Zhangye Improved Grassland Management Project

Document Prepared by

Western Carbon Asset Business Management (Gansu) Co., Ltd.

and

Climate Bridge (Shanghai) Ltd.

Project title	Zhangye Improved Grassland Management Project
Project ID	2748
Crediting period	25-July-2017 to 24-July-2057
Monitoring period	01-January-2022 to 31-December-2024 The CCB and VCS periods are identical.
(CCB) GHG accounting period	25-July-2017 to 24-July-2057; 40-year total period
Original date of issue	28-March-2025
Most recent date of issue	28-March-2025
Version	01
VCS Standard version	4.7
CCB Standards version	3.1
Project location	China, Gansu Province
Project proponent(s)	**Zhangye Academy of Forestry Sciences** CHEN Bin Ten kilometers outside the east gate of Ganzhou District, Zhangye City, Gansu Province, China Tel: +86 021-62462036 ; Email: 3542346576@qq.com
Validation/verification body	To be determined
History of CCB Status	09-May-2022, issuance date of the CCB validation statement

	11-May-2022, issuance date of the 1st CCB verification statement, i.e., date of the attempt at verification for the 1st monitoring period
Gold Level criteria	NA
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1 SUMMARY OF PROJECT BENEFITS

1.1 Unique Project Benefits

Outcome or Impact	Achievements during the Monitoring Period	Section Reference	Achievements during the Project Lifetime
1) Increase the aesthetic value of the local grassland ecosystem	Improved grassland productivity and coverage as a result of the project activities increased the aesthetic value of local grassland ecosystem, potentially attracting more tourists.	4.2	Improved grassland productivity and coverage as a result of the project activities increased the aesthetic value of local grassland ecosystem, potentially attracting more tourists.
2) Preserve the unique culture of Yugur[1] people which is closely associated with pastoralism	The project restored the degraded grasslands managed by local Yugur people, ensuring the preservation of traditional pastoral practices.	4.1	The project restored the degraded grasslands managed by local Yugur people, ensuring the preservation of traditional pastoral practices.
3) Provide grassland management experience in alpine grasslands and in semi-arid grasslands	Degraded grassland located in high-altitude alpine conditions and in semi-arid climates were restored, providing valuable experience and potentially serving as a model for future project.	4.2	Degraded grassland located in high-altitude alpine conditions and in semi-arid climates were restored, providing valuable experience and potentially serving as a model for future project.
4) Contribute to the biodiversity around Qilian Mountains	Due to the proximity of the project area to Qilian Mountains, an important ecological barrier, the project contributed to the biodiversity in this region.	5.1	Due to the proximity of the project area to Qilian Mountains, an important ecological barrier, the project contributed to the biodiversity in this region.

[1] A minority ethnic group unique to Gansu Province. There exist various spelling variations: “Yugur”, “Yughur” and “Yugu”. In the validated PD and the verified 1st MR, the spelling “Yugur” was predominantly used, although “Yughur” appeared occasionally. For clarity, this report consistently uses the spelling “Yugur”, and all variants are understood to refer to the same ethnic group..

1.2 Standardized Benefit Metrics

Category	Metric	Achievements during Monitoring Period	Section Reference	Achievements during the Project Lifetime
GHG emission reductions & removals	Net estimated emission removals in the project area, measured against the without-project scenario	833,421	3.2	3,507,755
	Net estimated emission reductions in the project area, measured against the without-project scenario	41,277	3.2	92,893
Forest[2] cover	For REDD[3] projects: Number of hectares of reduced forest loss in the project area measured against the without-project scenario	Not applicable	Not applicable	Not applicable
	For ARR[4] projects: Number of hectares of forest cover increased in the project area measured against the without-project scenario	Not applicable	Not applicable	Not applicable
Improved land management	Number of hectares of existing production forest land in which IFM[5] practices have occurred as a result of the project's activities, measured against the without-project scenario	Not applicable	Not applicable	Not applicable
	Number of hectares of non-forest land in which improved land management has occurred as a result of the project's activities, measured against the without-project scenario	261,059.80	2.1	261,059.80

[2] Land with woody vegetation that meets an internationally accepted definition (e.g., UNFCCC, FAO, or IPCC) of what constitutes a forest, which includes threshold parameters, such as minimum forest area, tree height and level of crown cover, and may include mature, secondary, degraded and wetland forests (*VCS Program Definitions*)

[3] Reduced emissions from deforestation and forest degradation (REDD) – Activities that reduce GHG emissions by slowing or stopping conversion of forests to non-forest land and/or reduce the degradation of forest land where forest biomass is lost (*VCS Program Definitions*)

[4] Afforestation, reforestation and revegetation (ARR) – Activities that increase carbon stocks in woody biomass (and in some cases soils) by establishing, increasing and/or restoring vegetative cover through the planting, sowing and/or human-assisted natural regeneration of woody vegetation (*VCS Program Definitions*)

[5] Improved forest management (IFM) – Activities that change forest management practices and increase carbon stock on forest lands managed for wood products such as saw timber, pulpwood, and fuelwood (*VCS Program Definitions*)

Training	Total number of community members who have improved skills and/or knowledge resulting from training provided as part of project activities	147	4.3	11,727
	Number of female community members who have improved skills and/or knowledge resulting from training provided as part of project activities of project activities	66	4.3	6,039
Employment	Total number of people employed in of project activities,[6] expressed as number of full-time employees[7]	147	4.3	952
	Number of women employed in project activities, expressed as number of full-time employees	66	4.3	493
Livelihoods	Total number of people with improved livelihoods[8] or income generated as a result of project activities	147	4.3	11,727
	Number of women with improved livelihoods or income generated as a result of project activities	66	4.3	6,039
Health	Total number of people for whom health services were improved as a result of project activities, measured against the without-project scenario	Not applicable	Not applicable	Not applicable
	Number of women for whom health services were improved as a result of project activities, measured against the without-project scenario	Not applicable	Not applicable	Not applicable
Education	Total number of people for whom access to, or quality of, education was improved	Not applicable	Not applicable	Not applicable

[6] Employed in project activities means people directly working on project activities in return for compensation (financial or otherwise), including employees, contracted workers, sub-contracted workers, and community members that are paid to carry out project-related work.

[7] Full time equivalency is calculated as the total number of hours worked (by full-time, part-time, temporary and/or seasonal staff) divided by the average number of hours worked in full-time jobs within the country, region, or economic territory (adapted from UN System of National Accounts (1993) paragraphs 17.14[15.102]; [17.28])

[8] Livelihoods are the capabilities, assets (including material and social resources) and activities required for a means of living (Krantz, Lasse, 2001. *The Sustainable Livelihood Approach to Poverty Reduction*. SIDA). Livelihood benefits may include benefits reported in the Employment metrics of this table.

	as a result of project activities, measured against the without-project scenario			
	Number of women and girls for whom access to, or quality of, education was improved as a result of project activities, measured against the without-project scenario	Not applicable	Not applicable	Not applicable
Water	Total number of people who experienced increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario	Not applicable	Not applicable	Not applicable
	Number of women who experienced increased water quality and/or improved access to drinking water as a result of project activities, measured against the without-project scenario	Not applicable	Not applicable	Not applicable
Well-being	Total number of community members whose well-being[9] was improved as a result of project activities	8,668	4.3	11,727
	Number of women whose well-being was improved as a result of project activities	4,443	4.3	6,039
Biodiversity conservation	Change in the number of hectares significantly better managed by the project for biodiversity conservation,[10] measured against the without-project scenario	4,087,400	5.3	4,087,400
	Number of globally Critically Endangered or Endangered species[11] benefiting from reduced threats as a result of project activities,[12] measured against the without-project scenario	7	5.3	7

[9] Well-being is people's experience of the quality of their lives. Well-being benefits may include benefits reported in other metrics of this table (e.g. Training, Employment, Health, Education, Water, etc.), but could also include other benefits such as empowerment of community groups, strengthened legal rights to resources, conservation of access to areas of cultural significance, etc.

