Pastures, Conservation and Climate Action, Mongolia

Annual Report Year 8 (01.04.2022-31.03.2023)

Submitted by: Mongolian Society for Range Management (MSRM);
Professor D. Dorligsuren; D. Uilst, Project Coordinators
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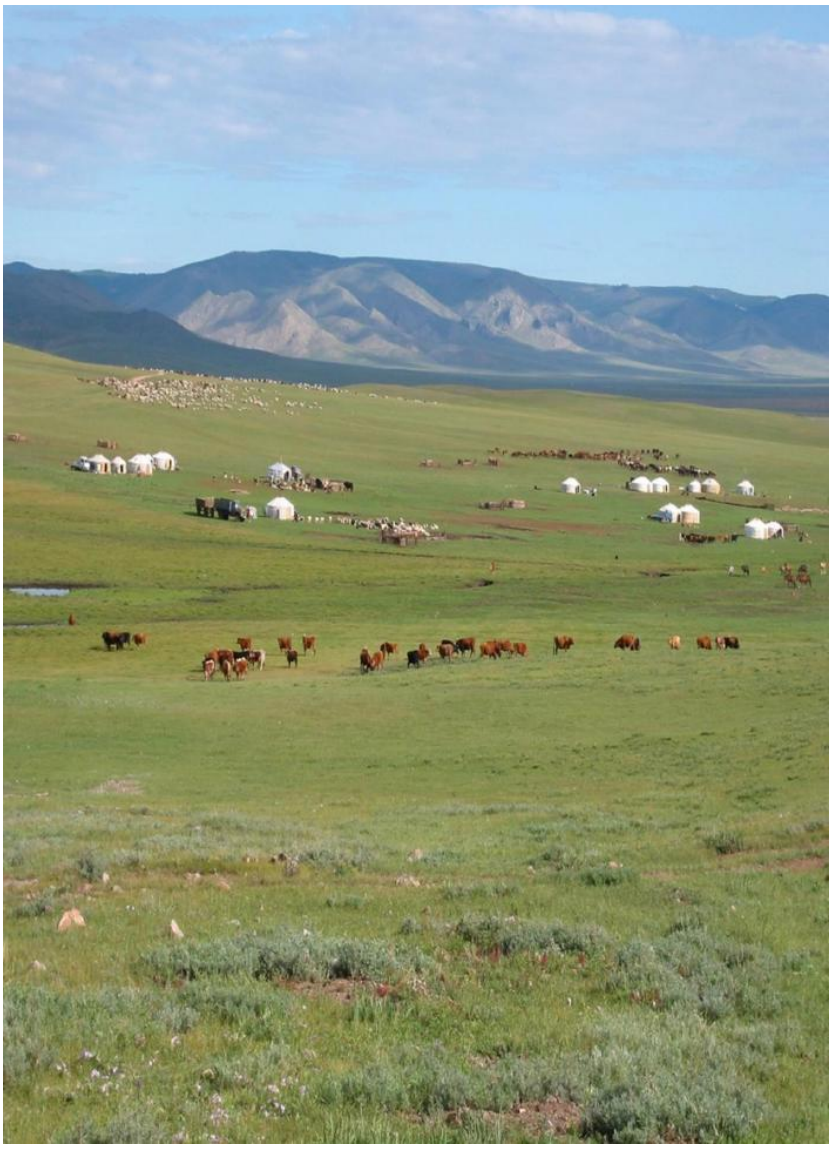


Summary

Project overview	
Reporting period	1st April 2022-31st March 2023
Geographical areas	3 herder community (*heseg*) areas at sites across Mongolia: *i)* Hongor Ovoo *heseg*, Ikh Tamir *soum* (district), Arkhangai *aimag* (region) (36,756 ha) ii) Ikh Am *heseg*, Undurshireet *soum*, Tuv *aimag* (18,241 ha) iii) Dulaan Khairkhan *heseg*, Bogd *soum*, Bayankhongor *aimag* (22,485 ha)
Technical specifications in use	Technical Specification as set out in Part G of approved Phase II PDD (27/6/2022) and linked to Plan Vivo Climate Benefit Quantification Methodology 'Carbon sequestration through improved grassland and natural resources management in extensively managed grasslands' Version 1 (Annex 8, Phase II PDD).

Project indicators	**Historical (Years April 2015 - March 2022**	**Added/ Issued this period (April 2022- March 2023)**	**Total**
No. smallholder households with PES agreements	0	0	0
No. community groups with PES agreements (where applicable)	3	0	3
Approximate number of households (or individuals) in these community groups	114	2	116
Area under management (ha) where PES agreements are in place	77,482	0	77,482
Total PES payments made to participants (USD)	159,912.4	247,188.9	407,101.3
Total sum held in trust for future PES payments (USD)	271,084.45	115,535.08	115,535.08
Allocation to Plan Vivo buffer (tCO_2) (including this issuance)	25,951	5,048	30,999
Saleable emissions reductions (tCO2)	137,212	24,850	162,062
Unsold Stock at time of Submission (PVC)			0
Plan Vivo Certificates available for future issuance			**0**
Buffer credits available for future allocation (after current issuance)			**0**
Plan Vivo Certificates (PVCs) issued to date			**137,212**
Plan Vivo Certificates requested for issuance in this period			**24,850**
Total PVCs issued (including this report)			**162,062**

Part A: Project updates

A1 Key events

From the project's inception, herders from the Hongor Ovoo and Dulaan Khairkhan *hesegs* proposed the creation of a shopping and service centre to help increase household incomes. However, until the end of Year 7, income from the sale of carbon certificates was insufficient to make such an investment feasible. In Year 7, certificate sales finally generated enough revenue to proceed with the herders' recommendation.

As a result, a VIVO Trade and Service Centre was established in Ikh Tamir *soum*, Arkhangai province, along the main paved road connecting Ulaanbaatar city (the capital of Mongolia) to the western provinces. The centre covers an area of 296 m² and includes modern amenities such as hot and cold water, and restrooms meeting sanitary requirements. The building features two large halls—one serving as a restaurant, and the other for selling livestock raw materials and dairy products.

Additionally, in Bogd *soum,* Bayankhongor province, a 268 m² two-story building was purchased, renovated, and put into operation as the BOGD VIVO Shopping and Service Centre. This centre, equipped with hot and cold water and modern restrooms, provides a wide range of services, including shops, restaurants, hotel rooms, hairdressing, and tailoring. It is the only facility of its kind in the area, catering to both local herders and visitors. The centre aims to increase the income of project-involved herders by facilitating the sale of meat, milk, and raw materials.

These VIVO service centres are crucial for raising awareness and promoting the project among local herders. They also serve foreign tourists, representatives from international organizations, and government policymakers. Herders have expressed their gratitude to companies like Myclimate, Zeromission, and C Level, whose purchase of carbon certificates provided the funding necessary to establish these centres.

A2 Successes and challenges

Herders have successfully implemented planned activities to protect the environment, such as protecting wildlife and saxaul forests, and establishing trade and service centres, increasing the amount of hay and fodder preparation, repairing and building winter and spring animal shelters, and processing of milk and dairy products to increase the herders' income.

A key challenge faced in Year 8 (2022-2023) was increased livestock numbers, especially in Hongor Ovoo *heseg* and Dulaan Khairkhan *heseg*. These increases are related to the continuing effects of the Covid 19 pandemic, which has resulted in a significant decrease in the volume of livestock and meat sales in domestic and foreign markets and hence decreases in the offtake of livestock. Other factors underpinning this increase include growing numbers of herder families due to the marriage of herders' children and their setting up of independent households.

A3 Project developments

In Year 8, a number of trainings were conducted for herders and project staffs, focusing on global warming, its causes, consequences, and the pivotal role herders play in its mitigation. The key components of the training initiatives included:

1. Understanding Global Warming and Greenhouse Gases:

- A total of six training sessions were held for 96 herders, covering essential topics such as:
  - The concept of greenhouse gases and their components, specifically carbon dioxide and methane.
  - Strategies to effectively reduce livestock numbers to minimize environmental impact.
  - Sustainable practices for pasture management, including rotational grazing techniques.
  - Development of pasture use plans and the creation of sketch maps to visualize grazing strategies.

2. Green Fodder Planting and Soil Management:

- Additional training sessions focused on the use of animal manure for planting green fodder, specifically near winter and spring camps.
- Participants learned about:
  - Soil preparation techniques.
  - Best practices for planting and harvesting green fodder, aimed at improving feed quality for livestock.

3. Project Monitoring and Evaluation:

- Three training sessions were dedicated to project monitoring and evaluation, equipping herders with skills to:
  - Write comprehensive reports on their planned work performance.
  - Track and assess project progress effectively.

These training initiatives not only enhanced the herders' understanding of environmental issues but also provided practical skills to implement sustainable practices in their daily operations.

The project has witnessed a surge in interest from herders eager to participate, prompting a collective request for the revision of the project documentation to facilitate the expansion of the current grazing area. This demand highlights the project's success and the growing recognition of its benefits among the herder community. To address this request, plans are being proposed for future upgrades to the Project Design Document (PDD) to encompass a larger project area. These upgrades aim to accommodate the increasing number of herders wishing to engage in sustainable practices, ultimately enhancing the project's reach and impact while promoting environmental stewardship. This initiative demonstrates a commitment to supporting herders in their efforts to improve livelihoods and preserve the environment.

