest in following agreements reached within a PHG even if the Plan was not approved (or even not submitted) and (iv) in absence of being able to integrate spatial information in the *soum* plan the value of falling back to more traditional information provided on word/excel formats.

123. **Menu of Incentives:** Small tractors were the main investment on which the establishment of the RF were based. In most of the component *soums* they were highly prized as a means to increase by orders of magnitude the production of fodder. Nevertheless there were examples of PHGs expressing the need for alternative investments reflecting local conditions. Moreover, there was a period during the LOP where in response to government policy the market was flooded with cheaper tractors and the PHGs were interested in alternative investments. There is a case to be made to provide a more diverse menu of incentives to PHGs for the establishment of the revolving funds.

124. **Component Coverage of Beneficiaries:** As described elsewhere the dividing of HHs between project supported and non-project supported herders in most of the component *soums* contributed to a number of issues that affected the component in particular approval of PMPs at the level of the *bagh* and respect for the plan after its approval by non-component supported HHs. This appeared to be a

product of attempting to spread component benefits to as many *soums* as possible against budgetary constraints. Even when a sound mitigation measure was proposed to address the issue (expanding non-investment activities to other HHS) existing contractual arrangements with the SP and budget constraints prevented its implementation. Arguably, this issue could have been studied in great detail if not during project formulation then in the implementation and/or first supervision mission to reconcile HHs numbers, number of *soums* and budget. Where budgetary constraints call for trade offs between more *soums* with only partial HHs coverage versus fewer soums with complete coverage, the latter would appear to be the preferred option.

125. **Spatial Planning:** As GOM continues to support the rolling out of the *soum*-level spatial plans this is likely to become a powerful tool in informing decision-makers. Despite the difficulties observed in getting agreement on boundaries at the HHs level, there exists a major opportunity for grassroots planning that can inform the *soum*-level plans. The methodology employed by ALAGAC based on consultation and documentation with HHs throughout the *soum* provides an important mechanism to integrate the PMPs into a broader multi-sectoral land use planning process. Where feasible, the process of this integration should continue to be encouraged.

126. **Monitoring Complex Ecosystems:** Committing to identifying and quantifying improvements to complex ecosystems associated with interventions supported by projects of 5 or 6 years in duration is fraught with risk. By definition there exist too many externalities (socio-economic and environmental) that are beyond the control not only of project managers and beneficiaries but also in many cases the broader society. Over LOP the financial crisis of 2014 and the occurrence of drought in the latter years of the project were two such externalities. While the logframe suffered from a number of problems to the component's team credit no indicators were included to attempt to measure pasture restoration which will be a long-term process. This however does not mean that establishing bio-physical monitoring points, ideally with the participation of HHS, is not warranted.

127. As the project continues with IFAD additional financing, **the TER recommends to strengthen the following areas:**

(1) Continue to Provide Support to Existing HHGs: The HGs formed and supported under the component appear to be well organized and many are likely to continue to meet together and work in the future in a collaborative fashion. Nevertheless, they would likely benefit from future support under the AF in particular in the better management of the RF and assisting in the shift to PMG-based cooperatives. Were AF activities are based in the same *aimag* as the former component, consideration should be given to how to include them in particular in capacity building and KM activities at little additional expense.

(2) Conduct the Start-up Workshop with Facilitator to develop a participatory logframe and communicate it widely: The consequences of the absence of a useful logframe continued throughout the life of the project and contributed to problems in completing a final evaluation of component outputs and outcomes, although this problem is fixed in 2017. The logframe is a basic tool for monitoring project progress towards achieving its stated outcomes and objectives and is applied universally by international finance institutions. A robust logframe should be developed for the AF (with a facilitator if required) with active participation of the PMU. It should be updated on an annual basis in anticipation of the arrival of each supervision mission to be used as a tool to monitor progress of the project and attached to the SPR mission reports as an annex. Alternatively, consideration should be given at least on a pilot basis for the purposes of the AF, linking relevant biophysical indicators to the RIMS process including establishing baseline conditions and use of SMART indicators.

(3) Baseline establishment: A key element of the logframe is the establishment of an appropriate baseline relevant to the specific indicators employed in this monitoring tool. Ideally, this should be done prior to project appraisal but no later than at in the first project year.

(4) Preparation of project implementation (PIM) manual: PIM is a powerful tool that facilitates early start-up to project execution. If a PIM had been prepared some of the earlier issues experienced by the PMPMD may have been avoided.

(5) Use of soum facilitators after project life: The project facilitators became a major asset over the life of project. They interacted between the Service Providers, *soum* governors, government technicians and the herders and were a major factor in contributing to the success of component impact at the local level. Now that their contacts have ended they are seeking out other opportunities and will rapidly be lost as a resource to the AF. Actions should be taken to retain contact for possible future support of the AF (e.g., as consultants, knowledge management, trainers etc.)

(6) Land use Planning: The most effective means to ensure the future sustainability of the PMPs supported under the project (and AF) is to ensure their integration into the on-going ALAGAC national land use planning program. Due to budgetary constraints only selected soums are being covered on an opportunistic basis associated with the availability of external funding sources. Under AF, consideration should be given to sharing the costs of plan preparation costs with ALAGAC, Green Gold Project and other potential financing entities.

(7) Participatory PHG Monitoring: There exists an opportunity to bring herders into the monitoring of pasture, soil and associated meteorological conditions. This not only complements and addresses gaps in the existing national monitoring programs but provides a means to get herders more closely involved with better understanding of the need for the sustainable management of the primary resource on which their livelihood depends. There exists ample and successful precedent of incorporating resource users from other natural systems (e.g., coastal fisheries, protected areas) into data collection that also had utility for government and scientific monitoring of these complex ecosystems. This should be considered if only on a pilot basis under the AF and incorporate the photo-monitoring technology supported by NMEM.

Tables

Table 1. *Aimags* and their Respective *Soums* Selected for the PMCCA Component[1]

No.	Aimag	Soums	WG Soums	No. of Overlap
1	Arkhangai	Battsengel, Olziit & Ogiinuur	Ihtamir, Erdenebulgan, Olziit, Batstengel, *Undur-Ulaan, Ulziit, Chuluut, Tariat, Tsenkher, Erdenebulgan, Erdenemandal, Khotont*	2
2	Bulgan	Dashinchilen, Gurvanbulag & Rashaant	Hangal, Bugat, Orkhon, Bulgan, *Bayan-Agt, Mogot, Khishig-Undur, Khutag-Undur, Khyalgant, Saikhan, Selenge*	0
3	Gobi-Altai	Tsogt, Tseel & Altai	Taishir, Delger, Esenbulag, Guulin, *Bayan-Uul, Biger, Khukhmorit, Jargalan, Chandmani, Tugrug, Esonbulag*	0
4	Khuvsgul	Tsetserleg, Tsagaan-uul & Burentogtokh	Alag-Erdene, Hatgal, Moron, Tunel, *Galt, Ikh-Uul, Tarialan, Tumurbulag, Tosontsengel, Shine-Ider*	0
5	Khentii	Tsenkhermandal, Delgerkhnaan & Darkhan	Bayan-Ovoo, Moron, Delgerhaan, Herlen, *Bayan-Adraga, Batnorov, Bor-Undur, Galshir, Norovlin, Jargalant khaan*	1
Totals	**5**	**15**	**54**	**3**

[1]VC soums in italics were added after the initial; RIMS impact survey.

Table 2. Re-allocation and Disbursement of Funds from the SCCF Grant

Categories	As a Financial Agreement	%	After re-allocation	%	Disbursement	%
I. Vehicles and equipment	60,000	4%	102,750	7%	74,681	73%
III-a. Tools, materials	340,000	23%	490,000	33%	449,197	92%
III-b. Economic Development Costs	930,000	62%	907,000	60%	833,504	92%
VI. Field management, operating and maintenance costs	22,000	1%	250	0.02%	243	97%
V. Unallocated	148,000	10%	0			
Authorized allocation (DA)					98,151	
Total	1,500,000.0	100%	1,500,000.0	100%	1,455,776	97%

Table 3. Selected Data from Pasture Herder Groups in Project-assisted Soums

Soums	PHGs	No. of project member HHs	% of Total herding HHS	Estimated Pasture covered under Project (ha)	% of Total Pasture	No. of Livestock covered under Project	% of Total Livestock
Arkhangai	24	515	23.7%	310,627	638,057	175,014	20.6
Battsengel	8	226	26.4%	203,300	64%	80,303	24%
Olziit	8	127	19.5%	53,120	33%	36,802	15%
Ogiinuur	8	162	25.2%	54,207	34%	57,909	23%
Bulgan	24	416	28.8%	123,800	NA	217,293	30
Dashinchilen	8	128	23.5%	NA	NA	69,166	26%
Gurvanbulag	8	148	28%	95,000	44%	67,273	21%
Rashaant	8	140	35.1%	28,800	40%	80,854	43%
Gobi-Altai	24	691	63.3%	1,207,269	5,048263	1,207,269	51.6
Tsogt	8	308	40%	871,461	24%	82323	29%