[10] Biodiversity conservation in this context means areas where specific management measures are being implemented as a part of project activities with an objective of enhancing biodiversity conservation.

[11] Per IUCN's Red List of Threatened Species

[12] In the absence of direct population or occupancy measures, measurement of reduced threats may be used as evidence of benefit

2 PROJECT DETAILS

2.1 Summary Description of the Implementation Status of the Project

2.1.1 Summary Description of the Project (VCS, 2.1, 3.6; CCB, G1.2)

Zhangye Improved Grassland Management Project (hereafter referred to as "the project") is located in Zhangye City, Gansu Province, China. The project area involves Su'nan County, Gaotai County, Ganzhou District, Shandan County, Minle County, and Shandan Racecourse. The project proponent is the **Zhangye Academy of Forestry Sciences**.

As described in the validate PD, before the implementation of the project, the grassland in the region had been facing different levels of degradation due to the impact of climate change and human activities. The project aims to restore the degraded grassland by means of seeding grass and building fences as well as sustainable management practices.

In total, 261,059.80 hectares of degraded grassland have been managed sustainably through fence building and reseeding of local high-quality forage. During the 1st monitoring period (25-July-2017 to 31-December-2021), three restoration measures, rotational grazing, rest grazing and reseeding grass, were implemented on different grassland parcels of the project. During the current monitoring period (01-January-2022 to 31-December-2024), sustainable grazing management was maintained and continued in the project area.

The implementation of the project will generate GHG emission removals by increasing soil organic matter, mitigate the impact of climate change on local environment, contribute to biodiversity protection and wildlife habitats restoration, enhance the capabilities of local communities, and improve their income by providing technical skills training and employment opportunities.

According to the validated PD, the project is expected to achieve GHG emission reductions and removals of 28,789,533 t CO_2e during its 40-year crediting period (25-July-2017 to 24-July-2057), with annual average GHG emission reductions and removals of 719,738 t CO_2e.

According to the verified MR for the 1st monitoring period (25-July-2017 to 31-December-2021), the project achieved GHG emission reductions and removals of 2,725,950 t CO_2e, comprising 2,674,334 t CO_2e of removals and 51,616 t CO_2e of reductions (before buffer deduction).

During the current monitoring period (01-January-2022 to 31-December-2024), it is estimated that the project achieved GHG emission reductions and removals of 874,698 t CO_2e, comprising 833,421 t CO_2e of removals and 41,277 t CO_2e of reductions (before buffer deduction).

2.1.2 Audit History (VCS, 4.1)

Audit Type	Period	Program	VVB Name	Number of years
Validation	/	CCB and VCS	TÜV NORD CERT GMBH	/
Verification	25-July-2017 to 31-December-2021	CCB and VCS	TÜV NORD CERT GMBH	4.4 years
Verification	01-January-2022 to 31-December-2024	CCB and VCS	To be determined	3 years

2.1.3 Sectoral Scope and Project Type (VCS, 3.2)

Sectoral Scope	14: Agriculture, forestry, and other land use
AFOLU Project Category	Agricultural Land Management (ALM)
Project Activity Type	Improved Grassland Management (IGM)

2.1.4 Project Proponent (VCS, 3.7; CCB, G1.1)

Organization name	Zhangye Academy of Forestry Sciences
Contact person	Chen Bin
Title	President
Address	Ten kilometers outside the east gate of Ganzhou District, Zhangye City, Gansu Province, China
Telephone	+86 021-62462036
Email	3542346576@qq.com

2.1.5 Other Entities Involved in the Project

Organization name	Western Carbon Asset Business Management (Gansu) Co., Ltd.
Role in the project	Consultant
Contact person	Liu Mengde, Dai Xuemin
Title	Project Manager
Address	Level 6, Heihe Hydropower Office Building, No.116 Changshou Street,

	Ganzhou District, Zhangye City, Gansu Province
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Email	xbthproject@westerncarbon.cn

Western Carbon Asset Business Management (Gansu) Co., Ltd. is a state-owned enterprise with rich experience in the development of carbon projects in Gansu Province. They coordinate various issues in project development and sales throughout the project lifecycle. They also receive regular training on carbon emission reduction programs from their shareholder, Gansu Heihe Hydropower Industrial Investment Co. Ltd., which has extensive experience in developing CDM, CCER (Chinese Certified Emission Reduction), and VCS programs.

Organization name	Climate Bridge (Shanghai) Ltd.
Role in the project	Consultant and VCU buyer
Contact person	Gao Zhiwen
Title	General Manager
Address	Block C, Level 24, Jiangong Mansion, 33 Fushan Road, Pudong New Area, Shanghai, China
Telephone	+86 21 6246 2036
Email	projects@climatebridge.com ; gao.zhiwen@climatebridge.com

Climate Bridge (Shanghai) Ltd., who has extensive experience in the development of VCS+CCB projects, will also provide expertise and guidance to Western Carbon Asset Business Management (Gansu) Co., Ltd. to ensure successful and continuous generation of carbon credits from the project.

Organization name	Zhangye Forestry and Grassland Bureau; County Forestry and Grassland Bureaus
Role in the project	Project implementation, monitoring and assessment
Contact person	WANG Lin
Title	Deputy Director of Carbon Sink Office

Address	13 Xianfunan Road, Ganzhou District, Zhangye City, Gansu Province, China
Telephone	/
Email	/

Zhangye Forestry and Grassland Bureau and the County Forestry and Grassland Bureaus participate in various phases of the project in various aspects, including community engagement, monitoring, and overall management.

2.1.6 Project Start Date (VCS, 3.8)

Project start date	25-July-2017
Justification	As per VCS standard, the project start date of an AFOLU project is the date on which activities that lead to the generation of reductions or removals are implemented (e.g., preparing land for seeding, planting, changing agricultural or forestry practices, rewetting, restoring hydrological functions, or implementing management or protection plans). For the project, 25-July-2017 is the date on which fence building and grass reseeding started.

2.1.7 Benefits Assessment and Project Crediting Period (VCS, 3.9; CCB, G1.9)

Crediting Period	25-July-2017 to 24-July-2057 As per VCS Standard, for all AFOLU projects other than such ALM projects described in 3.9.2, the initial project crediting period shall be a minimum of 20 years up to a maximum of 100 years, which may be renewed at most four times, with a total project crediting period not to exceed 100 years; AFOLU projects shall have a credible and robust plan for managing and implementing the project over the project crediting period. The project focuses mainly on increasing soil carbon removals as well as on reducing N_2O and CH_4 emissions related to grazing, and the project has a realistic and robust plan for implementation and management for 40 years. Therefore, the crediting period selection conforms with the VCS requirements.
Start Date of First or Fixed Crediting Period	25-July-2017

Total Number of Years of Crediting Period	40 years
CCB Benefits Assessment Period	25-July-2017 to 24-July-2057 (the same as the GHG accounting period)

2.1.8 Project Location (VCS, 3.11; CCB, G1.3)

The project is located in Zhangye City, Gansu Province, China. The geographical coordinates of the project are east longitude 97°20′ ~ 102°12′ and north latitude 37°28′ ~ 39°57′.

As per the validated PD, Zhangye City is defined as the project zone, and the areas where the project activities are implemented are defined as the project area. The boundaries of project area and project zone are shown in **Figure 2.1** and **Figure 2.2**.