Table 2: Progress against corrective actions

Document	Corrective action	Activity against this
Validation Report	**Section 2.4: Permanence** Observation by Validator: additional training required according to the specific planned actions of the herder groups.	MSRM provided further ongoing training in specific activities with herder groups in Summer 2016 (May-September), 2018, 2019, 2020,2021 and 2022 (Years 4, 5, 6, 7 and 8). In Year 8, the herders and employees of the project were trained on global warming, its causes and consequences, and herders' role in reducing it (proper use of pastures and not to overstock). A total of six trainings were held for 96 herders on what is greenhouse gas and its components (carbon dioxide, methane), how to reduce the number of animals, how to use pastures in rotation, how to make pasture use plans and sketch maps. The role and importance of perennial plants in pastoral nomadic husbandry. Types and productivity of perennials, their proper use and protection. Presenting and discussing the main perennial plants of the pastoral group of Hongor Ovoo area (Festuca lenensis, Koeleria macrantha, Poa attenuata), Ikh Am area ((Stipa Krylovii Roshev, Cleistogenes squarrosa, Caragana stenophylla Pojark.), Dulaan Khairkhan (Stipa gobica Roshev, Caragana stenophylla Pojark, Allium polyrrhizum Turcz.)
Validation Report	**Section 2.7: Monitoring** Observation by Validator: MSRM need to provide continued training and ensure that herders and local officials are gaining knowledge from land management techniques and carbon sequestration.	MSRM provided further ongoing training with herder groups in Summer 2016 (May-September), 2018, 2020, 2021 and 2022. Local officials were also invited to specific training events, and training materials and project outputs shared with all parties. In Year 8, trainings on planting green fodder using near winter and spring camp, preparing the soil, planting and harvesting were conducted. We conducted three training sessions on project monitoring and evaluation, and writing reports on planned work performance.

A4 Future Developments

The Ministry of Environment and Tourism of Mongolia, along with international organizations, have expressed interest in expanding the project to other regions. While we share the

enthusiasm for growth, it is essential to focus on enhancing the project's efficiency, particularly as it is the first initiative of its kind in Mongolia's nomadic pastoralism sector. Our priority will be to reinforce the positive outcomes we have seen so far, while thoroughly evaluating and addressing any challenges that have emerged.

One of the primary obstacles to successful implementation has been the lack of a comprehensive legal framework for pasture management. This issue will require significant attention moving forward. With the Mongolian Parliament elections held in June 2024, numerous proposals have been brought forward to clarify and improve both land and pasture laws. These legislative efforts are expected to be discussed during the upcoming Congress, which could play a critical role in resolving the legal challenges and creating a more favorable environment for the project's expansion.

Part B: Project activities

B1 Project activities generating Plan Vivo Certificates

The Technical specification is as set out in Part G of the approved Phase II PDD (27/6/2022). This mirrors the Technical Specification used in the Phase I PDD, with the continuation of this Technical Specification approved by Plan Vivo and their technical advisors. As in Phase I, this Phase II specification is linked to Plan Vivo Climate Benefit Quantification Methodology 'Carbon sequestration through improved grassland and natural resources management in extensively managed grasslands' Version 1 (Annex 8, Phase II PDD), hereafter referred to as TS1. This is linked to the development and implementation of new schedules for annual pasture use by the *heseg*, designed to reduce grazing pressure and enhance carbon sequestration through enhanced seasonal mobility, and in some cases through reductions in stocking rates. This is as specified for each *heseg* in the Phase II PDD Annex 5 Management Plans. Modelled carbon reductions in Year 8 for each site are as specified in Section C, Table 4 below. A further indicator here, as set out in the Annex 5 Management Plans, was the percentage of herders who complied with the agreed schedule, with 96% required to do so for all sites in Year 8. In addition, as part of the project design, herder groups (*heseg*) each identified a range of other activities, not specifically related to carbon sequestration, against which progress was to be evaluated (see B2 below).

Table 3: Project activity summary

Name of technical specification	Area (Ha)	No herder households	No Community Groups
TS1	77,482 ha (total pasture areas for all three sites – see Project Indicators, above)	116	3

B2 Project activities in addition to those generating Plan Vivo Certificates

The following activities, outlined in the final Project Design Document (PDD), include not only carbon sequestration through improved grazing practices but also initiatives related to

biodiversity conservation and enhancing livelihoods/wellbeing. These activities are detailed in the site-specific management plans (Annex 5 of the PDD) and summarized below. The performance of each group (referred to as "heseg") against agreed indicators and these activities is analyzed in Section E.

Hongor Ovoo *Heseg* – Year 8 Activities

In Year 8, the Hongor Ovoo herder group undertook the following activities:

- **Herder Partnerships for Environmental Protection**: The activities initiated in Year 1, in partnership with the local administration, were continued and completed as planned for Year 8.
- **Pasture Rotation**: 97% of herder households relocated 4-5 times throughout the year to rotate and rest their pastures.
- **Wildlife Protection**: Thirty-three herders conducted over 20 patrols during the spring and autumn to protect deer, wild animals, forests, and pine trees. This effort helped reduce poaching and illegal harvesting of berries and pine nuts, with noticeable improvements since the project began.
- **Hay and Fodder Harvesting**: Favourable moisture conditions led to a successful harvest of 254.1 tons of hay and green fodder in 2022, marking a 45.8% increase compared to 2021. This contributed to reducing pasture loads and lowering the risk of degradation.
- **Tree Transplantation**: The Ikh Ulunt community transplanted 20 seedlings in 2022.
- **Shelter Repairs**: Thirty-one winter shelters were repaired, adding to the shelters already repaired in previous years.
- **Yak Wool Collection**: The herder group collected 900 kg of yak wool, generating 13.0 million MNT in income.
- **VIVO Trading and Service Centre**: In response to requests from the herders, a trading and service centre was established along the main road to enhance income-generating opportunities.

Monitoring outcomes for these activities, along with relevant indicators, are detailed in Part E, Table 8b.

Ikh Am *Heseg* – Year 8 Activities

In Year 8, the Ikh Am herder group carried out the following activities:

- **Wildlife Protection**: During spring, herders patrolled monthly to safeguard deer from poachers. These patrols contributed to natural increases in wildlife populations. The herders also provided salt and hay for deer, antelope, and *argali*. In January 2022, 150 kg of grass and 370 kg of salt were placed in various locations on wildlife trails.
- **Shelter Repairs**: Four families repaired their winter shelters, and three families repaired their spring shelters.
- **Tree Planting**: Two herder families planted 20 trees around their winter shelters.
- **River Clean-up**: Ten families participated in monthly garbage clean-ups along the Tuul River, collecting 2.5 tons of waste and disposing of it following traditional practices.

- **Income Diversification**: Herders accessed loans from the mutual fund to purchase sewing machines, producing and selling clothes, which generated 14 million MNT in income.
- **Hay and Fodder Purchase**: In 2022, 268 tons of hay and fodder were purchased—32.4% more than in the previous year. Of the total, 24% was hay, and 76% was green fodder. As the herders in Ikh Am *heseg* do not have hay fields, they sourced all their fodder from other areas.

Monitoring outcomes for these activities, along with relevant indicators, are provided in Part E, Table 8b.

Dulaan Khairkhan *Heseg* – Year 8 Activities

In Year 8, the Dulaan Khairkhan herder group undertook the following activities:

- **Wildlife Protection**: The herders continued to safeguard wild sheep and goats in the Ikh Bogd Special Protected Area. In 2022, 40 *argali* and 30 ibexes were registered. During harsh conditions caused by drought and heavy snowfall, the herders provided hay and salt to malnourished animals.
- **Saxaul Tree Reforestation**: The area covered by young saxaul trees increased by 500 square meters by 2022.
- **Shelter Repairs**: The herders built two new winter shelters and repaired three existing winter/spring shelters.
- **Hay and Fodder Preparation**: In 2022, the herders prepared 76.2 tons of hay and purchased 23.8 tons of fodder.
- **Pasture Rotation**: Herders regularly moved to rotate pastures, relocating between 8 and 15 times to ensure adequate forage for their animals.
- **Bogd Vivo Trade and Service Centre**: At the initiative of the herders, a new trade and service centre was established to boost non-livestock income.

Monitoring outcomes for these activities, along with relevant indicators, are summarized in Part E, Table 8b.

Part C: Plan Vivo Certificate issuance submission

C1 Contractual statement

The project continues to be based on signed PES agreements with participants complying with all the minimum requirements stated in these agreements.

C2 Issuance request

The project requests the issuance of a further 24,850 certificates, already earned through activities in Years 8, to meet buyer demands, with adjustments for corrective actions, linked to livestock numbers. For Year 8, and as discussed in Section E below livestock numbers, both in terms of total numbers and by sheep units, increased across Hongor Ovoo and Dulaan Khairkhan sites, although the impacts of this was offset to some extent by higher biomass/pasture yields, linked to seasonal weather conditions. Some reductions in livestock numbers (sheep units) were noted at Ikh Am, although these were below targets. Thus, for

pasture management, all three sites were scored as amber, in the traffic light system. Against this, socio-economic and biodiversity-related activities were predominantly green and, in many cases, exceeded targets. We therefore intend to withhold a proportion (25%) of performance-related payments for all sites, pending agreement of corrective actions with herders, and following Section K of the PDD.

Table 4: Statement of tCO_2 reductions available for issuance as Plan Vivo Certificates based on activity for reporting period 01/04/22– 31/03/23

Area ID	Total area (ha)	Tech. Spec	Saleable ER's (tCO_2) generated in previous periods (end Phase I)*	Saleable ER's (tCO_2) available from previous periods (Phase II only)	Total ER's (tCO_2) achieved this period**	% Buffer	No. of PVCs allocated to buffer from ER's achieved this period	Saleable ER's (tCO_2) from this period	Issuance request (PVCs)	ER's (tCO_2) available for future issuances
Hongor Ovoo	36,756	Improved grassland management	44,287	15,878	9,319	10	932	8,387	8,387	0
Ikh Am	18,241		3,426	14,081	8,581	20	1,716	6,865	6,864.8	0
Dulaan Khairkhan	22,485		2,438	16,599	11,998	20	2,400	9,598	9,598	0
TOTAL	77,482		90,674	46,558	29,898		5048	24,850	24,850***	0

*Saleable ERs from Phase I were accounted for and sold during Years 5 and 7, so are not included in further calculations here, only summarised here (column 4: end Phase I). They are not included in Phase II calculations.