Tseel	8	149	50%	191,000	35%	65237	49%
Altai	8	234	100%	871,461	100%	66487	77%
Khuvsgul	24	539	20.6%	384,818	1,811,580	179,239	19
Tsetserleg	8	111	10%	77,200	22%	35,956	13.8%
Tsagaan-uul	8	182	18%	212,000	46%	58,812	17%
Burentogtokh	8	246	33.8%	95,618	38%	84,471	26%
Khentil	24	522	47%	NA	NA	278,248	48.7
Tsenkhermandal	8	259	71.3%	NA	NA	159,500	91%
Delgerkhnaan	8	96	32.3%	NA	NA	42,179	18.4%
Darkhan	8	167	37.6%	NA	NA	76,569	36.8%
Totals	**120**	**2,683**	**36.6%**	**2,026,514**	**33%**	**1,063,841**	**34.8%**

Table 4. PMCCA Component-related Investments by Target Beneficiary

No.	Activities	Project target	Achievements	%	Target beneficiary
1	New wells	46	64	139%	PHG
2	Well rehabilitation	NA[1]	16	NA	PHG
3	Provision of small-scale tractors	120	120	100%	PHG
4	Sprinklers	100	40	40%	PHG
5	Protection of spring source	100	95	91%	PHG
6	Fencing of hay making areas	100	53	53%	PHG
7	Solar panel for poor HHs	30	45	150%	PHG
8	Water harvesting ponds	5	10	200%	PHG
9	Well rehabilitation	10	16	160%	All herders of Soum
10	Building of hay shed and fodder storage	NA	2	NA	All herders of Soum
11	Rodent control (ha)	NA	51,225	NA	All herders of Soum
12	Protection of hay making areas (ha)	NA	37,360	NA	PHG
13	Model animal shelters	110	25	NA	All herders of Soum
14	Vet and breeding support	NA	6	NA	All herders of Soum
15	Rehabilitation of herders's training rooms	NA	15	NA	All herders of Soum
16	Automatic weather stations	12	12	100%	All herders of Soum
17	Support for soum weather stations	NA	5	NA	All herders of Soum
18	Provision of mobigater data systems	15	15	100%	All herders of Soum
19	Support for soum land officers	15	12	80%	All herders of Soum
20	Support for aimag agricultural departments	10	10	100%	Public servants
21	Support for aimag vet and breeding centers	5	5	100%	Public servants
22	Herders' mobile libraries	120	120	100%	PHG
23	Herder group revolving fund	120	120	100%	PHG
24	Support for herder cooperatives	NA	2	NA	PHG and other herders

[1]NA signifies that no component target was established.

Table 5. Accumulative Output Targets by Project Year as Measured by PIR

Main Indicators	Baseline	Target	PIR and Dates				
			PIR 1 (1/7/13 – 30/6/14)	PIR 2 (1/7/14– 30/6/15)	PIR 3 (1/7/15 – 30/6/16)	PIR 4 (30/6/16 – 25/5/17)	Total
Pasture herder groups formed and PMPs issued	0	120	60	120	120	120	120
PHG member HHs moving on time in relation to PMP spring/summer pasture rotation targets[1]	NA	95 %	17%	95%	79%	17.8%	52 % (ave)
Expansion (remote pasture use) pastures in project areas (in hectare)	NA	NA	33,651	56,391	143,940	72,413	76,599 (ave)
Beneficiaries reported decrease of livestock mortality & livestock diseases[1]	NA	60 %	11%	91%	79%	38%	55 % (ave)
PHGs that increase hay-making and fodder production compared to the original group target level[1]	NA	50 %	25.5%	86%	58%	33.7%	50.8% (ave)
At least 50% of beneficiaries reported increase of their livestock production[1]	NA	50 %	9%	91%	69%	51%	55% (ave)
Number of trainees trained in climate change adaptation	0	NA	340	448	1,072	1,072	1,072
Number of mobigaters distributed	0	NA	0	15	15	15	15
Number trainees in index based livestock insurance		450	0	1,300	1,300	1,750	1,750
Number of trainees in vocational training	0	30	43	43	83	83	83
New well drilling and exploration	0	10	23	35	54	64	64
Well rehabilitated	0	16	0	1	1	16	16
Construction of hay shelter and fodder storage	0	2	2	7	11	16	16
Number of fenced spring sources	0	20	29	53	73	93	93
Number of fenced hay making area	0	20	15	46	56	56	56
Small tractors distributed with hay making accessories	0	120	60	60	120	120	120
Water harvesting point	0	2	2	5	8	10	10
Number of livestock winter shelters constructed	0	5	0	12	19	19	19
Number of *soums* training and information centers rehabilitated	0	8	0	0	7	15	15
Number of ha rodent control activities conducted	0	15,000	0	8,420	43,000	51,420	51,420
Number of ha of pastoral area protected	0	40,000	0	0	37,321	79,573	79,573

[1]Thes values expressed in percentages determined through extracting data from only project – supported households sampled in the RIMS surveys of 2012 and 2016.

Table 6. Measurable Attainment of Outputs

Impacts	Objectively Verifiable Indicators		Baseline	MTR	Attainment of Objectives & Planned Results
	Indicators	Target			
Outputs – Component 2					
Effective pasture management organizations created and management plans formulated and approved	- pasture units and pasture herder groups (PHG) established and trained	- at least 115	0	120	120
	- participation of women in PHG decision making bodies[1]	- at least 50 %	0	35%	35%
	- pasture management plans (PMP) prepared and incorporated in the approved Soum land management plan[2]	- 80 % 0f PMPs	0	60	12
	- PMPs implemented satisfactorily[3]	- at least 80 %	NA	NA	NA
Investments completed in activities identified in the Pasture Management Plans that will increase the resilience of herders to climate change impacts	- PU pasture land under improved management practices[4]	- at least 80 % (of total pasture covered by PMP)	0	5.3 % (98,684 ha)	24 % (438,344 ha)
	- water points improved or constructed[5]		0		
	- hay making areas fenced[6]	- at least 115	0		80
	- fodder and hay reserves created and managed by PHGs[7]	- at least 300 ha	0	36	42,252
	- additional winter shelters constructed[8]	- NA		148	16
	- poor households supported with renewable energy facilities[9] (see SPR 1)	- 100	0	7	19
	- poor households assisted with seasonal mobility[10] see spr 1)	- 100	NA	12	30
		- 120		30	NA
				NA	
Knowledge of herders and local government to adapt to climate change increased and improved enabling environment to reduce vulnerability of herders to the impacts of climate change	- members of PHG's trained in improved pasture management practices	- 80 %	0	90%	90%
	- climate change awareness raising activities completed	- 115 PHG, 15 soums and 5 aimags	0	120	120
	- animal husbandry extension workers trained	- 30	0	140	140
	- water well maintenance technicians trained	- 30	0	32	32
	- potential climate change adaptation technologies demonstrated	- at least 8	0	8	8

[1] Thirty percent or 36 PHG leaders were female and 40% of member of RF approval committee.
[2] Incorporation refers to a list of activities, location, total area and responsible bodies to implement these activities. In general, spatial map is used only for land possession right issue rather than pasture management. The use of spatial plans is a new government which to date has only prepared only plans for 9 out of 312 soums nationwide.
[3] No guidance was provided on what constituted "satisfactory" implementation.
[4] For purposes of the TER improved pasture management was interpreted to be that area of pasture that benefited from the following investments: (i) new and rehabilitated wells (306,000 ha), (ii) fenced and guarded pasturelands (79,344) and (iii) rodent control (53,000 ha). The total area was defined as the area in aggregate covered by PMPs estimated to be 1,838,038ha.
[5] The target is referring shallow wells. Following the recommendation of the 2011 Inception Report, deep/engineering wells was recommended due to lack of near-surface water resources. The new target established by the 2012 supervision mission was 46 new engineering wells which were surpassed by EOP (64 wells). Sixteen existing water wells were established.
[6] In 2013 and 2014, the project supported fencing hay making area but this activity was discontinued in 2015 when the practice of guarding larger grazing reserves by appointed herders was introduced in project soums which proved to be a more cost-effective method of seasonal protection of pasture lands than fencing.
[7] Number of constructed and rehabilitated hay shed and fodder storage at soum level. No target was provided.
[8] Investments for winter shelter was not supported by GOM under the project and was deleted from the revised list of investments in 2012. However 19 were built to serve as demonstration for the interested groups.
[9] This activity was deleted from the revised list of investments in 2012 as the World Bank's Renewable Energy and Rural Electricity Access Project supported the distribution of solar panels.

[10] Government policy was not to provide direct cash support to beneficiaries. In this activity was not included in the revised list of investments nor in the revised logframe.

Table 7. Attainment of Outcomes

Outcome	Verifiable Indicator	Baseline	Target	MTR	EOP
2.1. At least 50 % of HHs in 15 target soums collaborate effectively in joint management of pastures that are part of soum land management plan	# of PMPs integrated into soum land management plan	0	50	50	100
2.2. Knowledge and capacity of local government and 50 % of HHs in 15 target soums to adapt to climate change improved to better cope with climate variability and extreme events.	- Number of herders participated in local, government-led training workshops[1] - % of HHs reporting decrease in livestock mortality and livestock disease	0 3.7 % average total lost of livestock	NA NA	4,140 NA	5,050 1.1%
2.3. Soum land management plans which integrated HG PMPs are actively enforced by local government (policies, regulations, budget) to increase resilience of herders to climate change impacts.	5 *aimags* and at least 12 *soums* allocate budgets for direct support to PMPs[3]	0	5 aimags and 12 soums	9	12

[1]Situation varies by soum dependent on local government initiatives (e.g., in one soum every year the soum organizes Herders's workshop and also a team comprising of vet and breeding specialist and other technical people visit all baghs and conduct training of herders).
[2] From RIMS survey of project households.
[3]The main investments were: well rehabilitation, support of green fodder production, improvement of mountain road for better mobility, rodent control activities, building of Vet service fence, loans to herders from the soum fund for hay making.