☒ KML file has been provided

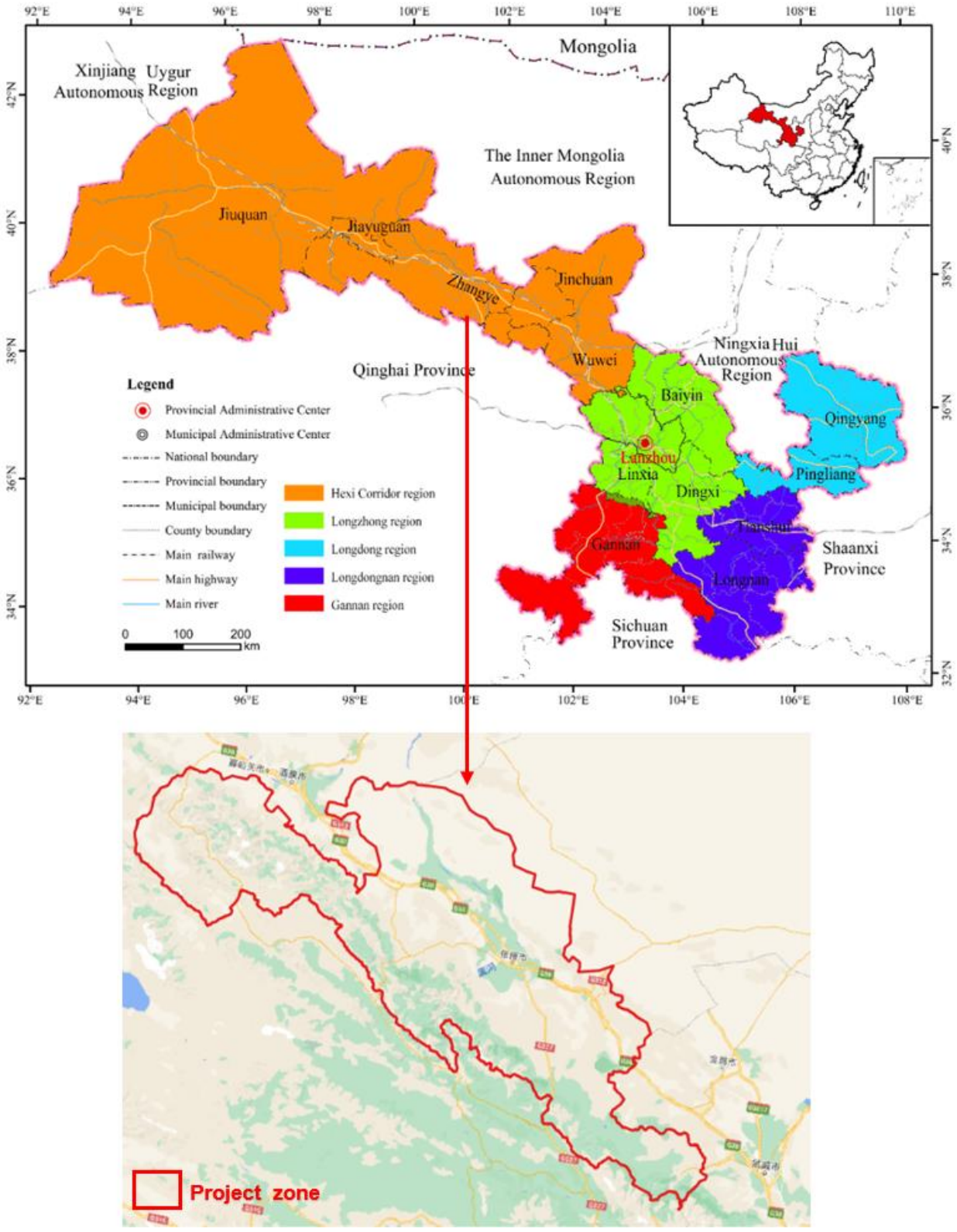

Figure 2.1 Location of Zhangye City (the project zone)

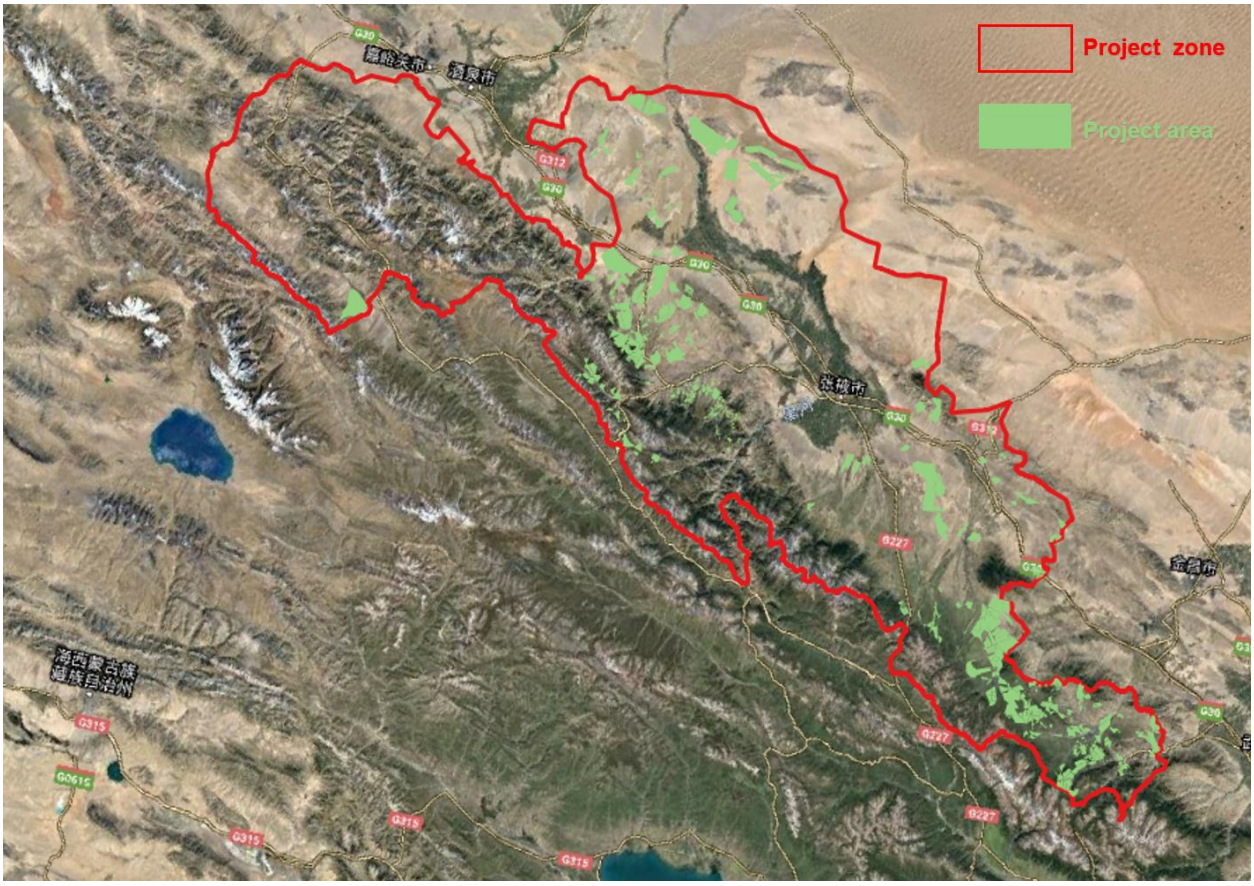

Figure 2.2 Location of the project area within the project zone

2.1.9 Title and Reference of Methodology (VCS, 3.1)

Type (methodology, tool, module)	Reference ID (if applicable)	Title	Version
Methodology	VM0026	Sustainable Grassland Management	1.1
Tool	VT0001	Tool for the Demonstration and Assessment of Additionality in VCS Agriculture, Forestry and Other Land Use (AFOLU) Project Activities [13]	3.0

[13] https://verra.org/methodologies/vt0001-tool-for-the-demonstration-and-assessment-of-additionality-in-vcs-agriculture-forestry-and-other-land-use-afolu-project-activities-v3-0/

Tool	AR-AM-TOOL-13	Tool for Identification of Degraded or Degrading Lands for Consideration in Implementing CDM AR Project Activities [14]	1.0
Guideline	CDM-EB67-A06-GUID	Guidelines for Sampling and Surveys for CDM project Activities and Programmes of Activities [15]	4.0
Module	VMD0033	Estimation of Emissions from Market Leakage [16]	1.1
Module	VMD0040	Leakage from Displacement of Grazing Activities [17]	1.0

2.1.10 Double Counting and Participation under Other GHG Programs (VCS, 3.23; CCB, G5.9)

2.1.10.1 No Double Issuance

Is the project receiving or seeking credit for reductions and removals from a project activity under another GHG program, or any other form of community, social, or biodiversity unit or credit?