** Number of tCO2 sequestered or avoided emissions through participants' activities this reporting period

*** adjusted due to corrective actions – see C2.

C3 Allocation of issuance request

Table 5: Allocation of issuance request

Buyer name/ Unsold Stock	No. PVCs transacted	Registry ID (if available) or Project ID if destined for Unsold Stock	Tech spec(s) associated with issuance
PCCA (unsold stock)	*24,850*	*PCCA*	*TS 1*
TOTAL			

C4 Data to support issuance request

Under the Management Plans in the PDD, evidence for carbon sequestration is through grazing pressure, movement patterns and stocking rates for each site and its different pasture types. Tables C and D for Hongor Ovoo and Dulaan Khairkhan are found in Annex 5 of the PDD, with equivalent tables for Ikh Am included as Table F1a (p.32) and F1c (p.34) in the main body of the Phase II PDD. The site-specific Management Plans also show detailed plans for grazing pressure at each site year in year and how these are translated into carbon sequestration (based on Century modelling, as explained in the Technical Specification). Rates for Year 8 per site are summarised in C2, Table 4 above, with underpinning spreadsheets, based on PDD Annex 5, as set out in Annex 2 tables in this report.

At all sites, compliance with agreed grazing management practices and protocols was to be assessed on the basis of biannual self-reporting by the herder groups, subject to confirmation by MSRM. For Year 8 of the project, MSRM checked reported actions in August/ September, then again at the end of the year. Overall, monitoring undertaken at the end of Year 8 was thus

designed to monitor compliance with site-specific Management Plans, and to confirm climate, livelihood and biodiversity benefits against PDD baselines. Detailed tables of activities for each site, showing progress against agreed activities and indicators for Year 8 are included in Part E, Monitoring Results. MSRM's Annual Report for Year 8 is included in Annex 1.

As highlighted in Table 8b in Section E, as well as the accompanying narrative, performance indicators relate not just to stocking rates and mobility and hence to carbon sequestration, but to a range of biodiversity conservation and livelihood support activities.

Part D: Sales of Plan Vivo Certificates

D1: Sales of Plan Vivo Certificates

Table 6: Sales of Plan Vivo Certificates

Invoice Date	Date of receipt by MSRM	Vintage	Buyer	No of PVCs	Price per PVC ($)*	Total sale amount ($) *	% Received by participants
2021.11.03	2021.11.15	2020-2021	Carbon technologies	74			70%
2022.03.19	2022.04.26	2019-2020	Zeromission	96			70%
2022.03.19	2022.04.26	2020-2021	Zeromission	5,854			70%
2023.01.19	2023.01.26	2019-2020	Clevel	10,000			70%
Total				**16,024**			

*Pricing reported for internal monitoring purposes only

The amount received by participants takes into account the 30% allocated to MSRM for management, monitoring and reporting (calculated after deduction of any bank and PV issuance fees).

Table 7: Summary of Sales in Year 8

Local bank charges ($) *	
PV issuance fees ($) *	
Total sales after deductions ($)*	
Amount assigned to participants (70%)	247,188.9

*Charges and fees reported for internal monitoring purposes only

Part E: Monitoring results

E1: Ecosystem services monitoring

Monitoring results for all sites and against the full range of indicators (ecosystem services, socioeconomic and environmental/ biodiversity) and in relation to red, orange and green 'traffic light' indicators (Section K of PDD) are set out in Tables 8a & b, below.

Table 8a: Summary of Carbon Sequestration (Year 8)

			C Seq. (tCO_2e) p.a. at different grazing pressures				C Seq. (tCO2e) based on recorded grazing pressure at each site (Year 8)
Site	Pasture type	Season	30 %	40 %	50 %	> 50%	Total Yr 8
i) Hongor Ovoo	Riparian Meadow	Spring/summer/ fall	1721	811	23	0	811
	Riparian Meadow	Summer	2725	1764	981	0	2725
	Mountain Meadow	Winter	990	466	304	0	466
	Mountain Meadow	Summer/fall	1198	560	-52	0	560
	Mountain Meadow	Winter/spring	2175	2130	2060	0	2130
	Mountain Steppe	Fall	1241	682	199	0	682
	Mountain Steppe	Summer/fall	1153	418	-84	0	-84
	Mountain Steppe	Winter/spring	2470	2029	1271	0	2029
			13675	**4702** **8861**		**0**	**9319**
ii) Ikh Am	Riparian Meadow	Spring	988	466	13	0	466
	Mountain Steppe	Spring	628	227	-46	0	-46
	Mountain Steppe	Winter	4302	3534	2213	0	4302
	Steppe	Spring	1354	490	-98.91	0	490
	Steppe	Winter	4102	3369	2110	0	3369
			11374	**8086**	**4283**	**0**	**8581**
iv) Dulaan Khairkhan	Mtn Desert Steppe	Winter/spring	4973	4086	2559	0	4086
	Mtn Desert Steppe	Fall	3021	1660	485	0	3021
	Desert Steppe	Summer/fall	3346	1211	-245	0	3346
	Desert Steppe	Fall	1545	849	248	0	1545
			12885 **3047**	**7806**		**0**	**11998**

Table 8b: Summary of Overall Monitoring Results (Year 8)

Site and 'Traffic light' 1 indicator status	Specific Activities (Year 8)	Indicators (1-3) & Targets (expected results)	Results Achieved
Hongor Ovoo heseg			
1.Pasture management (carbon sequestration)	i. Annual pasture use schedule developed and implemented, with grazing pressure equivalent to modelled carbon sequestration rates for different pasture types.	i. Development of agreed annual schedule (approved by *heseg* members & LA (by end March each year), and which is equivalent to 50% grazing pressure or less for seasonal pasture areas and in accordance with carbon modelling. Any subsequent updates/ changes also agreed and approved by same parties.	i. In 2022-2023, grazing pressure across various pasture types was 50% or less, as per targets, despite increases in livestock numbers, and as a result of increased biomass in various pastures. Due to the early rainfall in spring and summer, the pasture yield was 16-18% higher than the previous year. As a result, although the number of animals has increased, the grazing capacity has not been exceeded.
		5% reduction in livestock (sheep units) against baseline by end March 2019; further 3% by end March 2020; 3% by end March 2021; 1% by end 2022, 2023.	In the MSRM Year 8 Annual Report (Annex 1), the total livestock numbers and livestock numbers converted to sheep units is included for Hongor Ovoo (Tables 1a and b, Annex 1). These figures show sheep units in Hongor Ovoo *heseg* increased against baselines and compared to Year 7 (Table 1). This increase is due to the favorable weather in spring and summer of 2022, not too much snow in winter and spring, as well as the fact that China's borders were still closed due to Covid, and the export of livestock and meat in Mongolia decreased by 3.6 times compared to 2019. Also, 2 new households were added. This target was not met, hence the amber traffic light overall for 1) pasture management.
		% of *heseg* households that comply with schedule (80% in summer and winter	*Heseg* leader reported the number of movements is similar to that of the

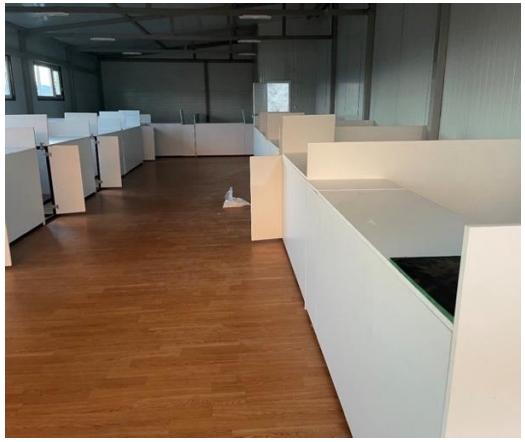
		2019; 85%, 2020, 90% 2021, 95-100% 2022/29).	previous year. 97% of the herder households moved 4-5 times for pasture rotation and resting, confirmed by MSRM through interviews. Target achieved.
	ii. Assist selling livestock over pasture carrying capacity.	ii. Decrease in number of livestock.	ii. Despite the increase in the number of animals in 2022, the share of goats with a negative effect on pastures decreased by 1.1%, and the share of cattle with favourable effects on pastures increased by 4.3% in 2020-2022 years. In other words, there is a positive change in the herd structure, but overall target not met. In order to improve the quality of the animals for pasture restoration, we cooperated with the local Animal Breeding and Veterinary Service Department, and bought 10 high-quality meat rams, 6 cashmere goats, and 1 meat bull and supplied them to the herders. In the future, all herder households will be covered. Such actions are designed to facilitate future reduction in livestock numbers.
	iii. Organise seasonal camping in underused areas (Khanuin gol, Khukh nuur).	iii. Improved pasture conservation through using reserve (less used) pasture and camping. No other specific indicators or monitoring for this activity.	iii. This winter, 28 families moved to Surtiin Songinat, Khushuu, Khuurai, Sumt, Jargalant in order to use the underutilized pastures, paying special attention to the rotation of pastures.
2.Biodiversity Conservation	i. Herder group partnerships established through the project in Year 1 continuing to undertake activities to	i. Objectives, work plans, responsibilities, mission statements and registration documents for herder groups produced. Herder groups able to conduct collaborative work to protect local habitat, through collaboration with LA.	i. The forest conservation cooperatives were established in 2016, they plan their work every year and successfully implement it. Agreed activities for Year 8 to conduct forest clean up (specific targets and compliance highlighted below); protection from illegal cutting & collection and sale of wood waste

		protect local environments.			
	ii.	Cooperation in groups for forest cleaning & protection.	ii.	Forest patrol activities will be continued. Vegetation survey will be conducted and reported. Cleaning of 2ha area by end each year.	ii.	“Shiree bulan”, “Neg Sanaa”, “Ikh Ulunt”, “Khaltar Angarkhai”, “Khaluun Us” cooperatives developed plans for forest organization and forest management. Forest protection communities have cleared two hectares of forest.
	iii.	Increased herders’ participation in decision- making on environmental issues.	iii.	As per targets set by herder representative committee at the end of Year 1: these required herders to conduct forest patrols to monitor and protect the forest from illegal cutting trees in summer and fall.	iii.	Completed as planned. As highlighted above, the five forest cooperatives have been actively working to do forest cleaning and protection according to the plan approved by local administration. 33 herders have patrolled more than 20 times in spring and autumn to protect deer and wild animals, and to protect forests and nuts. As a result, there were no instances of poaching or illegal berry harvesting.
	iv.	Nurseries and planting for enhanced provision of forest habitat for native species	iv.	Transplanted 20 seedlings.	iv.	In 2022, Ikh Ulunt community transplanted 20 seedlings. Target met.