Table 8. IFAD SPR Mission Assessments of Project Parameters (from AM)

AM Evaluation Parameter	Supervision Mission and Dates					
	SPR 1 (24/9/12 – 5/10/12)	SPR 2 (20/6/13 – 7/7/13)	SPR 3 (MTR) (15/6/14-5/7/14) – MTR	SPR 4 (2/6/15 – 3/7/15)	SPR 5 (17/10/16 – 28/10/16)	SPR 6 (TER) (8/10/17 – 20/10/17)*
Overall PI	S	MS	MS	NA	NA	S
Overall Component 1	MS	MUS	MS	S	S	MS
Overall Component 2	MS	S	MS	S	S	S
Overall PM sub-component	MS	S	MS	S	NA	S
Overall CC adaptation sub-component	MUS	S	MS	S	NA	HS
PM component	S	MS	NA	S	MS	MS
PI performance	S	S	S	NA	MS	S
M&E	MS	S	MS	S	S	S
Gender focus	S	S	S	S	S	MS
Poverty focus	S	S	MS	S	S	MS
Targeting focus	S	S	S	S	S	S
KM	MS	MS	S	S	S	S
Focus on CC and environment	NA	NA	NA	S	NA	S
Partnerships	NA	MS	MS	NA	NA	S
Fiduciary management	MS	MS	MS	MS	MS	MS
Disbursement	MS	S	S	MS	MS	S
Counterpart funding	NA	MS	S	NA	S	S
Covenant compliance	NA	MS	S	S	S	MS
Procurement	NA	MS	MS	S	S	S
Audit	NA	MS	MS	S	S	MS
Effectiveness	NA	NA	NA	NA	NA	S
Agricultural Productivity	NA	NA	NA	NA	NA	S
Adaptation to CC	NA	NA	NA	NA	NA	HS
Policy engagement	NA	NA	NA	NA	NA	HS
Rural people's organization	NA	NA	NA	NA	NA	MS
Human and social capital	NA	NA	NA	NA	NA	S
Quality of beneficiary participation	NA	NA	NA	NA	NA	S
Responsiveness of SP	NA	NA	NA	NA	NA	MS
Environment and NRM	NA	NA	NA	NA	NA	S

Sustainability	NA	NA	NA	NA	NA	MS
Scaling-up	NA	NA	NA	NA	NA	S
Quality of project management	NA	NA	NA	NA	NA	MS
Innovation	NA	NA	NA	NA	NA	S
Coherence between AWPB and implementation	NA	NA	NA	NA	NA	S
SECAP	NA	NA	NA	NA	NA	S

*Includied ISM for AF project

Table 9. Matrix of Supervision Missions to Project-supported *Aimags*

No. and Date	Project *Aimag*				
	Arkhangai	Bulgan	Gobi -Altai	Khuskhul	Khentil
1. 9-10/2012	-	-	-	-	-
2. 6-7/2013	X		X	X	
3. 6-7/2014		X		X	X
4. 6-7/2015	X				
5. 10/2016	-	-	-	-	-
6. 10/2017	-	-	-	-	-

Table 10. Training and Workshops Supported under PMCCA Component

No	Training and workshop	Number of participants		% Women
		Total	Female	
1	Pasture management training	2,289	726	32
2	Photo monitoring	35	28	80
3	Pasture monitoring and introduction of pasture mapping	34	12	35
4	Utilization of mobigater	15	13	87
5	Vet and breeding training	1,798	717	40
6	Vet and breeding trainers' training	140	56	40
7	Cooperative training elementary level/herder group management	741	245	33
8	Cooperative training advanced level	379	141	37
9	Value chain training	195	77	39
10	Well technician training	32	1	3
11	Vocational training	83	31	37
12	Index based livestock insurance	1,750	742	42
13	Prevention of livestock infectious disease and outbreak control measures	14	6	43
14	Technology of dairy production	33	13	39
15	Climate change adaptation	1,266	567	45
16	Herder group experience sharing work shop	1,167	540	46
17	Study tour in inner Mongolia, china	16	6	38
18	Management workshop	158	63	40
	Totals	**10,145**	**3,984**	**39**

Table 11. Cooperating Institutions under the PMCCA Component

№	Name of Institutions	Activities
Government organization		
1	Bag governor	Bag governors were trained in climate change adapation and bag governors were provided insentives for superving and guiding herders project investmenst at bag level
2	Soum governor and governor's office	All soum governor were contracted with project on cooperation and soum working groups are headed by soum governor or head of soum representative meeting. Project works are under the control of soum administration
3	Soum vet and breeding unit	Staff of units were trained as trainers and with the project support they conduct trainings of climate change adaptation, vet and breeding topics
4	Soum land officers or pasture officers	Supports of GPS and laptop were provided to sum land officers and they were trained in photo monitoring method for pasture condition and implemented the work in their soums
5	Soum meteorological stations and posts	Supports of automatic weather stations in seven sums and workplace improvement in five soums and all soums were provided with mobigater device for weather forecast delivery
6	Aimag Agricultural Departments	The department supervised project works implemented in the soums under the contract with PMU and office and professional equipment were supplied to the departments
7	Aimag meteorology and hydrology departments	Climate change adaptation training was conducted by the departments under the contract with PMU
8	Institute of Meteorology and Hydrology	Memorandum of understanding on cooperation was signed
9	National Emergency Management Agency	Hay sheds rehabilitated by the project in Tovshruuleh, Arkhangia and Tsgaan-Uul soums (Khuvsgul) are under National Emergency Management Agency.
10	Research Institution of Livestock Husbandry	Cooperate in Climate change adaption activities including training.
Non-government organizations		
11	AGROM Rural Development Center	Work as project service provider for PMCCAC (2014-2016)
12	Mongolian Range Management Association	Work as project service provider for PMCCAC (2012-2013)
13	Mongolian Cooperative Training and Information Center.	Cooperative training has been conducted
14	National Association of Mongolian Agricultural Cooperatives	Cooperative training has been conducted
15	Index based livestock Insurance Project (World Bank)	Index based livestock insurance trainers were trained under the PMPMD
16	Green Gold Project (SDC)	Organized study tour in Gobi-Altai aimag in 2014
17	**Private Institutions**	
18	**V**arious	Suppliers of good (tractors, equipment and etc.) and work executors (well digging and rehabilitation etc.) were private companies selected under the open bidding.