☐ Yes ☒ No

2.1.10.2 Registration in Other GHG Programs

Was the project registered or seeking registration under any other GHG programs?

☐ Yes ☒ No

2.1.10.3 Projects Rejected by Other GHG Programs

Has the project been rejected by any other GHG programs?

☐ Yes ☒ No

2.1.11 Double Claiming, Other Forms of Credit, and Scope 3 Emissions (VCS, 3.24)

[14] https://cdm.unfccc.int/methodologies/ARmethodologies/tools/ar-am-tool-13-v1.pdf

[15] https://cdm.unfccc.int/sunsetcms/storage/contents/stored-file-20151023152925068/Meth_GC48_%28ver04.0%29.pdf

[16] https://verra.org/methodologies/vmd0033-estimation-of-emissions-from-market-leakage-v1-0/

[17] https://verra.org/methodologies/vmd0040-leakage-from-displacement-of-grazing-activities-v1-0/

2.1.11.1 No Double Claiming with Emissions Trading Programs or Binding Emission Limits

Are project reductions and removals or project activities also included in an emissions trading program or binding emission limit? See the VCS Program Definitions for definitions of emissions trading program and binding emission limit.

☐ Yes ☒ No

2.1.11.2 No Double Claiming with Other Forms of Environmental Credit

Has the project activity sought, received, or is planning to receive credit from another GHG-related environmental credit system? See the VCS Program Definitions for definition of GHG-related environmental credit system.

☐ Yes ☒ No

2.1.11.3 Supply Chain (Scope 3) Emissions

Do the project activities affect the emissions footprint of any product(s) (goods or services) that are part of a supply chain?

☐ Yes ☒ No

If yes:

Is the project proponent(s) or authorized representative a buyer or seller of the product(s) (goods or services) that are part of a supply chain?

☐ Yes ☐ No

If yes:

Has the project proponent(s) or authorized representative posted a public statement on their website saying, “Carbon credits may be issued through Verified Carbon Standard project [project ID] for the greenhouse gas emission reductions or removals associated with [project proponent or authorized representative organization name(s)] [name of product(s) whose emissions footprint is changed by the project activities].”?

☐ Yes ☐ No

2.1.12 Sustainable Development Contributions (VCS, 3.17)

The project has adopted rotational grazing, rest grazing as well as reseeding grass followed sustainable grazing, which increased grassland productivity, reduced areas of degradation and enhanced soil carbon sequestration, thus contributing to SDGs 2, 3 and 15. The project maintained 147 job positions all of whom are hired from local community members, providing stable income and improving local livelihoods, thus contributing to SDG 8.

In Table 2.1, the indicator for SDG 13 is defined by the template, the indicators for SDG target 8.5 are user-defined, while the indicators 2.4.1 and 15.3.1 are official indicators for SDG 2 and SDG 15, respectively.

Each of the contributions aligns with the following nationally stated sustainable development goal:

SDG 2: achieve notable progress in sustainable agricultural development and establish a new model of sustainable agricultural development featuring adequate supplies, high. resource efficiency, fertile farmlands, stable ecosystem, prosperous rural households, and pastoral beauty.

SDG 8: Improve employment and entrepreneurship services and launch a lifelong vocational training initiative.

SDG 13: Take climate mitigation actions as a driving force for China to shift to a new model of economic growth and consumption pattern and advance environmental protection and ecological progress.

SDG 15: Actively participate in the demonstration projects of zero growth in land deterioration under the United Nations Convention to Combat Desertification. Advance comprehensive management of desertification, rock desertification and soil erosion, prevent desert encroachment, expand the areas where desertification is under sound management, and strengthen ecological protection in desert areas.

Table 2.1 Sustainable Development Contributions

Row number	SDG target	SDG indicator	Net impact on SDG indicator	Current project contributions	Contributions over project lifetime
1)	2.4	2.4.1 Agricultural area under productive and sustainable agriculture	Implemented activities to increase	No further changes this monitoring period	The project has promoted sustainable grazing (livestock production) on 261,059.80 hectares of land
3)	8.5	Number of job opportunities provided and maintained	Implemented activities to increase	The project provided and maintained 147 job positions during this monitoring period	The project has provided 11,727 job positions.
3)	13.0	Tonnes of greenhouse gas emissions avoided or removed	Implemented activities to increase	The project generated 874,698 t CO_2e of emission reductions and removals during this monitoring period	The project has generated 3,600,648 t CO_2e of emission reductions and removals [18]
4)	15.3	15.3.1 Proportion of land that is degraded over total land area	Implemented activities to decrease	No further changes during this monitoring period	The project has decreased 261,059.80 hectares of degraded land

[18] 874,698 t CO_2e during this monitoring period and 2,725,950 t CO_2e during the 1st monitoring period according to the verified MR.

2.2 Project Implementation Status

2.2.1 Implementation Schedule (VCS, 3.2; CCB, G1.9)

During the current monitoring period, there was no grass reseeding or fence building implemented, while sustainable grazing, including rotation grazing, rest grazing and grass and livestock balance, was maintained and continued.

No carbon stock loss occurred during the current monitoring period.

Table 2.2 Implementation schedule of the project

Date	Milestone(s) in the project's development and implementation
September-2016	Project Design Report was completed
15-November-2016	Participatory Rural Appraisal (PRA) Report including community baseline survey was completed
November-2016	Baseline Survey Report was completed
20-December-2016	Baseline Biodiversity Survey Report was completed
27-December-2016	Project Design Report was approved by Zhangye Animal Husbandry and Veterinary Bureau
25-July-2017	Project start date (on which grass reseeding and fence building started) Start date of the project crediting period
25-July-2017 to 10-September-2017	Grass reseeding and fence building
04-August-2018 to 04-september-2018	Fence building in 2018
01-October-2018 to 07-October-2018	Grass reseeding in 2018
24-Apirl-2019 to 24-May-2019	Grass reseeding and fence building in 2019
September-2019	Completed reseeding and fence building

03-November-2020 to 07-December-2020	Biodiversity monitoring in winter
25-May-2021 to 20-June-2021	Biodiversity monitoring in summer
16-September-2021 to 1-October-2021	Field monitoring and survey for climate and community impacts for the 1st monitoring period
22-November-2021	Draft PD and PD summary were completed
25-November-2021	Draft MR and MR summary for the 1st monitoring period were completed
07-January-2022 to 06-February-2022	Public comment period for draft PD and MR
24-January-2022 to 27-January-2022	VVB site visit for validation and the 1st verification combined
03-November-2022	Registered as a CCB+VCS project
10-August-2023 to 15-September-2023	Fieldwork for biodiversity monitoring for the 2nd monitoring period
09-September-2024 to 05-October-2024	Stakeholder consultation and community monitoring for the 2nd monitoring period
16-September-2024 to 15-October-2024	Fieldwork for soil sampling for the 2nd monitoring period
28-March-2025	Draft MR and MR summary for the current monitoring period were completed
May 2025	Expected VVB site visit for the 2nd verification

2.2.2 Baseline Reassessment (VCS, 3.2.6, 3.2.7)

Did the project undergo baseline reassessment during the monitoring period?

☐ Yes ☒ No

As per VCS Standard (version 4.7), for all ALM project types, the project proponent shall, for the duration of the project, reassess the baseline every ten years. The project is an ALM project with a start date of 25-July-2017. By the end of the current monitoring period, the project has been implemented for less than ten years, and did not undergo baseline reassessment during the monitoring period.

2.2.3 Methodology Deviations (VCS, 3.20)

According to VM0026 (version 1.1), the amount of AFOLU buffer credits that must be deposited into the AFOLU pooled buffer account must be calculated by multiplying the non-permanence risk rating by the change in carbon stocks in a given monitoring period. However, this contradicts with CCB & VCS Monitoring Report Template CCB v3.0, VCS v4.4, according to which state "The buffer pool allocation is split proportionally between the reductions and removals". To be conservative, a minor deviation to the methodology is applied: the amount of AFOLU buffer credits that must be deposited into the AFOLU pooled buffer account are calculated by multiplying the non-permanence risk rating by the emission reductions achieved by the project, and these AFOLU buffer credits are split proportionally between the reductions and removals. Refer to Section 3.2.4 for details.