3.Socioeconomic activities	i. Repair of fences & winter/spring shelters	i. Repair 5 fences/shelters p.a	i. Herders of Hongor Ovoo *heseg* have repaired 31 winter shelters and spring shelters. Target achieved.   ***Repaired winter and spring shelters***
	ii. Collaborative production & marketing of local brand milk products	ii. Increased annual HH income through marketing milk products, and against baseline.	ii. Ikh Tamir *soum* has a large number of cattle and yaks, and herders in this *soum* prepare various homemade dairy products which are well known in the country. Thus, selling homemade dairy products is one of the main income sources for herder families in this *soum*. In 2022, 38 herder families produced 4025 kg of curd and 2451 kg of butter and earned 19.7 million MNT.

	iii. Gathering and sale of wild fruits and nuts	iii. Enhanced HH income against baseline.	iii. This year, due to the abundance of nuts in Ikh Tamir *soum*, the herders collected nuts in their spare time. 64 families participated in collecting 21 tons of nuts, earning more than 221 million MNT to be used for the winter preparation.
	iv. Establish a herders' market	iv. Increased annual HH income, and against baseline.	iv. The "VIVO" trading and service centre was established along the main road to support herders by increasing their income and providing essential services. The centre includes a restaurant and a local market for selling milk, dairy products, and meat produced by the herders. With its construction, the centre has become a vital resource for herders, allowing them to sell their products to visitors from western provinces as well as domestic and foreign tourists. Herders express their gratitude for the centre, which consolidates various services in one location.

			  ***VIVO Trade and Service Centre*** 

			Restaurant  ***Market***
	v. Comb yak wool and deliver to markets	v. Enhanced HH income against baseline.	v. The government subsidizes the supply of wool, cashmere and raw materials to national industries through cooperatives accordingly, we supported the supply of wool, cashmere, and raw materials produced by herders to the cooperative. In 2022-2023, the *heseg* herders combined 900 kg of yak wool and earned 13.0 million MNT.
	vi. Enrol herders to participate activity in project activities	vi. Indicators include numbers of herders attending training events.	vi. The *soum* land manager reported on degradation of *soum* pasture land and presented *soum* land management plan which 52 herders participated this meeting. Another training was held on topics about grassland perennial plants by a research worker from the Animal Husbandry Institute and 88% (55) of

			the *heseg* herders participated in the training.
	vii. Sewing	vii. Increased income and job creation.	vii. Herders processed yak skin and made products with it to increase their household income. The income of 3 herder households increased by 3%.
	viii. Plant perennials for green fodder	viii. It is planned to prepare 100 tons of green fodder and 150 tons of hay.	viii. In spring and summer of 2022, hay and green fodder harvest was good because of relatively good moisture. 254.1 tons of hay and green fodder were collected in 2022, which is 45.8% more than in 2021. In line with the growth of livestock, the amount of green fodder cultivation has increased significantly, and compared to last year, two times more fodder (109.5 tons) was harvested. This increase in fodder production has had a significant impact on reducing pasture loads and reducing risk. Each household purchased 200-500 kg of salt.

	ix. Experiment and introduce soilless green fodder cultivation		 ***Growing green fodder on a large area***  ***Green fodder in their winter and spring manure on a small plot of land*** ix. There were some difficulties in introducing the soilless green fodder cultivation technology used in Inner Mongolia for Mongolian nomadic herders. For Inner Mongolia, they live in warm houses, so they have enough heat to grow in their houses. But for Mongolian herders, they live in ger (felt home for migration) and

			it is not possible to grow plants because of the large temperature fluctuation between day (+20) and night (-5) in winter and spring season. Therefore, this goal was not achieved.

Ikh Am heseg					
1.Pasture management (carbon sequestration)	i.	Develop & implement schedule for seasonal pasture use (rotation)	i.	Development of agreed annual schedule (approved by *heseg* members & LA (by end March each year), and which is equivalent to 50% grazing pressure or less for seasonal pasture areas and in accordance with carbon modelling. Any subsequent updates/ changes also agreed and approved by same parties.	i. In the MSRM Year 8 Annual Report (Annex 1), the total livestock numbers and livestock numbers converted to sheep units is included for Ikh Am (Tables 3a and 3b, Annex 1). In 2022-2023, grazing pressure across various pasture types was 50% or less, as per targets.
			ii.	5% reduction in livestock (sheep units) against baseline by end March 2019; further 3% by end March 2020; 3% by end March 2021 (Year 6); 2% by end 2022, 2023, 2024, 2025, 2026, 2027. 1% by end 2028.	ii. Compared to 2014, the number of livestock as sheep units decreased by 1.5%. However, it increased since Year 7 and targets have not been met, hence amber 'traffic light' status overall for pasture management. The decline in livestock numbers since project inception is due to the project's efforts to reduce the negative impact of overgrazing on herders' livelihoods, as well as to provide trainings, advise and encourage small businesses such as processing hides and skins.
			iii.	% of households that comply with schedule (80% in summer and winter 2019; 85%, 2020, 90% 2021, 90-100% 2022/29).	iii. All herders of the group made seasonal movements and pasture rotations by 96 percent as planned. The herders' migration is mostly calculated by taking the number of long-distance migrations in four seasons. If we take into account the short-distance migration of 0.5-1.5 km, the number of migrations is likely to be more. The *heseg* herders have been using summer and

			winter pastures in rotation in four seasons as scheduled. Number and distance of seasonal movements is similar to that of the previous year.
	ii. Experiment and introduce soilless green fodder cultivation	iv. Reduction of pasture load	iv. One herder began planting on a trial basis.
	iii. Assist selling livestock over pasture carrying capacity	v. Decrease in number of livestock	v. Herders sold about 2,500 animals to the market, a 1.5% decrease against the baseline. The project has provided some financial assistance for the sale of livestock through the 'Shireetiin Development' herders' cooperative, which assisted in the sale of livestock.
	iv. Dig hand wells	vi. No specific target for Year 8	
2.Biodiversity Conservation	i. Protect red deer, argali and Mongolian gazelle	i. Enhanced populations of target species by 2029 as measured against baselines. Actions to protect species in accordance with agreed annual workplans.	i. The herders have been taking actions to protect wildlife such as wild sheep, deer, and antelopes. In order to protect wildlife including deer and antelopes from poachers, the herders took turns to patrol and guard them every 45 days in fall. In spring, herders rotated every 30 days to patrol and guard deer from poachers who try to poach deer for their horns. These actions help wildlife to raise naturally, herders regularly provide salt, hay for deer, antelope and wild sheep. In January 2022, three herders placed 150 kg of hay and 370 kg of salt in three parts of Hanangiin Mukhar, Guraviin Mukhar, Balbar Khangai, Noroviin Mukhar, and Dasgain Mukhar on trails where wild animals graze around their winter camp. Compared to the base year, the amount of hay increased by 25% and salt by 80%. In 2014, 18 deer and 5 marmots were registered, but in 2021, there were 25

			deer, 20 marmots, and more than 30 Mongolian gazelles, according to observation reported by herders.   ***Herders providing fodder and salt to wildlife in their grazing area***

	ii. Planting trees in winter and spring shelters	ii. Increased absorption of carbon dioxide	ii. Herder families planted trees in their winter shelters.
	iii. Clean area (collect rubbish brought down river from Ulaanbaatar)	iii. Cleaning/litter collection in May and October	iii. Herders cleaned up the garbage along the Tuul River every month and disposed of it at landfills. 10 households participated in the garbage cleanup and cleaned 2.5 tons of garbage.
3.Socioeconomic activities	i. Repair of fences & winter/spring shelters.	i. 5 additional fences/shelters repaired by end 2022.	i. Four herder families repaired their winter shelters, while three families repaired their spring shelters. Target met.
	ii. Collaborative production and marketing of milk and curd in season.	ii. Enhanced HH income against baseline	ii. Over 10 households participated in the trade fair and sold dairy products to increase their household income. 10 % of all herder households increased their household income by 3 %.

			  ***Herders selling dairy products at a trade fair***
	iii. Sewing	iii. Increase non-livestock income (enhanced participating HH income by the end of each year) and job creation.	iii. Herders took loans from the mutual fund, bought a sewing machine, made clothes and earned 14 million MNT to increase their income.

			  ***Clothes made by the herders***
	iv. Small scale processing of hide and skin of animals and deliver to markets	iv. Enhanced HH income against baseline.	iv. Herders took loans from the mutual fund, and bought a leather tanning machine and increased their income by processing sheep and lamb skin, selling to herders in Undurshireet *soum*. 8% of all herder households increased their household income by 8.5%

			  ***Sheep skin processing by herders***
	v. Hay provision	v. Increased % HH with adequate hay provision.	v. In 2022, 268 tons of hay and fodder were purchased, which is 32.4% increase compared to the previous year. 24% of the total purchased fodder is hay and 76% is green fodder. The herders of Ikh Am *heseg* do not have their own hay fields, so they buy all their fodder from outside.