Figures

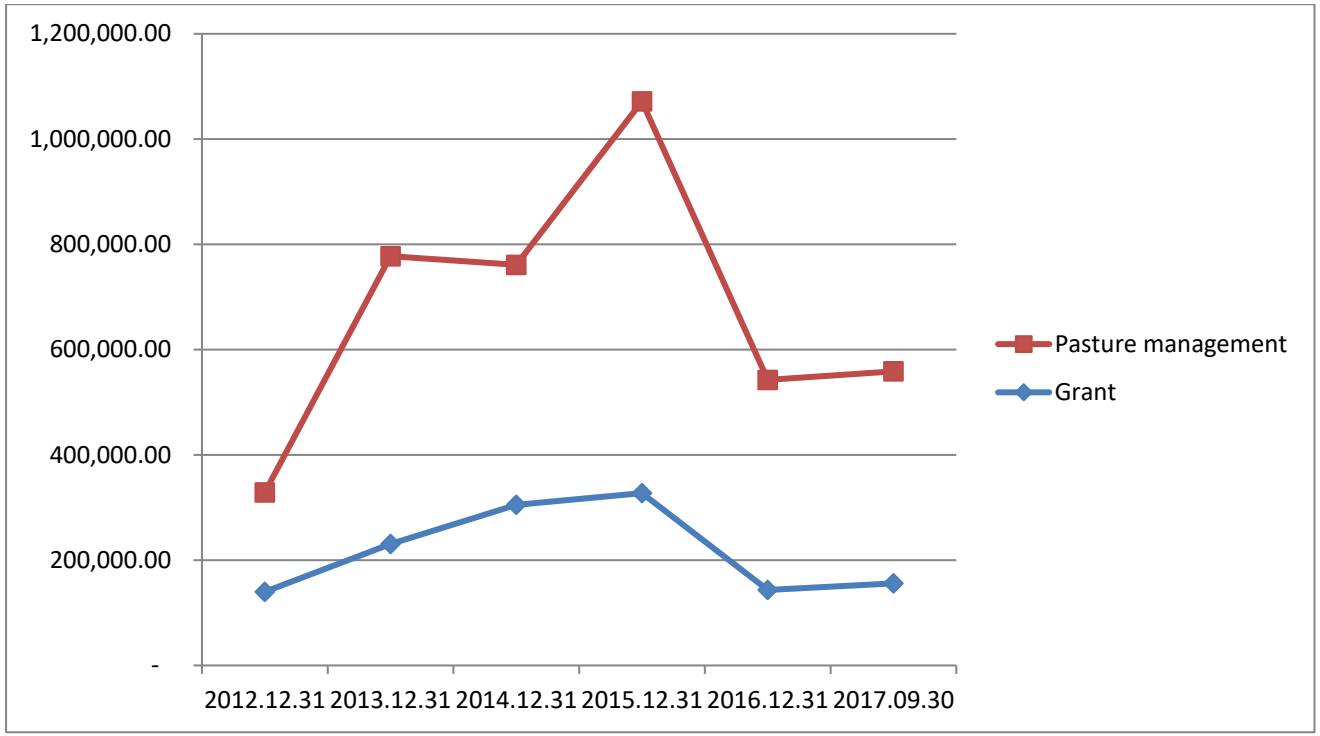


Figure 1. Disbursement Curves for Loan and Grant funds under PMCCA Component

Maps

Mongolia

Project for Market and Pasture Management Development

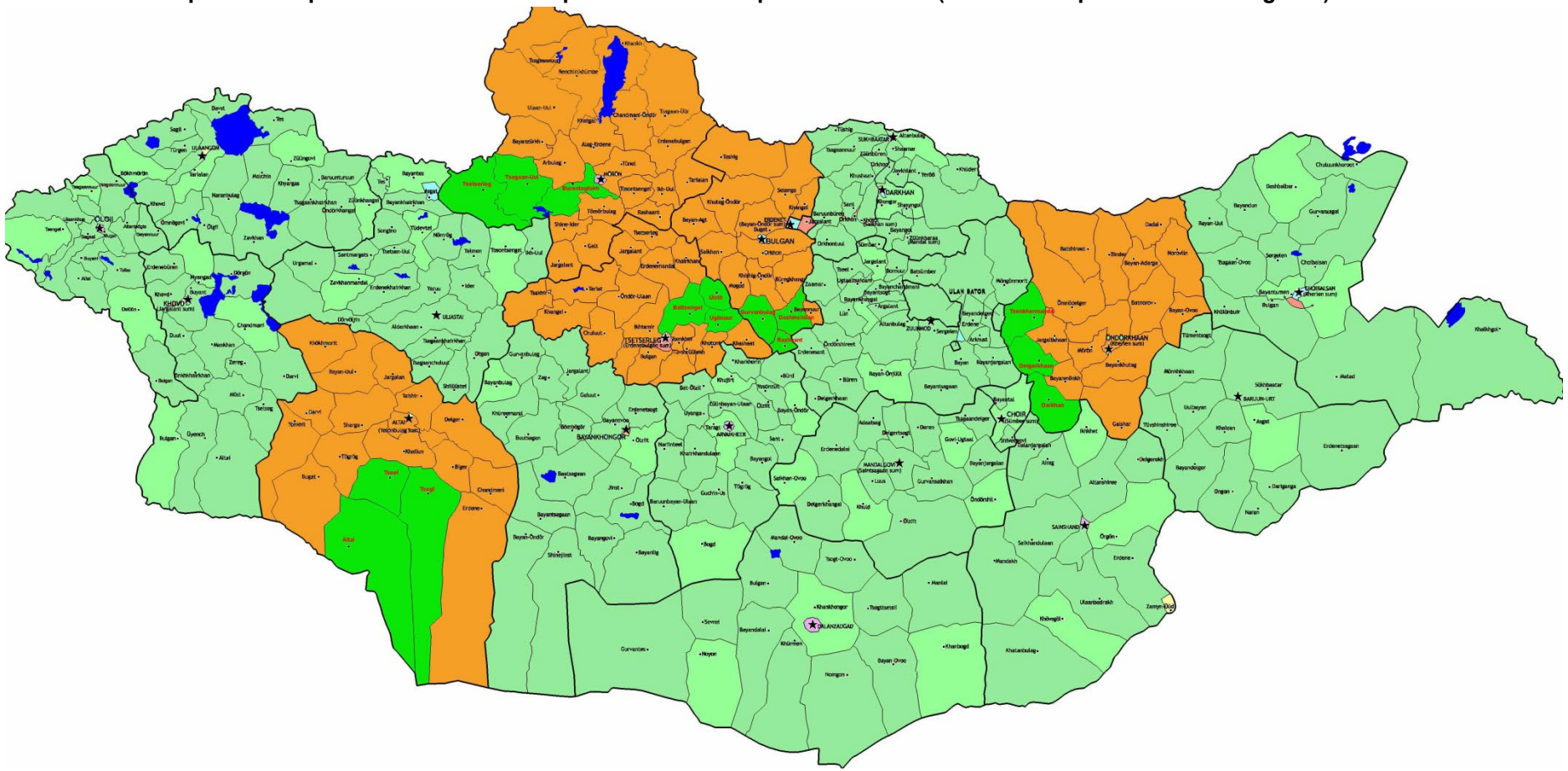
Design report

The designations employed and the presentation of the material in this map do not imply the expression of any opinion whatsoever on the part of IFAD concerning the delimitation of the frontiers or boundaries, or the authorities thereof.

Map compiled by IFAD

Map 1. Project Base Map

Map 2. Overlap between PMPMD Component 1 and Component 2 Soums (PMCCA component soums in green)



Photographs

Photographs of Project Funded Investments

Photo 1. Rehabilitated water well. In Ugiinuur soum of Arkhangai province.
Location: Senj, Doit bag,Ugiinuur soum, Arkhangai Province
Coordinate: 47.575611, 102.356373

Photo 2. Project sponsored tractor of Khurenkhudag PHG.
Location: Khurenkhudag, Doit bag, Ugiinuur soum, Arkhangai province.
Coordinate: 47.592266, 102.413986

Photo 3. Pasture border drawing on leaders note of Khurenkhudag PHG.
Location: Khurenkhudag, Doit bag, Ugiinuur soum, Arkhangai province.
Coordinate: 47.592266, 102.413986

Photo 4. Project sponsored Hay shelter and fodder storage complex.
Location: Ulziit soum, Arkhangai province.
Coordinate: 48.116007, 102.541860

Attachments

Attachment 1: Rural Poverty and Agricultural/Rural Sector Issues[14]

Priority Areas	Affected Group	Major Issues	Actions Needed
Value Chains	Herders/farmers and households in Soum and Aimag centres, particularly the poor	☐Decreasing quality of raw materials ☐Undifferentiated output ☐ Under-utilisation of industrial processing capacity ☐Intermediaries do not value quality ☐Few direct purchase arrangements between producers and buyers ☐ Herders/farmers lack of access to finance/ing	☐ Development of short value chains, direct sales by producers to processors, super-markets, exporters ☐ Formation of herder/farmer groups for marketing and integration in value chains ☐Differentiation of production by grading, sorting, packaging, labelling, primary processing by producers; ☐Contracting for quality and premium pricing ☐Value chain financing for producers by financial institutions ☐Provision of loan guarantees
Rural Finance	Herders/farmers and households in Soum and Aimag centres, particularly the poor	☐Limited outreach of most banks ☐Lack of collateral ☐Collateral policies of banks ☐High interest rates ☐Short maturities	☐Expansion of bank outreach and branch network ☐Coverage of risks by other means than collateralisation ☐Increased competition between lenders for lower interest rates, both on deposits and loans ☐Group lending and application of Self Help Group approach
Pasture Management	All herders, in particular poor herders. Indirectly affecting larger portion of population as poor/very poor migrate to urban areas. Migrations from degraded areas affect other areas, provinces.	☐ Unregulated pasture use leads to pasture degradation and conflicts; it enhances disparities and perpetuates poverty. ☐Loss of water sources	☐ Implement models of community based pasture management that provide incentives for herders/pasture users to invest in and maintain sustainable pasture use, while maintaining key common use resources (grazing reserves/otor areas, major water sources, migration routes), developing inter-group agreements to accommodate migrations in extreme conditions, and promote equity (access, benefits) for all group members. Put into practice, in different ecological regions, concept of “possession” by pasture user groups, based on local conditions and traditions. ☐ Support in pasture improvements within pasture units managed by pasture user groups with established norms, pasture management plans, co-funding and enforcement capacity
Livestock Numbers and Carrying	Herders, particularly poor and average. Larger portion of	☐ Livestock numbers in most areas by far exceed carrying capacity	☐ Implement “possession” concepts that provide incentive for sustainable use of pasture, promote value addition to products, enhance productivity.

[14] From Design Report

Capacity	population, as above.		☐Education and training on carrying capacity ☐Technical assistance in determining carrying capacity
Climate Change	All herders in extensive livestock systems, in particular poor herders.	☐Pasture degradation ☐Inability to face normal and extreme climatic condition	☐Innovative measures for water harvesting and conservation ☐Irrigation infrastructure for fodder and hay production ☐Livestock insurance
Income generation, poverty reduction, through value addition and diversification	All herders, particularly poor and average	☐Low income from livestock, falling prices for livestock products, no/few skills and opportunities for value addition	☐Develop opportunities for value addition to livestock products, ☐ Processing skills training, small grants for start-ups, business skills training, support in product development
Women's workload and unpaid labour	Herder women	☐High workload of herder women, and unpaid labour (unpaid, extended SNA) of women in household economy. ☐Women have less opportunities to engage in social activities , decision making, access to information	☐ Gender and social analysis to fine-tune activities, group formation to reduce workloads, abour division, women"s groups/institutions within pasture user groups, women interest groups. Micro-finance for women"s groups, registration as legal business entity.