This methodology deviation makes the VCU issuance more conservative and does not have any other impact.

2.2.4 Minor Changes to Project Description (CCB Program Rules, 3.5.6)

Among the stakeholder groups identified in the validated PD, "Scientific Research Institutions" and "Tourism Companies" have been removed during this monitoring period, and they were not consulted, with justification provided in Section 2.3.1.

Section 4.4.1 (Community Monitoring Plan) of the validated PD has been restructured in Section 4.3.1 of this document.

No other minor change to project design occurred during the monitoring period.

2.2.5 Project Description Deviations (VCS, 3.21; CCB Program Rules, 3.5.7 – 3.5.10)

No project description deviation is applied during the monitoring period.

2.2.6 Grouped Projects (VCS, 3.6; CCB, G1.13-G1.15, G4.1)

Not applicable as the project is not a Grouped Project.

2.2.7 Risks to the Project (CCB, G1.10)

Identified Risk	Potential impact of risk on climate, community and/or biodiversity benefits	Actions needed and designed to mitigate the risk
Fires [19]	Due to its arid nature, fire is likely to spread rapidly even with small sparks, especially during months with low precipitation and high temperature. Fires could lead to loss of SOC, undermining the expected climate benefits; they might also affect forage supply and species living in grasslands, undermining the expected community and biodiversity benefits.	The local authorities are responsible for carrying out the construction of grassland fire prevention facilities. The grassland guardians and local communities are informed of increasing fire risks during dry months. Once a fire occurs, the local authorities will promptly arrange for rescue. During the monitoring period, no fire outbreak occurred in the project area.
Extreme weather events	Due to climate change, extreme weather events, especially severe draughts, are likely to occur more frequently. Extreme weather events might reduce grassland productivity, affect species living on grassland vegetation, decrease carbon sink capacity of the grassland ecosystem, undermining the expected climate and biodiversity benefits. Extreme weather events might also affect forage supply and herders' livelihood, undermining the expected community benefits.	The authorities have been working with local communities to establish and strengthen forage collection and supply system. During the monitoring period, extreme weather events occurred but no damage to livestock or herders' livelihood was observed.
Pest outbreak	Severe pest outbreaks are usually extremely rare in the grassland due to the natural resilience of well-managed grassland ecosystems. However, should a pest outbreak occur, the grassland productivity would decline drastically,	The primary approach remains ecological pest control through habitat restoration and biological control (natural predators). Chemical pesticides will only be considered and used as a last resort if pest outbreaks reach critical levels that cannot be managed by

[19] This refers to both fires from natural causes and human-induced fires

	affecting forage supply, reducing soil organic matter, and severely impacting the expected climate, community and biodiversity benefits.	other means. Refer to Section 5.1.8 for more discussion about chemical pesticides and biological control. During the monitoring period, no pest outbreak occurred.
Overpopulation of rodents	Rodents are an integral part of the grassland ecosystem, even though human beings usually do not like them. The goal should not be to eliminate them but to regulate their population. When their numbers grow too high, they compete with livestock for forage, damage vegetation, and can disrupt ecosystem balance or even lead to land degradation, undermining the expected climate, community and biodiversity benefits.	Biological control is the main approach to regulating rodent population in the project area. Refer to Section 5.1.8 for more discussion about biological control. During the monitoring period, there was no overpopulation of rodents.
Insufficient monitoring and assessment	Due to the highly dynamic nature of the grassland ecosystem, without sufficient and continuous monitoring and assessment, it would be difficult to capture signs of degradation and to appropriately adjust management strategies, thus resulting in climate, community, or biodiversity loss.	The project has a comprehensive management plan which incorporates elements of adaptive management and includes processes of continuous monitoring, assessment and adaptation.

2.2.8 Benefit Permanence (CCB, G1.11)

Prior to the project start date, an extensive stakeholder consultation was conducted in a participatory approach to collect input and obtain approval from local communities. As a result, the project proponent has been authorized to develop the project under the CCB+VCS program and to oversee the overall maintenance and management of the project throughout its lifetime.

During the project implementation so far, reseeding of native grass species and fence building were conducted, and a management system incorporating rotational grazing, rest grazing and grass and livestock balance has been gradually established, mobilizing herders and grassland guardians as well as local government agencies.

In addition, the project has developed a comprehensive management plan which includes processes of continuous monitoring, assessment and adaptation as well as long-term stakeholder engagement procedures.

All of the above will maintain and enhance the long-term climate, community, and biodiversity benefits during and beyond the project lifetime.

2.3 Stakeholder Engagement & Safeguards

2.3.1 Stakeholder Identification (VCS, 3.18, 3.19; CCB, G1.5)

The stakeholder groups identified and described in the validated PD remain applicable during this monitoring period, but a clarification is made, and a minor change occurred, as described below.

Clarification to ensure alignment with the definitions in the CCB Standard

Among the stakeholder groups identified, the following groups align with the definition of "**Community Groups**" in the CCB Standard:

- **CG1**: Local residents around the project area

  It is further recognized that this community group includes the following community groups:

  - **CG1.1**: Local herders
  - **CG1.2**: Local Yugur people
  - **CG1.3**: Local women
  - **CG1.4**: Grassland guardians
- **CG2**: Village collectives

The following groups are "**Other Stakeholders**" according to the definition in the CCB Standard:

- **OS1**: Zhangye Forestry and Grassland Bureau
- **OS2**: County Forestry and Grassland Bureaus
- **OS3**: Local government
- **OS4**: Scientific research institutions and Tourism companies (grouped as "Other stakeholders" in the validated PD)

Minor change which involves removal of OS4

Scientific research institutions and Tourism companies have not played an active role in project decision-making, implementation, or management. They do not directly benefit from the project; nor are they directly affected by it. Besides, there are no formal agreements or collaborations with these groups that would justify their continued role as identified stakeholder groups.

From the perspective of community monitoring, the project focuses on local community members, particularly local herders and grassland guardians. Including Scientific research institutions and Tourism companies in the monitoring would divert resources away from core project priorities without a clear benefit.

With these considerations, OS4 is no longer identified as stakeholder groups.

Other than this, the stakeholder make-up has not changed since validation.

2.3.2 Stakeholder Access to Project Documents (VCS, 3.18, 3.19; CCB, G3.1)

There are three approaches of project documentation disclosure to communities: village bulletin boards, dissemination of printed materials and publication on Verra Registry.

The project documents for validation and the 1st verification (both the draft version and the final version, both the full text and the Chinese summary) have been uploaded on Verra Registry. The Chinese summary documents were also made publicly available via village bulletin boards and by disseminating printed materials at various phases of the project design and implementation.

Two weeks before the monitoring activities for the 2nd monitoring period began, the project proponent further disclosed the monitoring plan and monitoring manual in Chinese to local stakeholders by posting the documents on local bulletin boards in villages around the project area and by distributing printed copies of the documents. Stakeholders were invited to review the documents and provide feedback.

After the monitoring activities were completed and the results were obtained, the draft MR and MR summary were completed and will be uploaded on Verra Registry from which the stakeholders could download the documents. The draft MR summary was also shared with stakeholders in the same manner as the monitoring plan and monitoring manual.

2.3.3 Dissemination of Summary Project Documents (VCS, 3.18, 3.19; CCB, G3.1)

The dissemination of summary project documentation and summary information on monitoring results has been described in Section 2.3.2.

2.3.4 Informational Meetings with Stakeholders (VCS, 3.18, 3.19; CCB, G3.1)

Village meetings are the most important way to share information with community members. The project proponent informs the village heads of key milestones in the project implementation as well as key events of the CCB and VCS validation and verification process. The village heads will then include such information in the next village meetings. Besides village meetings, bulletin boards and word-of-mouth communication among community members also help spread the news of the project.