Dulaan Khairkhan heseg			

1.Pasture management (carbon sequestration)	***i.*** Develop & implement schedule for seasonal pasture use (rotation)	i.	Development of agreed annual schedule (approved by *heseg* members & LA (by end March each year), and which is equivalent to 50% grazing pressure or less for seasonal pasture areas and in accordance with carbon modelling. Any subsequent updates/changes also agreed and approved by same parties.	i. In 2022-2023, grazing pressure across various pasture types was meet targets in all cases (see Table 8a).
			Further 1% reduction in livestock (sheep units) against baseline by end March 2019; 1% by end March 2020; 1% by end March 2021.2% by end March (2023-2029).	In 2022, the number of livestock (sheep units) decreased by 15.6% compared to 2014. Target achieved.
			% of *heseg* households that comply with schedule (80% in summer and winter 2019; 85%,2021, 95% 2022, 95-100% 2023/29). Increased annual mobility (Average per *heseg*).	The herders made seasonal movements and pasture rotations according to the Pasture Use Agreement. The *heseg* herders jointly developed a draft plan on pasture use for 2022 and had it approved at the group meeting. According to the PUG regulations, the *heseg* households did not use the winter camp pasture from June 10 to November 20. As a result, overgrazing was reduced and plant growth increased. *Heseg* households moved and rotated pasture on a regular basis. The herders' migration is mostly calculated by taking the number of long-distance migrations in four seasons. If we take into account the short-distance migration of 0.5-1.5 km, the number of migrations is likely to be more. The herder households move a maximum of 15 times and a minimum of 8 times to ensure that their animals are getting enough fat. Target achieved.
	ii. Assist selling livestock over pasture	ii.	Decrease in number of livestock.	ii. In 2022, 300 animals were sold to the market and earned 39 million MNT. The project provided a soft loan from the mutual fund for transportation and sale of livestock and

	carrying capacity		meat. However, overall target of decreased numbers of livestock not achieved.
	iii. Organize seasonal camping in underused areas	iii. Improved pasture conservation through using reserve (less used) pasture and reducing grazing pressure in other areas.	iii. 30% of herder households camped on unused pastures.
2.Biodiversity Conservation	i. Protection of *argali*, ibex & goitered gazelle	i. By 2029 the populations of each of the three target species have shown an increase from the baseline taken in 2019.	i. The herder families live in the Gobi desert region with high mountains and saxaul forests. The *heseg* has endangered animals such as *argali* and ibex. The herders are responsible for counting and registering the *argal*i and ibex. When the weather is harsh, they put hay and salt for the wildlife in their grazing areas. The number of wild animals has been increasing. Due to the cessation of the use of saxaul as fuel, saplings are multiplying and nature is recovering. Dulaan Khairkhan *heseg* herders continue to protect the wild sheep and goats in Ikh Bogd special protected area. Animals such as *argali* and ibex which are malnourished due to drought were given hay and salt. In 2022, 40 *argali* and 30 ibexes were registered. According to a survey conducted by ZSL in 2015, 35 *argali* and 2 ibexes were registered. In other words, the number of *argali* has increased by 14.3% and the number of ibexes has increased by 15 times since the base year. Under the PCCA project, herders have been working in closer collaboration to protect their environment and wildlife as they regularly gather for a meeting to discuss their concerning issues and plan their activities.

			  ***Wildlife grazing***
	ii. Protection of saxaul forest	ii. Patrols and protection of saxaul forest.	ii. The *heseg* herders made a plan to collectively protect saxaul trees and requested the Citizens' Representative Hural to ban cutting and using saxaul trees for fuel. As a result, saxaul forest is renegerating and new trees are growing. The numbers of stumps decreased by up to 80%. Because herder households live near saxaul forests, each household protects its own saxaul. At group meetings, they discuss how to protect and provide guidance.

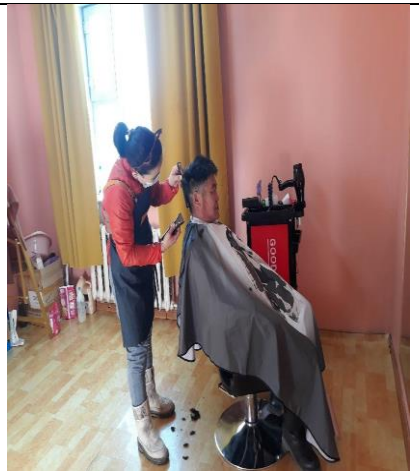
			  ***Saxaul forests protected by the herders***
3.Socioeconomic activities	i. Repair of fences &	i. 5 shelters/fences repaired.	i. Herders T. Batnasan and G. Enkhtur built new winter stone shelters, while J. Munkhbat, Togookhuu and Enkhbat have repaired 4 winter/spring shelters.

	winter/spring shelters		 ***Herders are building a stone shelter in collaboration***  ***A stone shelter built by the herders***

			  ***Repair of T. Batnasan's well***
	ii. Experiment and introduce soilless green fodder cultivation	ii. Reduction of pasture load	ii. Soilless green fodder cultivation has not been carried out due to unfavorable climatic conditions and cultivation environment.
	iii. Hay preparation	iii. Every *heseg* household prepared hay annually. Increased % of HH year on year with adequate hay	iii. In 2022, the herders of Dulaan Khairkhan *heseg* prepared 76.2 tons of hay and bought 23.8 tons of fodder. Compared to last year, the amount of hay and fodder preparation decreased by 45%. This is due to the decrease in the amount

		provision. Annual targets to be confirmed by *heseg*.	of fodder purchased from outside due to the weather forecast that winter in 2022 will have less snow.
	iv. Establish a market to sell livestock, meat and raw materials	iv. Assist *heseg* herders to sell their livestock, meat and raw materials.	iv. At the request and initiative of the herders of the group, a trade and service centre called Bogd Vivo was established and put into operation in order to increase non-livestock income. The Bogd Vivo centre has started several activities to increase the income and provide employment for herders: • Bogd Vivo store is opened and running. A variety of grocery items are sold at the shop. • There is a restaurant which has two cooks. They also make cakes for the New Year and other holidays, and serve with fast food, such as hotdogs, pizza, fried chicken, rolls, and pastry daily. They also produce noodle and sell to the residents in the community. • Tailoring services such as sewing custom made clothes, jackets, household linens, chair covers, and repair services for the residents in the community are provided • A 5-bed hotel is being operated. 

			Bogd Vivo Trade and Service Centre  ***Store operation on January 29, 2023***  ***Kitchen area of the restaurant***

			 ***Otgonbayar's barbershop***  ***The 5-bed hotel room***

			 **Restroom**
	v. Sewing	v. Increase non livestock income and job creation. Enhanced income for participating HH by end of year.	v. *Heseg* member O. Tsermaa is operating a tailor shop at the Bogd Vivo centre.  ***Herder Ms. Tsermaa is operating a tailor shop***

	vi. Making noodles	vi.	Increase non livestock income and job creation. Enhanced income for participating HH by end of year.	vi. Herder Ms. Uranchimeg earned 2 million MNT by making noodles and cakes. 20% of the herder households increased their income by 2.6%.  ***Cakes made by Ms. Uranchimeg***

N.B. The ‘traffic light’ system (red, orange and green dots) relates to the activity-based monitoring set out in Section K of the PDD, where green denotes the project is on track and all payments should be made in full; orange denotes that some activities have fallen short of targets and that corrective action(s) may be required; red denotes that project activities have fallen far short of requirements and corrective action is necessary.

Monitoring and evaluation of the progress of project activities

From June 15 to July 5, 2022, MSRM visited project sites for three weeks to meet with herders and gather feedback on project implementation. During this period, MSRM conducted training sessions to promote the PCCA project's purpose and importance, addressing global warming, greenhouse gas emissions, and pasture improvement strategies. Discussions included changes in livestock numbers, migration patterns, project financing, progress, and future activities. Additionally, MSRM provided guidance to herders on implementing the approved pasture management plan, reducing livestock numbers, and promoting pasture regeneration through rotational grazing.

The herders from Hongor Ovoo *heseg* shared their feedback on the project's progress. Mr. Sengee, the heseg leader, noted improvements in management practices compared to the previous leadership, highlighting enhanced transparency in reporting and project financing. Herders suggested reducing the number of animals and improving their quality by using better breeding techniques. They expressed concerns about the low prices of livestock products, including meat, milk, and wool, which negatively impact their livelihoods. Additionally, the herders advocated for increased cultivation of green fodder due to pasture shortages and expressed interest in learning from Inner Mongolian herders about soilless green fodder cultivation techniques. They requested training in this area. When the project funding was distributed in cash, the herders criticized payments made to absentee herders—those registered with the PUG but who do not regularly herd on PUG pastures, often residing in the *soum* and *aimag* centres after grazing briefly in summer. They emphasized the need to support only permanent herder households in the region.

The herders from Ikh Am *heseg* provided feedback on the project's progress, with project coordinators Mrs. Oyun and Mrs. Baasansuren assessing their work performance over the past year as reasonable. To enhance livestock sales, they emphasized the need for a refrigerated truck to transport meat to markets in Ulaanbaatar city. Additionally, they noted that women could increase non-livestock income through sewing activities in autumn and winter, suggesting that more attention be given to loans from the mutual fund for purchasing sewing machines. The herders also advocated for support of cooperative initiatives that facilitate the sale of livestock products, including meat, wool, and cashmere. They explored the potential for establishing a small-scale slaughterhouse in the *soum* centre to further improve their economic opportunities.

The herders from Dulaan Khairkhan *heseg* provided positive feedback after hearing reports from project coordinators Mr. Amarsanaa and Mrs. Uranchimeg. They reflected on the challenges faced in 2020-2021, when many livestock were lost, but noted that the current year has seen an increase in livestock numbers due to favorable weather. They are working to adjust animal numbers in line with their grazing capacity. Given the significant climate change impacts in the Gobi Desert region, the herders highlighted the importance of risk protection measures. They emphasized the need for improvements in livestock shelters, better preparation of hay and fodder, and enhancing the quality of livestock. Additionally, they called for the acceleration of activities at the trade service centre to boost non-livestock income.