Attachment 2. PHG Formation Process

The attribution of user and/or possession rights to the Groups would be part of the registration process. Groups would be supported to define their by-laws according to a model provided by the project. The following steps will be implemented over a ten month period by a contracted Service provider who will contract and train local PHG Facilitators in each soum:

☐ Training/Workshop for Soum Government Officials on Project Approach on Pasture Management, on Target Groups and on targeting Strategies, jointly for participants from three Soums.

☐Inception Workshop in each Soum

☐Training for candidate PHG facilitators (resource persons) in each Soum

☐Capacity Building for PHG Facilitators

☐"Face-to-Face" Meetings and Trainings with herder households

☐Initial Meeting with Households in Local Area (indicative PU)

☐ Workshop in Soum to discuss Establishment of PUs and PHGs (Pasture Units and Pasture Herder Groups)

☐Meetings in (indicative) PUs, with all Households using PU

☐Bagh Meetings and Recognition of (preliminary) PU boundary by Soum Khural

☐Meetings to establish Pasture Herder Groups (PHGs)

☐Training for PHG Members in Organizational Development

☐ Training in Pasture Management for all PHG Member Households, with all PHGs established

☐Preparation of a Three-Year Pasture Land Management Plan, and of an Annual Activity Plan with all PHGs established.

☐Stakeholder and Local Government Agreements, Commitments to Pasture Management and Annual Activity Plans, integration in Soum Land Use Plans

☐Training for PHG Council Members in Leadership and Financial Management

☐ Development and Establishment of Participatory Monitoring and Evaluation System (P M&E) with all PHGs

☐ Month 10 onwards - Implementation of Annual Activity Plan in Pasture Management (towards objectives of three year pasture management plan)

Annexes

ANNEX 1. TERMS OF REFERENCE (TORS)

Terminal Evaluation

Mongolia – Project for Market and Pasture Management Development (PMPMD)

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1. Background

1. "The Project for Market and Pasture Management Development (PMPMD)" (hereinafter referred as "the Project") aims to contribute to empower poor rural women and men to achieve higher incomes and sustainable improvements in their livelihoods. The Project's development objective is to reduce poverty, improve livelihoods of poor herders and soum and aimag centre households in the project area, which is in line with the Mongolian Government's overall poverty reduction strategy.

2. The Project comprises of the following 3 components:

- Market development
- Pasture Management and Climate Change Adaptation
- Project Management and Policy Support

3. PMPMD was approved by the IFAD Executive Board in May 2011 with a loan of SDR 7.25 million (equivalent to approximately US$11.5 million at the time of approval) on highly concessional terms and a grant of US$1.5 million funded by the Global Environment Facility (GEF)'s Special Climate Change Fund (SCCF). The total project cost amounted to US$ 18.4 million, including an IFAD loan of US$ 11.5 million; GEF/SCCF grant of US$ 1.5 million; government's contribution of US$ 0.9 million; beneficiaries' contribution US$ 0.2 million, and private sector contribution of US$ 4.3 million.

4. The project became effective on 26th August 2011 for the implementation period of five years. The Project Completion Date was 30 September 2016 and the closing date was 31 March 2017. Then in February 2016, the government of Mongolia requested an additional financing of US$ 9.06 million. This request was combined with a 5-year extension of the PMPMD. The Executive Board in September 2016 approved the additional financing (IFAD loan only without further GEF financing) with its new completion date of 30 September 2021 and its closing date of 31 March 2022. Further to that, in April 2017 the Government of Mongolia and IFAD clarified and agreed during the IFAD supervision and implementation support mission that the GEF financed investment will be extended by one year only from the original completion date. The completion date of GEF financed activities will be 30 September 2017.

5. The PMPMD target areas are located in five provinces or *Aimags*: Arkhangay, Bulgan, Gobi-Altai, Huvsghul and Khentii. The Project target beneficiaries are: (i) poor producers, herders, and women living in project-supported soums, soum centres and baghs; and (ii) emerging micro-enterprises and cooperatives that have backward linkages with PMPMD target groups to participate in value chains. The GEF financing was provided to the Component on Pasture Management and Climate Change Adaptation only. Under this component, a total of 15 soums were selected in 5 project aimags (three soums per aimag). The project targeted to form 120 Pasture Herder Groups (PHGs) in 5 aimags.

2. Objective and Scope of the Evaluation

7. The objectives of the Terminal Evaluation (TE) are:

- To examine the extent and magnitude of project outcomes to date and determine the likelihood of future impacts especially relating to environmental sustainability;
- To provide an assessment of the project performance, gender disaggregated achievements, and the implementation of planned project activities and planned outputs against actual results
- To synthesize lessons learned that may help in the design and implementation of future IFAD, IFAD-GEF or pasture management and climate change adaptation related initiatives

8. The specific tasks of the TE are:

- To assess strategic alignment and relevance of project to local/country contexts/developments and other performance domains following the relevant guidelines and templates;
- To assess and report on the progress towards long-term impacts and the extent to which the key assumptions of the project's theory of change hold;
- To assess the technical/physical results and financial achievements of the project since the approval of the Grant Agreement, including alignment with GEF policies and strategies, attainment and measurement of global environmental benefits and mobilisation of co-financing;
- To assess the results achieved with relation to each project component in the respective aimag and soum levels, against the project logical framework, Annual Work plans and Budget (AWPBs), Procurement Plans.
- To assess stakeholder engagement (including community) in the project in general and in specific interventions, and their level of benefit from and satisfaction with implementation;
- To identify strengths and weaknesses, as well as challenges and opportunities encountered during implementation. This will include a review of project delivery mechanism of the project, including the functioning of counterparts;
- To assess any risks affecting sustainability of project outcomes;
- To assess performance and robustness of project M&E system for recording results, informing implementation and facilitating learning;
- To review the performance of financial management and flow of funds arrangements, and procurement and contract management;
- To review compliance with Grant Agreement Covenants;
- To collate all knowledge products and assess their relevance, quality and outreach in advancing the projects objectives; and
- To synthesize lessons learned and best practice, and provide guidance on key areas that need further attention.

3. Methods and process

9. The evaluation will follow IFAD and GEF evaluation guidelines and policies. The methodology of the TER will adopt the following as per IFAD Evaluation Manual:

- **Step 1: Preparation**
    - Review and validate the Project Completion Report (PCR). The final PCR will be shared with the evaluation team by 11 September 2017 and further comments/discussions will be accommodated before the TER mission begins.

  - Prepare an approach paper which identifies key evaluation partners, specific evaluation methods and techniques for data collection. The approach paper with 3-5 pages long will provide the following aspects:
    - Evaluation Framework: The framework can be shown in a matrix that presents the linkages among the project evaluation objectives, the evaluation criteria and the overarching and subsidiary issues (to achieve the evaluation objectives). Sources of data collection are specified in the bullet points in this TOR and can be modified during the evaluation design.
    - Timetable: Dates of travel and deadlines are already provided in this TOR. A detailed travel schedule can be discussed with the Project Management Unit (PMU) facilitated by the IFAD Mongolia team.
- **Step 2: Desk Review**
  - A desk review of project and other relevant documents including, but not limited to:
    - The project documents, key outputs, monitoring reports (such as progress and financial reports to IFAD, Mid-Term Review [MTR], GEF annual Project Implementation Review (PIR) reports and M&E data) and relevant correspondence
    - External sources and other relevant documents with up-to-date information on the project
    - Consolidated Project Completion Report submitted by the Project to IFAD
    - Other project-related material produced by the project staff or partners;
    - Relevant materials published about the project; and
    - Additional information and opinions from representatives of donor or government agencies and other organizations as required
- **Step 3: Field Mission and Data Collection**
  - Meeting with the PMU to discuss project results, implementation modalities and agency support to project implementation
  - Review and assess project implementation, results achieved, outcomes at aimag and national levels, and challenges experienced and solutions adopted
  - Visits to selected field sites to assess the results achieved, outcomes at the local level, and barriers to implementation experienced
  - Organize focused group discussions in-country and in the field with the target communities and project stakeholders
- **Step 4: Preparation of draft final report and review**
  - Present initial findings to IFAD, PMOs and other stakeholders.
  - Refine and conclude the Terminal Evaluation based on the feedback received at the validation workshop.

4. Responsibilities

10. The TER mission will be conducted by the following consultant:
    - Mr. Random Dubois – Environment/Natural Resource Management Specialist

11. The specific tasks for this TER mission are the following:

- Review the Project Completion Report and validate through online and in-person consultation with IFAD and PMU
- Review the overall progress and results of the project. Assess to what extent the development goal, objective, outcomes and outputs have been achieved
- Assess the project according to the GEF TER guidelines (2017) and rate the achievement following the rating scale guidelines provided in the TER guidelines
- Collect the knowledge products generated by the project and provide a comprehensive list of knowledge products developed
- Evaluate the effectiveness of M&E system in recording project performance indicators, collecting and analyzing project progress data
- Prepare the TE mission Aide-Memoire, powerpoint presentation, and TE report, appendices and annexes in line with the IFAD templates
- Present the findings of the TE mission at a wrap up meeting to the PMU and IFAD
- Undertake any other necessary tasks required to ensure that the Terms of Reference of the Terminal Evaluation are fully met

5. Evaluation Report Format and Review Procedures

12. Report Format

a) The Terminal Evaluation Report (TER) should not exceed 50 pages excluding Annexes (see outline in Annex I).
b) Evidence, findings, conclusions and recommendations should be presented in a complete and balanced manner.
c) The TER shall be written in English, and use numbered paragraphs.
d) The evaluation will rate the overall implementation success of the project and provide individual ratings as described in this TOR.