2.3.5 Risks from the Project and No Net Harm (VCS, 3.18, 3.19)

Refer to Appendix 2 (Project Risks Table) for the likely natural and human-induced risks resulting from project activities as well as the mitigation or preventative measures in place to prevent or mitigate the identified risks.

2.3.6 Community Costs, Risks, and Benefits (CCB, G3.2)

There are two major decisions to make with respect to participation in the project: 1) participation in the restoration measures, and 2) being employed in project-specific positions.

All the herders participating in the project restoration measures have made the decision prior to the project start date with full understanding of the costs and risks (refer to “Adjustments to grazing practices” in Appendix 2) as well as the benefits during the PRA survey and stakeholder consultation conducted in a participatory and transparent manner, as described in the validated PD.

The project-specific positions are open to all local community members on a voluntary basis. During the recruitment process as well as upon hiring, they were fully informed of detailed responsibilities, requirements, workload, working conditions, occupational safety risks, compensation, and long-term benefits associated with the job.

All this communication was done in local Mandrin dialects or in local languages (in the case of the Yugur people) while avoiding formal and infrequently used terms. Both face-to-face discussion and printed materials were used. Community members were encouraged to express their concern and seek clarification at any time of the communication.

2.3.7 Information to Stakeholder on Verification Process (VCS, 3.18.6, 3.19; CCB, G3.3)

During the PRA survey and stakeholder consultation prior to the project start, the CCB and VCS validation and verification processes were briefly introduced to the stakeholders.

The process for the upcoming 2nd CCB and VCS verification was explained to local communities during the village meetings, one of the most important means for sharing information with local communities. The phone number of a contact person from the project proponent was disclosed to local communities, via the village meetings and also via village bulletin boards, for any of them to directly contact the project proponent.

2.3.8 Site Visit Information and Opportunities to Communicate with Auditor (VCS, 3.18.6, 3.19; CCB, G3.3)

A week prior to the VVB's visit (the date of which has not been determined by the time of this draft MR writing), the project proponent and County Forestry and Grassland Bureaus will inform the village leaders of the date and place of the visit, and the village leaders will then spread the news to villagers. The villagers will be informed of the opportunity to directly communicate with the VVB and kindly invited to participate if they wish.

2.3.9 Stakeholder Consultation (VCS, 3.18; CCB, G3.4)

Ongoing consultation	During this monitoring period, the community groups were consulted by means of a questionnaire survey. Random sampling was applied following Guidelines for Sampling and Surveys for CDM project Activities and Programmes of Activities (Version 04.0). A sample size of 68 was initially calculated, and the sample size was increased to 80. To ensure that each community group is sampling and consulted, "Local Yugur people", "Grassland guardians" and "Village collectives" were singled out, and 5 community members were randomly selected from each of these groups. The remaining slots (80 – 5×3 = 65) were randomly selected from the broader "Local herders" community group. With the consideration of "Local women" in mind, as the sampling is based on herder households, the project proponent always required the man and the woman in a household collectively answer the questionnaire, unless there are not any women in the household. The project proponent made phone calls to each of the sampled participants to inform them of the upcoming questionnaire survey. Then they paid visits to them to distribute the questionnaires, and they returned after 3 to 5 days to collect the questionnaires; in the meantime, the project proponent also had short interviews with them.
Date(s) of stakeholder consultation	09-September-2024 to 05-October-2024

Communication of monitored results	The monitoring results were communicated through local bulletin boards and by distributing printed copies of the documents.
Consultation records	All the questionnaires collected were carefully reviewed to check completeness and identify concerns and issues raised. The project proponent summarized the findings and eventually prepared a Community Monitoring Report.
Stakeholder input	During this monitoring period, no major modifications to the project design were deemed necessary, as stakeholders largely expressed support for the current implementation.

2.3.10 Continued Consultation and Adaptive Management (VCS, 3.18; CCB, G3.4)

The project maintains multiple channels for continued communication and consultation with communities and other stakeholders. Stakeholder consultation, as described in Section 2.3.9, remains a primary mechanism for gathering community feedback during the project implementation. In addition, bulletin boards and printed materials are used to inform community members of key milestones and to disseminate major project documents. Village heads and grassland guardians as well as County Forestry and Grassland Bureaus act as important local intermediaries to ensure timely communication between community groups and the project proponent. The grievance redress mechanism, as described in Section 2.3.14, remains available throughout the project lifetime to ensure complaints are promptly and properly addressed.

The project proponent Incorporates all the Information collected from the community members into the project's adaptive management framework, which helps timely adjustment and refinement to the restoration measures and grazing management practices.

2.3.11 Stakeholder Consultation Channels (CCB, G3.5)

The stakeholder consultation processes were undertaken directly with the sampled community members, as described in Section 2.3.9.

Village heads and grassland guardians as well as County Forestry and Grassland Bureaus are recognized as legitimate representatives of the communities, and they played an important role in facilitating communication.

Prior to the project start date, the PRA survey was conducted in a transparent and participatory manner, and full information, including details of the project design and potential impacts, was shared and discussed.

During the project implementation, the communication channels, both direct and indirect, including the grievance redress mechanism, remain available and open.

Through these measures, it is ensured that stakeholders have full access to adequate levels of information.

2.3.12 Stakeholder Participation in Decision-Making and Implementation (VCS, 3.18, 3.19; CCB, G3.6)

During the project planning phase, the project proponent ensured active stakeholder engagement during the PRA survey, as described in the validated PD. Local communities actively participated in discussions on land selection, seed variety selection, grazing arrangements, land parcel separation, etc.

During the current monitoring period, the project proponent further ensured participation by distributing questionnaires to various community groups; by hiring local community members to assist in soil sampling and survey distribution/collection, which ensures that community members were not only consulted but also actively involved in the process; and by addressing all feedback from stakeholders promptly and seriously.

The project proponent has embedded culture and gender sensitivity into the comprehensive management plan developed for the project. Staff receive regular training to ensure all interactions and project activities respect cultural norms. Most of the staff members are local residents who possess intrinsic knowledge and respect for local culture. When visiting villages with predominantly minority ethnic groups (especially the Yugur people), the staff are accompanied by local leaders who provide guidance to ensure full respect to local cultural norms. The project proponent also partners with the Women's Federation at the town/township and village levels to identify and address barriers that may limit women's involvement and to encourage women's participation in the project activities.

2.3.13 Anti-Discrimination Assurance (VCS, 3.19 ; CCB, G3.7)

To avoid any form of discrimination during the project design and implementation, the project proponent has referenced the Labor Law of the People's Republic of China, which explicitly prohibits discrimination based on race, ethnicity, gender, and religion, and worked with local government agencies and villagers to develop specific anti-discrimination and anti-harassment policies adapted to the local context. This includes the following elements.

Equal employment opportunities: Refer to Section 2.3.16 for details.

Prohibition of discrimination and harassment: Any form of discrimination or harassment is strictly prohibited. The project proponent makes it clear to all workers that they have zero tolerance for such conduct.

Training and awareness raising: All workers and employees receive training and get informed of anti-discrimination and anti-harassment policies.

Grievance redress mechanism: The mechanism has been developed to ensure that anyone is free to report anomalously any cases of discrimination or harassment so that it could be promptly and appropriately addressed; refer to Section 2.3.14 for details.

During this monitoring period, no complaints of discrimination or harassment have been received.

2.3.14 Grievances (VCS, 3.18.4; CCB, G3.8)

The project proponent has established a transparent and accessible grievance redress mechanism, which provides three grievance reporting channels and focuses on three-step resolution process.

The grievance reporting channels include staff members from the project proponent, the grassland guardians and the Forestry and Grassland Bureau. All the relevant contact information has been made publicly available to all community members.

The grievance resolution process includes three steps.

Step 1 (initial resolution): Upon receiving a grievance, either directly or indirectly from grassland guardians or Forestry and Grassland Bureau, the staff members from the project proponent contacts the relevant stakeholders to discuss a resolution within one week.