Between August 10 and 20, MSRM visited Hongor Ovoo *heseg* and Ikh Am *heseg* to assess pasture yield. It is recommended to utilize pasture yield data will help calculate pasture capacity more accurately by repeating the assessments in the following year. There may be inaccuracies in the yield determinations provided by the Hydrometeorological Institute and the Land Agency. One example of this is that the amount of biomass can be underestimated, as measurements are taken from pastures that have been grazed by animals during the summer, leading to a decrease in the visible biomass.

From October 15 to 17, a training seminar was held in Ulaanbaatar for project coordinators and PUG leaders. During the seminar, participants discussed the work reports from each project site for 2022, reviewed the project financing report, and evaluated the results of their efforts. Future work plans were also outlined, and attendees exchanged experiences from their respective project sites.

Several observations were made during the meeting and interviews. Since the distribution of payments to herders, there has been increased awareness of the project, leading to greater participation and motivation among herders. However, this payment distribution has also resulted in a decrease in livestock sales. Consequently, there is an ongoing study to allocate a certain percentage of project funding to address the reduction in livestock numbers. It has been determined that providing cash support is more appropriate for poorer herder households with fewer than 200-300 sheep units. Overall, both local governments and herders express a desire for initiatives that increase non-livestock income. To reduce animal numbers, it is suggested that a portion of the funds be used to purchase animals exceeding the carrying capacity of pastures. Furthermore, it has been recognized that payments should be discontinued for absentee herders who register with the project but do not consistently herd in the area. The incidents reported last year in some project units highlight the need for better monitoring of the funds allocated to these units. Therefore, MSRM is actively working to enhance financial monitoring.

However, despite the positive assessments of herders, and recognition of the project's contributions, and some marked successes, a number of amber as well as green indicators were recorded in Year 8. Specifically, and by site:

Hongor Ovoo *heseg*: MSRM's monitoring and reporting, supported by official livestock census data from *soum* levels and herder groups, indicate that in 2022, livestock numbers—both in sheep units and actual livestock—showed an increase compared to baseline figures and Year 7. This rise can be attributed to favorable spring and summer weather in 2022, as well as relatively low snowfall during winter and spring. Additionally, the ongoing closure of the Chinese borders due to COVID-19 has resulted in decreased export opportunities for livestock and meat across the country, with exports to China decreasing by 3.6 times compared to 2019. Moreover, two new households have joined the Hongor Ovoo *heseg*.

Figures in Table 4, Part C, are derived using the Century model and technical specification set out in the PDD. Data used for the three sites in Year 8 is presented in Annex 2. The Issuance request in C2 reflects and sets out corrective actions, in the light of the amber light for pasture management overall.

For other activities and indicators, Hongor Ovoo *heseg* met the majority of goals, as summarised above and as indicated by a green 'traffic light' symbol. Successes continue to be noted in terms of enhanced herders' roles and activities in environmental governance and biodiversity conservation and livelihood/ risk management activities. The development of the VIVO trade and service centre is a particularly noteworthy success.

Ikh Am *heseg*: MSRM monitoring and reporting, supported by official *soum* level and herder group livestock census data, reveal that in 2022, the livestock numbers as sheep units showed a small decrease compared to the baseline, but an increase by comparison with Year 7 and overall targets for reduction in livestock numbers have not been met, hence the amber traffic light.

Figures in Table 4, Part C, are derived using the Century model and technical specification set out in the PDD. Data used for the three sites in Year 8 is presented in Annex 2. The Issuance Request in C2 reflects and sets out corrective actions, in the light of the amber light for pasture management overall.

For other activities and indicators, Ikh Am *heseg* herders met the majority of goals, as summarised above and as indicated by a green 'traffic light' symbol. As for Hongor Ovoo *heseg,* successes continue to be noted in terms of enhanced herders' roles and activities in environmental governance and biodiversity conservation and livelihood/ risk management activities.

Dulaan Kharkhan *heseg*: MSRM monitoring and reporting, supported by official *soum* level and herder group livestock census data, reveal that in 2022, the livestock numbers as sheep units showed an increase by comparison with the baseline and overall targets for reduction in livestock numbers have not been met, hence the amber traffic light.

Figures in Table 4, Part C, are derived using the Century model and technical specification set out in the PDD. Data used for the three sites in Year 8 is presented in Annex 2. The Issuance Request in C2 reflects and sets out corrective actions, in the light of the amber light for pasture management overall.

For other activities and indicators, DK herders met the majority of goals, as summarised above and as indicated by a green 'traffic light' symbol.

E2: Maintaining commitments

In this period, all existing herder groups have maintained their commitment to the project (see section H1 for further details around participating households). All groups have also demonstrated their commitment through opting to enter into Phase 2 from April 2019.

E3: Socioeconomic monitoring

Monitoring indicators for Year 8 are as set out for each *heseg* in Section B1 and B2 above, and in Table 8b above.

E4: Environmental and biodiversity monitoring

Monitoring indicators for Year 8 are as set out for each *heseg* in Sections B1 and B2 above. B2 sets out biodiversity related activities and monitoring for each site over this period. These are also summarised in Table 8b, above.

Part F: Impacts

F1: Evidence of outcomes

As highlighted above and in Table 8b in particular, PCCA Phase 1 has secured a range of specific impacts in relation to livelihoods, pasture use and management, carbon sequestration and biodiversity conservation.

The overall impacts of Phase II will be summarised in the end of Phase II report.

Part G: Payments for Ecosystem Services

G1: Summary of PES by year

Table 9: Summary of payments made and held in trust

1. Reporting year (04/19 – 03/20)	2. Total previous payments (Previous reporting periods)	3. Total ongoing payments (in this reporting period)	4. Total payments made (2+3)	5. Total payments held in trust	6. Total payments withheld
Year 1 (2015-2016)	0	0	0	0	0
Year 2 (2016-2017)	0	0	0	0	0
Year 3 (2017-2018)	0	$6,788.0	$6,788.0	$2,694.31	0
Year 4 (2018-2019)	$6,788.0	$6,340.0	$13,128.0	$6,058.62	0
Year 5 (2019-2020)	$13,128.0	$65,162.7	$78,290.7	$64,393.68	0
Year 6 (2020-2021)	$78,290.7	$8195.7	$86,486.4	$60,150.48	0
Year 7 (2021-2022)	$86,486.4	$73,426.0	$159,912.4	$271,084.45	0
Year 8 (2022-2023)	$159,912.4	$247.188.9	407,101.3	$115,535.08*	0

**Payments previously held in trust were disbursed to the participants (herder groups) in the Spring of 2022 upon review of their work report and planned activities.*

All payments have been made in accordance with the PES agreements signed by participating *heseg* and as set out in the PDD.

Part H: Ongoing participation

H1: Recruitment

The number of participating *heseg* are unchanged. Two new households were added to Hongor Ovoo *heseg*. In this regard, the number of households participating in the project has increased to 116.

H2: Project Potential

All three existing participating *heseg* have continued into a second commitment period. As noted, other key organisations in Mongolia have expressed interest in adopting the PCCA approach and thus potentially extending it to new sites and herder groups.

Due to a growing interest among herders to participate in the project, there has been a demand to revise the project documentation to expand the current grazing area. Plans for future updates to the PDD are being considered to accommodate this expansion and enhance project impact.

H3: Community participation

In Year 8, herders from Hongor Ovoo *heseg* raised concerns about the insufficiently low prices of livestock products, particularly livestock, meat, milk, and wool, which negatively impact their livelihoods. They emphasized the necessity of increasing green fodder cultivation due to pasture shortages. Additionally, the herders expressed a strong interest in

learning from Inner Mongolian herders about soilless green fodder cultivation techniques and are seeking training to implement these methods in their own practices.

The herders of Dulaan Khairkhan *heseg* reflected on the challenges of 2020-2021, noting that many livestock were lost during that difficult period. However, in Year 8 (2022-2023), they reported an increase in livestock numbers due to favorable weather conditions. They are actively working to align their herd sizes with their grazing capacity. Given the significant climate changes in the Gobi Desert region, they emphasized the importance of risk protection measures. The herders called for improvements in livestock shelters, hay and fodder preparation, and overall livestock quality. Additionally, they highlighted the need to accelerate the operation of the trade service centre to boost non-livestock income.

During the meeting with the herders, several key suggestions were raised:

- Local NGO leaders from the Hongor Ovoo and Ikh Am areas indicated that the mutual fund is not allocated to every herder household participating in the project.
- Concerns were raised regarding the issuance of loans to some non-project herders, emphasizing a lack of transparency in the process. It was recommended that specific measures be implemented to improve transparency and accountability in the loan distribution.

Additionally, during the distribution of cash payments from the project, the herders expressed that it is inappropriate to allocate project funds to absentee herders—those registered with the *heseg* who do not regularly herd on the pastures and often reside in the *soum* and *aimag* centres after grazing for only a few days in the summer. They emphasized that only permanent herder households in the area should receive these funds.
In response to these proposals, measures were implemented to revise the financial management of the project and exclude absentee herders from participation.

Part I: Project operating costs

I1: Allocation of costs

For Year 8, MSRM costs in training and capacity building with participating *heseg* and in monitoring were met through their allocation of funds from PV certificate sales. The herders and employees of the project were trained on global warming, its causes and consequences, and herders' role in reducing it (proper use of pastures and not to overstock). A total of six trainings were held for 96 herders on what is greenhouse gas and its components (carbon dioxide, methane), how to reduce the number of animals, how to use pastures in rotation, how to make pasture use plans and sketch maps. In Year 8, trainings on planting green fodder using manure (planting green fodder using animal manure near winter and spring camp), preparing the soil, planting and harvesting were conducted. Moreover, three training sessions were conducted on project monitoring and evaluation, and writing reports on planned work performance.