13. TER will also include any formal response/ comments from the project management team and/ or the country focal point regarding the evaluation findings or conclusions as an annex to the report.

Review of the Draft Evaluation Report

14. The TE consultant will present the preliminary evaluation findings at the validation meeting with the PMU to obtain their views, clarifications and [dis]agreements. A revised TER will be submitted to IFAD's Lead Technical Specialist for Environment and Climate Change, Asia and Pacific Division (APR) and Director of IFAD Evaluation Office for review. The Lead Technical Specialist will distribute the final TER to CPM, PMU and any relevant national/provincial agencies for final review and comments. The feedback should focus on any errors of fact. The PMU will collate all review comments and provides them to IFAD, who will then communicate them to the evaluator(s) for their consideration in preparing the final report.

6. Submission of Final Terminal Evaluation Reports

15. The final report shall be submitted in electronic form in MS Word format and should be sent directly to the Environment and Climate Division (ECD) and APR. Director of ECD will submit the final report to the Independent Office of Evaluation of IFAD (IOE).

16. The Lead Technical Specialist will share the final report with PMU and CPM. Also, the report will be shared with the GEF Secretariat and GEF Office of Evaluation for their review, appraisal and inclusion on the GEF website.

17. The final Terminal Evaluation report will be a public domain document and published on the ECD website https://xdesk.ifad.org/sites/gef/ and may be printed in hard copy.

7. Evaluation Mission Team Qualifications

18. The evaluators should have the following common qualifications:

- No previous association with the policy-making process and the design, delivery, supervision and management of the project.
- Knowledge of IFAD country programmes and GEF operational programmes, strategies and relevant policies.
- Requisite technical knowledge, academic qualifications and experience in line with the responsibilities as outlined in para 11 above
- Fluency in oral and written English is a must.

19. In addition, the consultant should meet the following specific qualifications:

- Degree in Natural Resource Management with at least 10 years of experience in the design/supervision/evaluation of the natural resources, environment, climate change projects which address economic and social development issues
- Proven experience as mission team leader and familiarity with GEF projects
- Possession of a sound understanding of development issues in the field of natural resources, environment, forestry management, and rural development
- Proven experiences in strategic policy development and legislation, and good understanding of policy context
- Demonstrated knowledge and understanding of project management tools and methodologies
- Broad knowledge of financial management review
- Excellent communication and engagement skills with a wide variety of stakeholders, from policymakers to community level

8. Timeframe of the Field Mission

20. The contracted days (10 days home-based and 8-20 October in the field) will be spread between 18 September and 10 November 2017.

Activities	Dates	Remarks
Evaluation Design (home-based)	18-22 September (3 days)	Approach paper to be developed for the TER mission and Desk review note
Arrival in Mongolia/ Meeting with the IFAD team	8 October	Discussion with the IFAD leader, Pasture Management Specialist, IFAD Senior Finance Officer
Meeting – UB 1	9 October	Kick-off meeting (MOF and MOFALI)
Meeting – UB 2	10 October	Meeting with PMU
Field Visit – Province 1	11 – 16 October	(Precise schedule to proposed by the consultant for discussion with PMU)
Meeting with PMU	17-18 October	Draft TER rating and write-up
Preparation of presentation	19 October	Draft PPT

Wrap-up meeting	20 October	Aide Memoire signed by Consultant and PMU
Draft final report disseminated for comments	30 October (5 days)	Distributed to PMU through IFAD
Finalising report based on comments	7 November	Home-based
Submission of the final report to IFAD	10 November (total of 2 days for revision)	Revise the report if any further comments/requests are made by IFAD

Attachments

Attachment 1. Terminal Evaluation Report Outline

Attachment 2. List of Documents to be provided by IFAD and PMO

Attachment 1. Terminal Evaluation Report Outline

I. **Project Identification Table**: Identify: (1) Project ID, (2) Title, (3) Location, (4) Start and End Date, (5) Mid-Term Evaluation (if applicable), (6) Executing and Implementing Agencies, and Partners, and (7) Budget;

II. **Executive Summary** (no more than 3 pages): providing a brief overview of the main conclusions and recommendations of the evaluation;

III. **General Information:** giving a brief overview of the evaluated project, for example, the objective and status of activities; co-financing, key dates, name of project executing entity, etc. It will also provide information on when the evaluation took place, places visited.

IV. **Scope, Objective and Methods:** presenting the evaluation's purpose, the evaluation criteria used and questions to be addressed, the key questions and the methodology, and the limitations of the evaluation. If possible, provide geo-reference maps or coordinates that demarcate the planned and actual area covered by the project.

V. **Project Theory of Change:** The terminal evaluation report will include a description of the project's theory of change including description of: the outputs, outcomes, intermediate states, and intended long-term environmental impacts of the project; the causal pathways for the long-term impacts; and, implicit and explicit assumptions.

VI. **Project Performance and Impact[15]:** providing *factual evidence* relevant to the questions asked by the evaluator and interpretations of such evidence. This is the main substantive section of the report. The evaluator should provide a commentary and analysis on the following areas:

Evaluation Areas	Criteria	Rating
1. Assessment of Project Results	Output – no rating Overall outcomes rating Criteria: Relevance* Effectiveness Efficiency *The rating on relevance will determined the unsatisfactory/ satisfactory range of the overall outcome rating	Highly Satisfactory (HS) Satisfactory (S) Moderately Satisfactory (MS) Moderately Unsatisfactory (MU) Unsatisfactory (U) Highly Unsatisfactory (HU) Unable to Assess (UA)
Assessment of Risks to Sustainability of Project Outcomes	Likelihood of sustainability of outcomes 4 dimensions of risks to sustainability: Financial risks Sociopolitical risks	Likely (L) Moderately Likely (ML) Moderately Unlikely (MU) Unlikely (U) Unable to Assess (UA)

[15] The Evaluation Team should refer to *Guidelines for GEF Agencies in Conducting Terminal Evaluations (2008)* for more details.

	Institutional Framework and governance risks Environmental risks	
Progress to impact		No rating required
Assessment of M&E System	2 criteria: M&E Design M&E Implementation	Highly Satisfactory (HS) Satisfactory (S) Moderately Satisfactory (MS) Moderately Unsatisfactory (MU) Unsatisfactory (U) Highly Unsatisfactory (HU) Unable to Assess (UA)
Assessment of Implementation and Execution	Quality of Implementation: Roles and responsibilities discharged by the GEF agencies Quality of Execution: Roles and responsibilities discharged by the country counterparts that received GEF funds from the GEF Agency	Highly Satisfactory (HS) Satisfactory (S) Moderately Satisfactory (MS) Moderately Unsatisfactory (MU) Unsatisfactory (U) Highly Unsatisfactory (HU) Unable to Assess (UA)
Other assessments	Need for follow-up Materialization of co-financing Environmental and social safeguards Gender concerns Stakeholder engagement	(descriptive)

VII. **Lessons (to be) Learned:** presenting general conclusions from the standpoint of the design and implementation of the project, based on good practices and successes or problems and mistakes. The TE report should describe aspects of the project performance that worked well along with reasons for it.

VIII. **Recommendations:** suggesting *actionable* proposals for improvement addressing IFAD and other development partners. *Prior to each recommendation*, the issue(s) or problem(s) to be addressed by the recommendation should be clearly stated.

IX. **Annexes** should include:

1. The Evaluation Terms of Reference **(TOR)**;
2. A **list of interviewees**, and evaluation timeline;
3. A **list of documents** reviewed/ consulted;
4. Summary of **co-finance information** and a **statement of project expenditure by activity**;
5. Comprehensive list of knowledge products and URLs for accessing them
6. The expertise of the evaluator (brief CV).