Step 2 (mediation): If the grievance cannot be resolved immediately, the project proponent will consult the village leaders, who will act as a mediator to facilitate discussions between all parties. A resolution should be reached within 30 days through this mediation process.

Step 3 (formal legal procedures): Under circumstances where the grievance cannot be resolved through mediation, the project proponent will escalate the case to local authorities, and the case will then follow formal legal procedures, including arbitration or court proceedings, as per local laws.

All grievances received and their corresponding resolutions will be documented and summarized in the project monitoring report for the next verification.

No grievances were raised during the current monitoring period.

Grievances received	Resolution and outcome
N/A	N/A

2.3.15 Worker Training (VCS, 3.19; CCB, G3.9)

The project has developed and implemented a structured training and capacity-building program which is incorporated in its comprehensive management plan. This program aims to

equip workers and local community members with technical skills that will persist beyond the project lifetime.

Upon hiring, each worker receives a training manual and comprehensive training sessions covering technical guidelines related to their roles as well as fire prevention, emergency response, rodent and pest control, scientific grazing and sustainable grassland protection. They also receive regular training throughout their employment to enhance their understanding of the knowledge and expertise of the skills.

To prevent knowledge loss due to worker turnover and ensure broader community benefits, regular training sessions on various themes mentioned above are organized and any community member near the project area is welcome to participate, regardless of employment status. In addition, training manuals are distributed to all households of the villages involved, including those who are not project participants.

2.3.16 Community Employment Opportunities (VCS, 3.19.13; CCB, G3.10)

The recruitment process implemented by the project ensures that all job openings are publicly announced in village meetings and on village bulletin boards and that selection is based on fair and non-discriminatory principles, and there are no additional requirements for women, minority groups, or other vulnerable groups. Priority is given to people from the poorest households. Among the 147 people employed by the project during the current monitoring period, 66 of them are women.

The project has established a standardized wage structure, ensuring that all workers receive fair compensation regardless of gender or background.

To ensure long-term benefits, all workers receive periodic skill training regarding sustainable grazing practices, fire prevention and emergency response and grassland restoration techniques. The training enhances their employability beyond the project and equips them with valuable skills that contribute to community resilience.

2.3.17 Occupational Safety Assessment (VCS, 3.19; CCB, G3.12)

To ensure worker health and safety, the project proponent has referenced the Labor Law of the People's Republic of China and worked with local government agencies and villagers to develop specific safety policies adapted to the remote and arid nature of the project area. The primary risks that workers may face have been identified, and these include wildfires that could spread very rapidly, extreme weather conditions, risks of vehicle accidents while navigating rough terrain and unpaved roads, medical emergencies in remote areas. These risks might lead to injuries or even deaths of workers.

All workers receive mandatory pre-employment training during which they are informed of these risks and taught about fire prevention and suppression, safe driving on uneven terrain,

emergency response procedures including first aid. In addition, workers are equipped with first aid kits and communication devices for tasks in remote areas.

By integrating legal compliance, structured training and equipment provision, the project ensures that substantial risks to worker safety have been identified and minimized.

2.4 Management Capacity

2.4.1 Required Technical Skills (VCS, 3.19; CCB, G4.2)

Refer to Table 2.3 for key technical skills required to implement the project successfully, including community engagement, biodiversity assessment and carbon measurement and monitoring skills.

Table 2.3 Key skills required to implement the project activities

Project Activity	Specific Measures	Key Skills Required
Reseeding grass and fence building	Project community division, grass seed and sowing method selection, fence design	Construction capacity, supplementary sowing techniques, GIS for site selection
Carbon stock measurements and monitoring	Soil carbon monitoring, land cover mapping, grazing monitoring, climate monitoring, biodiversity monitoring, community monitoring, and fire monitoring	Soil organic carbon and bulk density testing, GIS/remote sensing, grazing survey and recording, diesel and gasoline consumption recording, rodent control, and fire management
Community engagement and development	Stakeholder consultation, livelihood development, and education programs	Community organizing, conflict resolution, business management, adult education, livelihoods and social science surveys
Biodiversity assessment and monitoring	Sustainable grassland management, biodiversity monitoring, endangered animals monitoring	Fence building, reseeding grass, grazing management, biodiversity survey, field investigation, and GPS tracking technology

2.4.2 Management Team Experience (VCS, 3.19; CCB, G4.2)

The Management Team of the project includes Zhangye Academy of Forestry Sciences (the project proponent), Zhangye Forestry and Grassland Bureau, Gansu Heihe Electric Power Sales Co. Ltd and County Forestry and Grassland Bureaus.

Zhangye Academy of Forestry Sciences (the project proponent) has rich experience in sustainable grassland management in Zhangye City, including rodent control, grassland protection and management, technical training, carbon measurement, and monitoring and biodiversity assessment.

Zhangye Forestry and Grassland Bureau is skilled in grassland management in Zhangye City, including grassland protection and management, and technical training.

County Forestry and Grassland Bureaus have expertise in community engagement, including stakeholder meetings, mediation with local communities, and guidance for herders on grazing management. They are also experienced in grass planting, rodent control, and technical training.

Gansu Heihe Electric Power Sales Co. Ltd. is a state-owned enterprise with rich experience in the development of carbon projects in Gansu Province. They coordinate various issues in project development and sales throughout the project lifecycle. They also receive regular training on carbon emission reduction programs from their shareholder, Gansu Heihe Hydropower Industrial Investment Co. Ltd., which has extensive experience in developing CDM, CCER (Chinese Certified Emission Reduction), and VCS programs.

Climate Bridge (Shanghai) Ltd., who has extensive experience in the development of VCS+CCB projects, will also provide expertise and guidance to Gansu Heihe Electric Power Sales Co. Ltd. to ensure successful and continuous generation of carbon credits from the project.

2.4.3 Project Management Partnerships/Team Development (VCS, 3.19; CCB, G4.2)

It has been shown in Section 2.4.2 that the project management team, led by the Zhangye Academy of Forestry Sciences, is highly experienced in sustainable grassland management, carbon measurement and monitoring, community engagement and biodiversity assessment. The team also includes experts from Zhangye Forestry and Grassland Bureau, Gansu Heihe Electric Power Sales Co. Ltd. and Climate Bridge (Shanghai) Ltd., who bring additional expertise.

Therefore, the project management team possesses the necessary experience and skills required for the successful implementation of the project.

2.4.4 Financial Health of Implementing Organization(s) (CCB, G4.3)

As government agencies, Zhangye Forestry and Grassland Bureau and County Forestry and Grassland Bureaus are financially supported by the local government and their financial stability throughout the project lifetime is ensured.

Zhangye Academy of Forestry Sciences is a government-affiliated institution, while Heihe Electric Power Sales Co. Ltd. is a state-owned enterprise, and Climate Bridge (Shanghai) Ltd. is a private-owned company. All of them are legally registered entities in China with financial

health and stability, which is verifiable from National Enterprise Credit Information Publicity System[20].

2.4.5 Avoidance of Corruption and Other Unethical Behavior (VCS, 3.19; CCB, G4.3)

As legally registered entities, the project proponent and other involved entities are obligated to comply with relevant regulations, including anti-corruption laws. According to the National Enterprise Credit Information Publicity System, none of the entities have been involved in or complicit in any form of corruption, such as bribery, embezzlement, fraud, favoritism, cronyism, nepotism, extortion, or collusion.

2.4.6 Commercially Sensitive Information (VCS, 3.5.2-3.5.4; CCB Program Rules, 3.5.13 – 3.5.14)

The benefit-sharing plan is kept private due to requests of some stakeholder groups, and the full arrangement will be provided as a commercially sensitive document.

No other commercially sensitive information has been excluded from the public version of the monitoring report.