Table 10: Allocation of costs

Expenses	Narrative	Amount (in USD$)	Contribution from sale of PVCs	Contribution from other sources

Travel expense	Trainings (global warming, carbon emissions and pasture management)	3500	3500	
	Survey and monitoring	3000	3000	
	Meeting with herders	3000	3000	
Subtotal		**9500**	**9500**	
MSRM staff salary	3 staffs (per year)	36000	36000	
	Social insurance (24%)	8640	8640	
	Income tax (10%)	3600	3600	
Subtotal		**48240**	**48240**	
Total		**57740**	**57740**	

Annexes

Annex 1. Monitoring results for issuance request

Results are presented in Tables 8a and 8b, and Section E above.

Further supporting information from MSRM Annual Report for Year 8 is also included below.

1. Hongor Ovoo

In Hongor Ovoo *heseg*, the number of livestock (sheep units) increased in 2022 by 26.5% compared with 2014. This increase was due to the favourable weather in spring and summer in 2022, not too much snow in winter and spring, as well as the fact that Chinese borders remained closed due to Covid. Overall, the export of livestock and meat decreased by 3.6 times compared to 2019 across Mongolia.

Table 1a. Hongor Ovoo *heseg* actual livestock numbers

Year	Camel	Horse	Cattle	Sheep	Goat	Total	% change compared with 2014
2014		880	2260	7120	3835	14,095	100
2015		825	2450	7215	3824	14,314	101.6
2016		1017	2697	8758	4237	16,709	118.5
2017		906	2483	6590	3414	13,393	95
2018		804	2432	7120	3448	13,804	97.9
2019		652	2895	8203	3143	14,893	105.7
2020		635	2083	7100	2503	12,321	87.4
2021		907	2669	7152	2788	13,516	95.9
2022		1108	3366	7740	3692	15,906	112.8

Table 1b. Hongor Ovoo *heseg* livestock numbers (Sheep units)

Year	Camel	Horse	Cattle	Sheep	Goat	Total	2015-2020/2014*100%
2014		4879	8895	4329	2163	20,266	100.0
2015		4574	9643	4387	2157	20,760	102.4
2016		5638	10615	5325	2390	23,968	118.3
2017		5023	9773	4007	1925	20,728	102.3
2018		4457	9572	4329	1945	20,303	100.2
2019		3560	13668	6871	2403	26,502	130.8
2020		3467	9834	5947	1914	21,162	104.4
2021		4112	10370	4680	1788	20,950	103.4
2022		5150	12764	5325	2392	25,631	126.5

Forest protection communities have cleared 2 hectares of forest, planted 40 trees, and 33 herders have patrolled more than 20 times in spring and autumn to protect deer and wild animals, and to protect forests and pine trees.

Table 2: Herder household movement in 2019-2022, Hongor Ovoo *heseg*, Ikh Tamir *soum*, Arkhangai *aimag*

Year	Average movement per year	Average distance of herders households movement,km	Average distance of one movement,km	Change of average movement per year,%	Change of average distance herders movement,%	Change of average distance of one movement,%
2019	4.0	70.0	17.5	97.0	87.5	90.2
2020	4.0	70.0	18.0	100.0	100.0	102.9
2021	4.0	65.0	16.3	100.0	92.9	92.9
2022	4.0	68.0	16.2	105.0	104.6	99.6

2. Ikh Am

According to the *soum*'s land utilization plan, Ikh Am *heseg* of Undurshireet *soum*, Tuv *aimag* made a Pasture Use Agreement with the *soum*'s land inspector based on the *soum* governor's order of September 12, 2017 (2017-2031).
Compared to 2014, the number of animals (sheep units) decreased by 1.6 % in 2022, although it is higher than in 2021. Compared to 2014, the actual number of animals increased (Table 3).

Table 3a. Ikh Am *heseg* actual livestock numbers

Year	Camel	Horse	Cattle	Sheep	Goat	Total	Compared with 2014 years, %
2014	0	1188	1143	10457	6960	19748	100
2015	18	1503	1337	11882	7677	22417	113.5
2016	29	1477	1377	13501	7574	23958	121.3
2017	26	1161	1005	10853	5798	18843	95.4
2018	2	809	985	10529	6046	18371	93
2019	0	971	982	11710	7156	20819	105.4

2020	0	515	686	11415	6880	19496	98.7
2021	0	678	649	10309	5556	17192	87.1
2022	15	961	824	13331	6177	21308	107.9

Table 3b. Ikh Am *heseg* livestock numbers (Sheep units)

Year	Camel	Horse	Cattle	Sheep	Goat	Total	2015-2020/2014*100%
2014	0	6586	4499	6358	3925	21368	100.0
2015	81	8333	5262	7224	4330	25230	118.1
2016	130	8189	5420	8209	4272	26219	122.7
2017	117	6437	3956	6599	3270	20377	95.4
2018	9	4485	3877	6402	3410	18183	85.1
2019	0	5315	4497	9765	5458	25035	117.2
2020	0	2819	3142	9519	5248	20727	97.0
2021	0	3424	2257	6697	3630	16008	74.9
2022	39	4487	3019	9473	4021	21039	98.5

The *heseg* herders have been using summer and winter pastures in rotation in four seasons as scheduled. Number and distance of seasonal movements was similar to that of the previous year (Table 4).

Table 4: Herder household movement in 2021, Ikh Am *heseg*, Undurshireet *soum*, Tuv *aimag*

Year	Average movement per year	Average distance of herders households movement,km	Average distance of one movement,km	Change of average movement per year,%	Change of average distance herders movement,%	Change of average distance of one movement,%
2018	5.8	150.0	25.9			
2019	5.0	130.0	26.0	86.2	86.7	100.5
2020	5.0	140.0	28.0	100.0	107.7	107.7
2021	4.6	130.0	28.3	92.0	92.9	100.9
2022	4.6	120	26.1	100	92.3	92.3

The *heseg* herders are actively engaged in protecting wildlife, including argali wild sheep, deer, and antelopes. To safeguard these animals from poachers, the herders take turns patrolling every 45 days in the fall and every 30 days in the spring to monitor deer, particularly to deter poaching for their horns. In addition to patrolling, herders regularly provide salt and hay for deer, antelopes, and wild sheep to support their natural raising. In January 2022, herders J. Tsogoo, S. Banzragch, and D. Gantushig distributed 150 kg of hay and 370 kg of salt across three areas—Hanangiin Mukhar, Guraviin Mukhar, Balbar Khangai, Noroviin Mukhar, and Dasgain Mukhar—on trails frequented by wild animals near their winter camp.

The herders gather to discuss and make decisions on various planned activities, including rotating pastures, preparing hay and fodder, participating in trade fairs organized by the *soum* to boost their income, and quarterly preparation of raw materials. During these meetings, they address compliance with the orders of the *soum* governor and the responsibilities outlined in the Pastureland Regulation. They also focus on conducting nature protection patrols, maintaining their health, ensuring full vaccination of their livestock, and actively participating in veterinary washing and vaccination programs.

Herders who have received soft loans from the mutual fund in recent years share updates on their initiatives within the community, discuss ways to support one another, and explore opportunities for increased involvement in projects and programs to enhance their participation.

3.Dulaan Khairkhan

In 2022, the actual number of livestock decreased by 14.8% (Table 5) and sheep units by 15.6% (Table 6) compared to 2014.

One of the main factors contributing to pasture improvement is the traditional rotational grazing.

Table 5a. Dulaan Khairkhan *heseg* actual livestock numbers

Year	Camel	Horse	Cattle	Sheep	Goat	Total	Compared with 2014 years, %
2014	201	85	65	531	3,940	4,822	100
2015	195	96	64	606	4,383	5,344	110.8
2016	230	111	73	719	4,787	5,920	122.8
2017	158	72	63	562	3,864	4,719	97.9
2018	202	91	47	528	4,008	4,876	101.1
2019	224	98	39	531	4,109	5,001	103.7
2020	150	54	34	354	2,874	3,466	71.9
2021	147	64	47	365	2,697	3,320	68.9
2022	153	73	28	416	3,439	4,109	85.2

Table 5a. Dulaan Khairkhan *heseg* livestock numbers (Sheep units)

Year	Camel	Horse	Cattle	Sheep	Goat	Total	2015-2018/2014*100%
2014	900	471	256	323	2,222	4,173	100.0
2015	874	532	252	368	2,472	4,498	107.8
2016	1030	615	287	437	2,700	5,070	121.5
2017	708	399	248	342	2,179	3,876	92.9
2018	905	505	185	321	2,261	4,176	100.1
2019	886	555	183	450	3,208	5,282	126.6

2020	593	306	159	300	2,244	3,603	86.3
2021	519	398	229	338	2,357	3,841	92.0
2022	505	360	110	307	2,240	3,522	84.4

Table 6: Herder household movement of Year 2022, Dulaan Khairkhan *heseg*, Bogd *soum*, Bayankhongor *aimag*

Year	Average movement per year	Average distance of herders households movement,km	Average distance of one movement,km	Change of average movement per year,%	Change of average distance herders movement,%	Change of average distance of one movement,%
2018	3.5	160.0	45.7			
2019	4.0	150.0	37.5	114.3	93.8	82.0
2020	5.0	200.0	40.0	125.0	133.3	106.7
2021	4.5	140.0	31.1	90.0	70.0	77.8
2022	4.0	140	35	88.9	100.0	112.5

The herders practice seasonal movements and pasture rotations in accordance with the Pasture Use Agreement (PUG). They collaboratively developed and approved a draft plan for pasture use in 2022 during a group meeting. According to PUG regulations, the group households refrain from using the winter camp pasture from June 10 to November 20, which helps reduce overgrazing and promotes plant growth. Heseg households regularly move and utilize pasture, with their migration patterns primarily based on the number of long-distance migrations across the four seasons. When considering short-distance migrations of 0.5 to 1.5 km, the total number of migrations is likely higher. Each group household typically moves a maximum of 15 times and a minimum of 8 times to ensure their animals remain well-fed and healthy.