Attachment 2. List of Documents to be provided by IFAD and PMO

Project Completion Report
Project Design Report
GEF CEO Endorsement Document
Grant Agreement
GEF Project Implementation Reviews (PIR)
Project Outputs (Powerpoints, Papers or Reports) by Project Staff and/or Partner Organizations
MTR report
Semi-annual Progress Reports
Guidelines for GEF Agencies in Conducting Terminal Evaluations
IFAD IOE Evaluation Manual

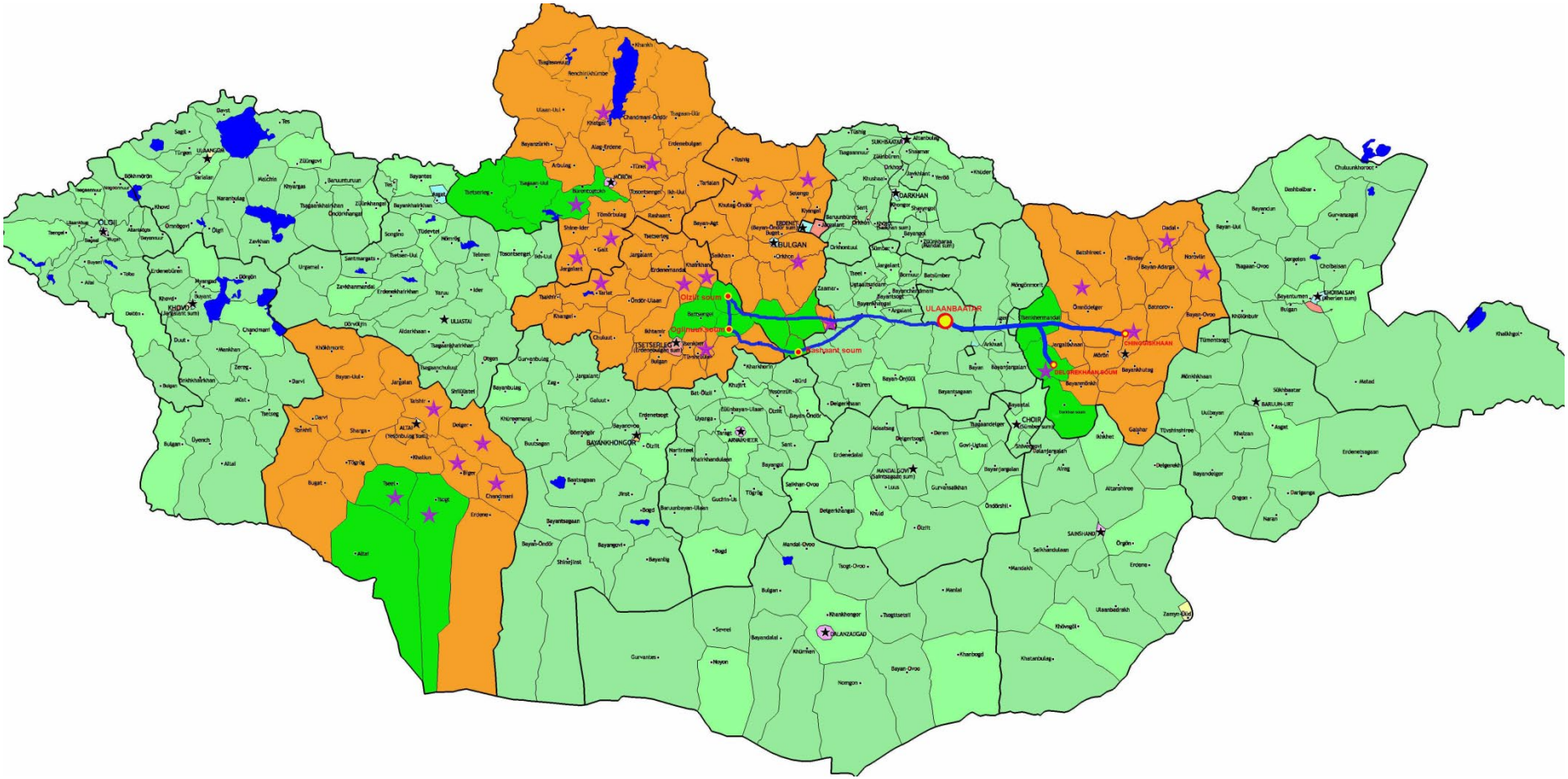
Annex 2. List of Interviewees, Field Trip and Evaluation Timeline

The following individuals were consulted and field vis its completed over the period 9 October – 20 October, 2017.

Table Date, Place and List of Participants Consulted

Date	Place	List of Participants
8.10.17	Arrive Mongolia	
UB		
9.10.17		Dalantainyam (PMPMD PMO Director) B. Tsetsenbaatar (PMPMD PMO PMCCA Coordinator) B. Huyag (PMPMD PMO Finance Officer) S. Kim (IFAD (PMPMD Project Manager)
10.10.17		E. Amgalan “Green Gold” Coordinator, Swiss Development Corporation G. Uyanga (PMPMD M&E Officer) Oyuntuya (PMPMD Procurement Officer)
Ulziit Soum (Arkhangai)		
11.10.17	Field visits:	D. Enkhjargal (Soum governor) J. Jugdergarav (Soum land officer) T. Chuluunsukh (leader of “Tahilt” PHG T. Gungavaa (Soum facilitator) N. Batsaikhan (Member of PHG 'Zegst') Ts. Borkhuu (Leader of PHG 'Bayanbaishir') Ch. Yanjinlham (Soum veterinary officer) G. Natsagnyam. (Soum pasture officer) D. Undrakhbayar (Governor of Yamaat bag) P. Naranbat (Governor of Bayanbaishir bag) G. Danzanpuunee (Governor of Bodont bag) N. Altansukh (Leader of PHG 'Khurenshand') S. Sarangerel (Member of PHG 'Bayanbaishir')
Ugiinuur Soum (Arkhangai)		
12.10.17	Field visits: (travel to Kharkhorin)	Sh. Uurtsaikh (Soum facilitator) N. Purevsuren (Leader of 'Khurenkhudag' PHG) A. Myagmar (Member of 'Khurenkhudag' PHG) A. Amgalansaikhan (Member of 'Khurenkhudag' PHG) Kh. Enkhmandal (Member of 'Khurenkhudag' PHG) O. Tsogzolmaa (Member of 'Khurenkhudag' PHG) B. Batkhuyag (Member of 'Khurenkhudag' PHG) Ganchimeg.D (Member of 'Khurenkhudag' PHG) Sh. Lhagvasuren (Member of 'Khurenkhudag' PHG) I. Khurelbaatar (Member of 'Khurenkhudag' PHG) B. Udaanjargal (Member of 'Khurenkhudag' PHG) D. Lhamyanjin (Member of 'Khurenkhudag' PHG) Ch. Gantulga (Member of 'Khurenkhudag' PHG) O. Selenge (Member of 'Khurenkhudag' PHG)
Rashaant Soum (Bulgan)		
13.10.17	Field visits: (travel back to UB)	Ts. Jargal (Soum facilitator) D. Bayartsengel (Leader of 'Ulziitkhairkhan' PHG) T. Myagmarsuren (Leader of 'Ulziitkhairkhan' PHG) N. Bayaraa (Leader of 'Ulziitkhairkhan' PHG) Ts. Byambatogtokh (Leader of 'Ulziitkhairkhan' PHG) B. Batsaikhan (Leader of 'Ulziitkhairkhan' PHG) N. Nyamtseren (Leader of 'Ulziitkhairkhan' PHG)
UB		

14.10.17		
Delgerkhaan Soum (Khentii)		
15.10.17	Field visits: project investments	D. Batjargal (Soum facilitator) O. Baldandugar (Member of Khar us PHG) Ch. Enkhamgalan (Mandal leader) A. Ochirzeveg (Mandal) G. Tsegmid (Leader of Khar us PHG) N. Battulga (Member of Khar us PHG)
Chingiskhaan City (Khentii)		
16.10.17	(travel back to UB)	L. Chuluun, (Head of Monitoring on hydrology, meteorology and environment) M. Narantseteg, (Officer for Agricultural sector data of Monitoring on hydrology, meteorology and environment) G. Ireeduimunkh, (Pasture officer of Food and Agricultural department) D. Munkchimeg, (Officer of land planning and cartography and geography) D. Bayarkhuu, (Head of land relation and cartography and geography)
UB		
17.10.17		S. Schmidt (IFAD PM consultant) B. Tsetsenbaatar (PMPMD PMO PMCCA Coordinator) G. Uyanga (PMPMD M&E Officer)
18.10.17	Briefing of PMU on TE findings	T. Mahieux (IFAD VC consultant) N. Narantuya (Rural development consultant for Agrom NGO) Dalantainyam (PMPMD PMO Director) B. Tsetsenbaatar (PMPMD PMO PMCCA Coordinator) S. Kim (IFAD (PMPMD Project Manager) S. Schmidt (IFAD PM consultant) G. Uyanga (PMPMD M&E Officer)
19.10.17	Pre-wrap meeting (MOFALI)	Choi-Ish (PMU Project Director) Zandanbal (Head of International Affairs) S. Kim (IFAD Supervision Mission Leader) S. Schmidt (PM consultant) T. Mahieux (IFAD VC consultant)
20.10.17		G. Uyanga (PMPMD M&E Officer)
21.10.17	Depart Mongolia	



Map 3. Route of Site Visits during the TER Mission (9/10/21/10/2017)

Annex 3. List of Documents Reviewed/Consulted

IFAD documents.

Mongolia: Strategy and Inception Report, draft. August 2007.
Mongolia: Project for Market and Pasture Management Development (PMPMD). Design Completion Report (No. 2320-MN-REV-1). November 2012.
Mongolia: Project for Market and Pasture Management Development (PMPMD). Additional Financing Report. Main Report and Appendices. 13 July, 2016.
Supervision and Implementation Support (SIS) Mission Reports (9/12, 6/13, 6/14, 6/15, 10/16, 10/17)
Implementation Support (ISM) and Follow-up Mission Reports (2/13, 3/14, 3/15, 10/15, 4/17)
RIMS Impact Survey (baseline) Report, 2013
RIMS Impact Survey (follow-up) Report, 2016
Amartuvshin Tserennadmid, A., 2016. Comparison report. Result of Baseline and Follow-up survey
PMO, 2017. PMPMD, Consolidated Project Report

GEF/SCCF documents.

Project Identification Form (PIF), 6/2008
Project Preparation Grant (PPG) proposal, 12/2008 (initial), 1/2009 (revised), 2/2009 (final)
PPG utilization report, 2010
Request for CEO Endorsement/Approval Template, 11/2011
Project Implementation Reports (PIR) (for reporting periods 2014, 2015, 2016 and 2017)

Other documents.

Punsalmaa Batima, P. 2006. Climate Change Vulnerability and Adaptation in the Livestock Sector of Mongolia. A Final Report Submitted to Assessments of Impacts and Adaptations to Climate Change (AIACC), Project No. AS 06. Published by the International START Secretariat.

Annex 4. Summary of Co-finance Information and Statement of Project Expenditure by Activities

Component 2 Financing, Proposed (USD '000)

GEF		Co-financiers				Component Total
PPG	Project Grant	IFAD*	GOM	Beneficiaries	Others	
125	1,500	2,852	602	168	NA	5,247

*Includes IFAD contribution during project formulation.

Component 2 Financing, Actual (USD '000)

GEF		Co-financiers				Component Total
PPG	Project Grant	IFAD*	GOM	Beneficiaries	Others	
43.9	1,500	2,519	236	1,637	NA	5,936

*Includes IFAD contribution during project formulation.

Annex 5. List of KM Publications

No	Source	Year	Title	Content
1	National veterinary association of Mongolia	2013	Brochure for herder adviser on vet and breeding	Trainers manual for herder adviser on vet and breeding
2	Biological resource management school, National University of Agriculture	2013	Brochure for herder adviser on vet and breeding	Trainers manual for herder adviser on vet and breeding
3	The Mongolian Society for Rangeland Management	2013	Climate change adaptation	Tradition and new technologies on climate change adaptation, including the issues of pasture management, pasture water supply, rodent control, livestock fodder production, hay improvement, animal breeding, vet, value added livestock production, and other income generation activities.
4	National Veterinary Association of Mongolia	2013	Pamphlet for herders on rabies	Primary information on prevention and diagnosing rabies
5	National Veterinary Association of Mongolia	2013	Pamphlet for herders on brucellosis	Primary information on prevention, diagnosing and hot brucellosis infects
6	National Veterinary Association of Mongolia	2013	Pamphlet for herders on anthrax	Primary information on prevention, diagnosing and how anthrax infects
7	National Veterinary Association of Mongolia	2013	Posters on rabies and anthrax	prevention and signs of rabies and anthrax
8	AGROM Rural Development Center	2014	Manual on pasture herder groups	Topics covered are pasture degradation, pasture management, rodent control, ways to pasture improvement
9	AGROM Rural Development Center	2014	Guidance to form PHG, by AGROM	Topics covered were how to form PHGs, group size, group leadership, duties and responsibilities head, executing board, other positions, members' cooperation, and government policies.
10	PMU	2014	Booklet on guidance of group revolving fund	Guideline on using investments for herder groups funded by the PMPMPD, and format and templates of loan relevant issues
11	PMU	2015	Introduction of "Pasture management and climate change adaptation" component	Information about the component
12	National Veterinary Association of Mongolia	2015	Booklet on animal health. Volume 1	Non-infectious diseases of pastoral animal and some injure
13	National Veterinary Association of Mongolia	2015	Booklet on animal health. Volume 2	Common infectious diseases transmitted to human
14	National Veterinary Association of Mongolia	2015	Booklet on animal health. Volume 3	Parasitic diseases of pastoral animal

15	PMU		Booklet on Brandts' vole control	Biological Brandts' vole control methods
16	PMU	2015	Booklet on protecting spring source	Technologies of fencing and other way to protect spring sources
17	PMU	2015	Booklet on fencing hay making area	Technologies of fencing hay making area
18	PMU	2015	Herders' handbook on livestock breeding	Basic understanding on animal breeding and types of Mongol breeds and other strategic and useful information
19	AGROM Rural Development Centre	2015	Pamphlet on Group revolving fund	What is group revolving fund, how members benefit and fund management
20	AGROM Rural Development Centre	2015	Pamphlet on pasture herder group	Duties and responsibilities of group members in pasture management
21	AGROM Rural Development Centre	2015	Pamphlet on pasture management	Pasture improvement technologies such as fertilizing, watering, rotational grazing and other
22	AGROM Rural Development Centre	2015	Pamphlet on common pasture use technique	Pasture rotation technologies, estimation of pasture capacity and other
23	AGROM Rural Development Centre	2015	Pamphlet Climate change adaptation and herders' livelihood	Reason of climate change and how it affects to pastoral
24	PMU	2016	Manual for Index based Livestock insurance	Pastoral livestock risk, understanding of insurance, insurance relevant documents and forms
25	AGROM Rural Development Centre	2015	Manual for photo monitoring	Manual to pasture photo monitoring, including field work and data entering and analysing

Annex 6. CV of Evaluator

DR. RANDOM DUBOIS

CURRICULUM VITAE

PROFESSIONAL EXPERIENCE

Senior consultant with over 40 years in the international environment and development field of which 20 were with FAO's Investment Center as Senior Environmental Advisor. Directly relevant experience to the TER assignment includes: working with the Global Environmental Facility and several of its implementing agencies; participation in environmental sector work; preparation of "stand-alone" GEF and environmental and natural resources-related investment projects; and developing and implementing the measures to respond to the World Bank's (and other RDBs and IFAD) needs to meet their respective environmental policies as they apply to the design of investment projects. Over the years, Dr. DuBois has: (i) participated in or led a large number of World Bank (and other environmental-related) preparation missions to the field; (ii) identified and developed new contacts with GEF and other non-traditional institutional clients for the Centre; (iii) developed environmental guidelines, publications, and other materials for use by Centre staff and management; (iv) assisted in the identification and recruitment of new staff to build institutional capacity in the environment; (v) worked with the management of a number of International Financing Institutions (IFIs), task managers, and IC Service Chiefs to more systematically incorporate environmental consideration into projects entering the Centre pipeline; (vi) increased awareness among professional staff through conducting training workshops, development and circulation of field-oriented operational tools, direct participation in project preparation; and (vii) cooperated with other FAO Divisions in a range of activities associated with the environment most recently in assisting in responding to GEF priorities as a newly designated Agency under GEF's Expanded Opportunities Initiative. In the last few years, he has led a number of project preparation missions providing assistance to countries electing to submit GEF projects through the FAO as designated Executing Agency (EA). These include: (i) Brazil: Integrated Management of the Ilha Grande Bay Ecosystem (approved); (ii) Uruguay: Ecosystem-based Approach to Living Aquatic Resources Management (approved); (iii) Bay of Bengal Large Marine Ecosystem Programme (approved); (iv) China: Demonstration of Estuarine Biodiversity Conservation Restoration and Protected Area Networking (under preparation); (v) China: Securing Biodiversity Conservation and Sustainable Use in China's Dongting Lake Protected Area (under preparation); (vi) China: Securing Biodiversity Conservation and Sustainable Use in Huangshan Municipality (in identification); and (vii) China: Protection and Sustainable Use of Poyang Lake Wetland Ecosystem (in identification). vacancy announcement includes: (i) leading multi-disciplinary teams in the design, supervision and evaluation of biodiversity conservation projects; (ii) extensive experience working in South and Southeast Asian region in biodiversity conservation issues (Maldives, India, Bangladesh, Viet Nam, Thailand, Indonesia, Philippines, Malayisa, with the Global Environmental Facility (GEF) and other international financing institutions (e.g., World Bank, AsDB etc.); (iii) leading or participating in multi-disciplinary teams in ecosystem and natural resources management and related fields, (iv) diverse regional experience having worked in over 90 countries in all regions; and (v) in project supervision and evaluation of environmental projects (or components).

RECENT NRM PROJECT EVALUATIONS

Project evaluations of GEF-funded projects/programmes include: (i) Implementation Completion Report (ICR) of "Sustainable Management and Biodiversity Conservation of the Lake Aibi Basin Project" in Xinjiang Uygur Autonomous Region for World Bank (2016); (ii) Mid-Term Evaluation (MTE) of "Improving Brazilian Capacity to Conserve and Use Biodiversity through Information Management and Use Project" for UNEP (2014); (iii) ICR for Amazon Region Protected Areas Project Phase I (ARPA I) for World Bank (19…); (iv) Mid-term Review (MTR) of the 2nd phase of the Coral Reef Rehabilitation and Management Program (COREMAP II) for the World Bank (2008); and (v) ICR of the Madagascar Environment Program (Phase I) for the World Bank (1994).

EDUCATION

Dr. DuBois was awarded a Ph.D. in Geography by the University of Chicago in 1989. He completed a Master's degree in Marine Affairs (M.M.A.) from the University of Rhode Island in 1979 and a second Master's degree in Oceanography from Texas A&M University in 1975. He graduated from the University of Kansas in 1971 with a B.A. in Biology. Additional short-term training includes short courses through Harvard' HIID Program on Environmental Economics & Policy Analysis

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