The herders in the group reside in the harsh climate of the Gobi Desert region, characterized by high mountains and saxaul forests. This area is home to endangered species such as argali and ibex, with B. Togookhuu and A. Amarsanaa responsible for counting and registering these animals. During difficult weather conditions, the herders provide hay and salt to support wildlife, contributing to an increase in wild animal populations.

The territory of the group has a harsh natural climate. The group's families live in the Gobi desert region with high mountains and saxaul forests. Our group has endangered animals such as argali and ibex. B.Togookhuu and A.Amarsanaa are responsible for counting and registering the argali and ibex. When the weather is difficult, we put hay and salt and protect it. The number of wild animals is increasing. Due to the cessation of saxaul use as fuel, saplings are thriving, contributing to the recovery of the natural environment.

In 2022, the herders of the Dulaankhairkhan group prepared 76.2 tons of hay and purchased 23.8 tons of fodder.

Annex 2. Ongoing monitoring results for all participants

Monitoring results for Year 8 are summarised in Section E, Table 8a & 8b.

Further supporting information from MSRM Annual report for Year 8 is also included as part of Annex 1, above.

Carbon modelling calculations are presented in the following tables. These underpin the figures for carbon sequestration achieved in Year 8, as presented in Section C, Table 4 of the main report.

Table Annex 2a: Hongor Ovoo *heseg*, Ikh Tamir *soum*. Grazing Management Activity Description by Grazing Location

1	Grazing location	Riparian meadow		Mountain meadow			Mountain steppe		
		spring/summer/fall	summer	winter	summer/fall	winter/spring	fall	winter/spring	summer/fall
2.1.2	estimation of sustainable carrying capacity								
	Year 8 (2022-23) 1% reduction in livestock numbers against previous years								
	start of grazing season (dd/mm)	25-Mar-22	12-Jun-22	15-Oct-22	25-May-22	1-Nov-22	20-Aug-22	15-Oct-22	25-May-23
	end of grazing season (dd/mm)	20-Aug-22	1-Aug-22	25-Mar-23	1-Nov-22	1-May-23	15-Oct-22	25-May-23	15-Oct-23
	number of days grazing in this location	148.0	50.0	162.0	160.0	182.0	56.0	222.0	143.0

average number of moves (camps) in this location	6	3	3	6	3	3	3	6
average number of sheep units grazing in this location	**4,970**	**7,552**	**9,917**	**2,330**	**5,125**	**5,182**	**10,589**	**5,597**
area (ha)	1,483.5	2,651.2	4,639.4	786.4	2,169.1	1,647.9	4,481.8	1,292.6
yield (kg DM ha)	**735.0**	**625.0**	**950.0**	**650.0**	**1050.0**	**690.0**	**1050.0**	**950.0**
total yield (kg DM)	1,090,373	1,657,006	4,407,402	511,160	2,277,555	1,137,023	4,705,890	1,227,989
estimation of sustainable carrying capacity								
recommended biomass utilization rate (%)	0.4	0.4	0.5	0.5	0.5	0.4	0.5	0.4
kg DM per sheep unit per day	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4
number of days grazing for each plot in this location	25	17	54	27	61	19	74	24
total number of Sheep unit that can be grazed to sequester carbon	12,630	28,406	29,149	6,845.9	13,408	17,403	22,711.8	14,721
	0.39	**0.27**	**0.34**	**0.34**	**0.38**	**0.30**	**0.47**	**0.38**

Table Annex 2b: Ikh Am *heseg*, Undurshireet *soum*. Grazing Management Activity Description by Grazing Location

	Riparian meadow	**Mountain steppe**		**Steppe**	
	Spring	**Spring**	**Winter**	**Spring**	**Winter**
Year 8 (2022-2023)					
start of grazing season (dd/mm)	1-Mar-22	1-Mar-22	20-Nov-22	1-Mar-22	20-Nov-22
end of grazing season (dd/mm)	10-Jun-22	10-Jun-22	1-Mar-23	10-Jun-23	1-Mar-23

number of days grazing in this location	101	101	101	101	101
average number of moves (camps) in this location	6	6	3	6	2
average number of sheep units grazing in this location	5,992	4,810	10,624	10,237	10,415
area (ha)	851.7	703.3	7804.8	1,517.1	7,441.3
yield (kg DM ha)	**850**	**826**	**725**	**815**	**746**
total yield (kg DM)	723,945	580,926	5,658,480	1,236,437	5,551,209.8
estimation of sustainable carrying capacity					
recommended biomass utilization rate (%)	0.5	0.4	0.3	0.5	0.4
kg DM per sheep unit per day	1.4	1.4	1.4	1.4	1.4
number of days grazing for each plot in this location	17	17	34	17	51
total number of Sheep unit that can be grazed to sequester carbon	15,360	9,860	36,016	26,233	31,407
	0.36	**0.49**	**0.29**	**0.39**	**0.33**

Table Annex 2c: Dulaan Khairkhan *heseg*, Bogd *soum*. Grazing Management Activity Description by Grazing Location

	Grazing location	Mountain desert steppe		Desert steppe	
		winter/spring	**fall**	**summer/fall**	**fall**
1.1	**description of baseline grazing practices**				
	Year 8 (2022-2023)				
	start of grazing season (dd/mm)	10-Nov-22	20-Aug-22	1-May-22	20-Aug-23
	end of grazing season (dd/mm)	1-May-23	10-Nov-22	10-Nov-22	10-Nov-23
	number of days grazing in this location	173	82	193	82
	average number of moves (camps) in this location	3	4	5	4
	average number of sheep units grazing in this location	3,522	1,422	1,358	743
	area (ha)	9,023	4,010	3,750	2,051
	yield (kg DM ha)	**220**	**140**	**143**	**143**
	total yield (kg DM)	1,985,060	561,400	536,250	293,293
	estimation of sustainable carrying capacity				
	recommended biomass utilization rate (%)	0.4	0.4	0.5	0.3
	kg DM per sheep unit per day	1.4	1.4	1.4	1.4
	number of days grazing for each plot in this location	58	21	39	21
	total number of Sheep unit that can be grazed to sequester carbon	9,835	7,824	4,961.6	3,066
		0.36	**0.18**	**0.27**	**0.24**

Annex 2d: C sequestration per ha by pasture type under differing grazing pressures, Hongor Ovoo

See Table 8a in main text**.**

Annex 2e: C sequestration per ha by pasture type under differing grazing pressures, Ikh Am

See Table 8a in main text**.**

Annex 2f: C sequestration per ha by pasture type under differing grazing pressures, Dulaan Khairkhan

See Table 8a in main text**.**

Annex 3. Reallocation of commitments

n/a

Annex 4. Socioeconomic monitoring results

Again, these are reported in Table 8b.

MSRM's annual reports, which provide further details of herders' activities and successes, are included at Annex 1, above.

Annex 5. Conservation and monitoring results

These are reported in Tables 8a, 8b, referring to Annex 2.

Annex 6. Impacts

Monitoring results as reported in previous annexes and in Table 8b.

Annex 7. Community meeting records (summary)

Meetings and training events with *heseg* members are described in Section H above.

Annex 8. Historic sales data

Table 11: Historic sales data

Invoice Date	Date of receipt by MSRM	Vintage	Buyer	No of PVCs	Price per PVC ($)*	Total sale amount ($) *	% Received by participants
06/02/2017	15/05/2017	2015-2016	CLevel	50			70%
01/07/2017	04/10/2017	2015-2016	ZeroMission	2500			70%
15/12/2017	27/11/2018	2015-2016	ZeroMission	500			70%
31/05/2018	27/11/2018	2015-2016	ZeroMission	1000			70%
02/04/2019	05/04/2019	2015-2016	CLevel	140			70%
09/03/2019	PV escrow	2015-2016	ZeroMission	700			70%
07/05/2019	15/05/2019	2015-2016	ZeroMission	1653			70%
05/06/2019	18/06/2019	2015-2016	ZeroMission	328			70%
26/07/2019	19/02/2020	2015-2016	CLevel	50			70%
05/09/2019	18/10/2020	2015-2016	myclimate	12784			70%
05/09/2019	18/10/2020	2015-2016	myclimate	310			70%
05/09/2020	18/10/2020	2016-2017	myclimate	6906			70%
02/10/2019	11/11/2019	2016-2017	ZeroMission	624			70%
06/02/2020	13/02/2020	2016-2017	ZeroMission	454			70%
02/03/2020	13/04/2020	2016-2017	ZeroMission	1181			70%
16/03/2020	20/03/2020	2016-2017	CLevel	300			70%
24/03/2021	13/04/2021	2016-2017	Azolla	70			70%

14/04/2021	04/08/2021	2016-2017	Clevel	320			70%
04/06/2021	04/08/2021	2016-2017	Clevel	500			70%
01/07/2021	16/07/2021	2016-2017	Eternal Landscapes	87			70%
06/07/2021	27/08/2021	2016-2017	Zeromission	28			70%
14/07/2021	04/08/2021	2016-2017	Clevel	636			70%
23/07/2021	04/06/2021	2016-2017	Clevel	300			70%
27/10/2021	16/02/2022	2016-2017	myclimate	7,997			70%
27/10/2021	16/02/2022	2015-2016	myclimate	7,592			70%
27/10/2021	16/02/2022	2016-2018	myclimate	17,975			70%
27/10/2021	16/02/2022	2018-2019	myclimate	25,092			70%
03/11/2021	15/11/2021	2020-2021	Carbon technnologies	74			70%
19/03/2022	26/04/2022	2019-2020	Zeromission	96			70%
19/03/2022	26/04/2022	2020-2021	Zeromission	5,854			70%
19/01/2023	26/01/2023	2019-2020	Clevel	10,000			70%
				106,698			

*Pricing reported for internal monitoring purposes only

Table 12: Summary of historic sales data

International bank wire fees ($)*	
Local bank charges*	
PV issuance fees ($)*	
Total sales after deduction of bank fees and issuance fees ($)*	
Amount assigned to participants (70%)	522,636.37

*Charges and fees reported for internal monitoring purposes only