2.5 Legal Status and Property Rights

2.5.1 National and Local Laws (VCS, 3.1, 3.6. 3.7, 3.14, 3.18, 3.19; CCB, G5.6)

The national and local laws and regulations listed in the PD and the 1st MR are: *The Constitution of the People's Republic of China[21], The Grassland Law of the People's Republic of China[22], The Wildlife Protection Law of the People's Republic of China[23], The Regulations on Grassland Fire Prevention[24], The Regulations on Insect Control[25],The Labor Law of the People's Republic of China[26], The Production Safety Law of the People's Republic of China[27].*

The standards mentioned are *Parameters for degradation, sandification and salification of rangelands, Technical regulation of reseeding on sandy grassland, Technical Specification for*

[20] http://www.gsxt.gov.cn/index.html

[21] http://www.gov.cn/guoqing/2018-03/22/content_5276318.htm

[22] http://www.forestry.gov.cn/main/3949/20180918/114120127762082.html

[23] https://www.moj.gov.cn/pub/sfbgw/jgsz/jgszjgtj/jgtjlfsij/lfsijtjxw/202301/t20230106_470359.html

[24] https://www.gov.cn/flfg/2008-12/05/content_1171408.htm

[25] https://www.gov.cn/zhengce/content/2020-04/02/content_5498241.htm

[26] https://www.mohrss.gov.cn/xxgk2020/fdzdgknr/zcfg/fl/202011/t20201102_394625.html

[27] https://www.mohrss.gov.cn/SYrlzyhshbzb/dongtaixinwen/shizhengyaowen/202205/t20220513_448176.html

Natural Grassland Improvement, Technical Specification for Artificial Grassland Construction, Technical Rule for Fences Construction of Rangeland.

These documents have not changed or been eliminated since the project's last verification, and there have been no new laws or regulations that have come into effect since then.

The project is in compliance with all national and local laws and regulations in China that are relevant to the project activities as described in the validated PD and the verified 1st MR.

2.5.2 Relevant Laws and Regulations Related to Worker's Rights (VCS, 3.18, 3.19; CCB, G3.11)

The relevant laws and regulations covering workers' rights in China include the following.

The Labor Law of the People's Republic of China (1995, amended 2018): covers employment contracts, wages, working hours, labor protections, occupational safety, and social security.

The Labor Contract Law of the People's Republic of China[28] (2008, amended 2013): requires written employment contracts, regulates terminations, and protects against unfair dismissals.

The Production Safety Law of the People's Republic of China (2002, amended 2021): establishes employer obligations to ensure workplace safety, provide training, and prevent occupational hazards.

The Provisions on Prohibition of Child Labor[29] (2002): strictly prohibits child labor and defines penalties for violations.

The Special Regulations on Labor Protection of Female Employees[30] (2012): covers maternity leave, protection against workplace discrimination, and sexual harassment prevention.

The project proponent maintains documentation of employment contracts, work hours, wage payments, and social insurance contributions. They work closely with government labor bureaus to ensure alignment with regulatory requirements. The project proponent has established grievance mechanisms for workers to report violations anonymously and safely. In addition, the project proponent also conducts worker training sessions on labor rights, workplace safety, and dispute resolution mechanisms to ensure that the workers are informed about their rights and have easy access to reporting channels for grievances related to discrimination, safety violations, or unfair labor practices.

2.5.3 Human Rights (VCS, 3.19)

[28] https://www.mohrss.gov.cn/xxgk2020/fdzdgknr/zcfg/fl/202011/t20201102_394622.html

[29] https://www.gov.cn/gongbao/content/2002/content_61798.htm

[30] https://www.gov.cn/zwgk/2012-05/07/content_2131567.htm

The project does not intervene with the ownership and use rights over the project land; it affects only grassland resources management and grazing practices. The project fully recognizes, respects, and promotes the protection of local communities' rights by obtaining FIPC from all affected community groups, by ensuring continuous communication throughout the project lifetime, and by establishing a grievance mechanism to allow community groups to raise concerns

2.5.4 Indigenous Peoples and Cultural Heritage (VCS, 3.18, 3.19)

There are two forms of cultural heritage: tangible (cultural heritage sites) and intangible (traditional practices, norms, cultural identity, etc.). The project area does not contain any cultural heritage sites, while intangible cultural heritage remains deeply tied to the sustainability of grazing practices.

By improving grassland health and promoting sustainable grazing using a participatory approach, the project actively protects and revitalizes intangible cultural heritage, ensuring that herding remains a viable, sustainable and culturally significant practice for future generations.

2.5.5 Recognition of Property Rights (VCS, 3.7, 3.18, 3.19; CCB, G5.1)

Disputes over rights to territories and resources	N/A
Respect for property rights	Following an extensive stakeholder consultation prior to the project start date, the project proponent has been authorized to develop the project under the CCB+VCS program and to oversee the overall maintenance and management of the project throughout its lifetime. The consultation process shows that the project proponent fully recognizes and respects the property rights. The continuous communication channels as well as the grievance mechanism remain available throughout the project lifetime to ensure any violation or conflict over property rights is properly and promptly addressed.

2.5.6 Benefit Sharing Mechanism (VCS, 3.18, 3.19)

Summary of the benefit sharing plan	According to the project benefit sharing plan, after receiving the VCU sales revenues, part of it is directly distributed to the herders whose land is within the project area, and part of it is used on capacity building and culture preservation, or specifically, organizing training sessions, workshops and traditional culture campaign events. The detailed fractions of different spending items will remain private as commercially sensitive information.

Benefit sharing during the monitoring period	The benefit sharing was performed according to the benefit sharing plan.

2.5.7 Free, Prior, and Informed Consent (VCS, 3.18, 3.19; CCB, G5.2)

Consent	As described in the validated PD, the project proponent conducted a comprehensive and transparent consultation prior to the project implementation and gained consent from community groups. This process has resulted in agreements with village collectives which entrust the project proponent with developing the project under the VCS program. There is no ongoing or unresolved conflict.
Outcome of FPIC	The project design as well as the rights and obligations set out in the agreements have been discussed between the project proponent and the community groups during the consultation. By signing the agreements, the village collectives involved in the project have agreed to implement the project activities as designed and entrust the project proponent with VCS development of the project activity on the project land. The agreements do not involve any items relating to encroach on land, relocation of people or forced physical or economic displacement. Nor will the project proponent be involved in any of these activities.

2.5.8 Property Right Protection (VCS, 3.18, 3.19; CCB, G5.3)

The project does not relocate any of the property rights holders from their lands. Although there is temporary relocation of grazing from within the project area to outside of the project area, this is done on a voluntary basis following full stakeholder consultation, participatory decision-making and FPIC.

2.5.9 Identification of Illegal Activity (VCS, 3.19, CCB, G5.4)

Illegal overgrazing has been identified as the main activity that could affect the potential positive impacts of the project. Training sessions and education programs are organized to raise awareness among herders on sustainable grazing, and grassland guardians have been employed to monitor grazing activities and report non-compliance.

2.5.10 Ongoing Disputes (VCS, 3.18, 3.19; CCB, G5.5)

There is no ongoing or unresolved conflict or dispute over rights to lands, territories and resources.

3 CLIMATE

3.1 Monitoring GHG Emission Reductions and Removals

3.1.1 Data and Parameters Available at Validation (VCS, 3.16)

Data / Parameter	GWP_{N_2O}
Data unit	t CO_2e/t N_2O
Description	Global-warming potential for N_2O
Source of data	VCS Standard (Version 4.7)
Value applied	265
Justification of choice of data or description of measurement methods and procedures applied	Default value from VCS Standard (Version 4.7) and IPCC Fifth Assessment Report
Purpose of data	Calculation of baseline emissions Calculation of project emissions Calculation of leakage emissions
Comments	N/A

Data / Parameter	$EF_{4,MD}$
Data unit	kg N_2O-N/(kg NH_3-N + NO_x-N volatilized)
Description	N_2O emission factor for atmospheric deposition of urine and manure N on soils and water surfaces
Source of data	2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
Value applied	0.005
Justification of choice of data or description of measurement methods and procedures applied	As detailed data are unavailable, the default value for dry climates recommended by the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (Table 11.3, Chapter 11, Volume 4) has been applied.

Purpose of data	Calculation of baseline emissions Calculation of project emissions Calculation of Leakage emissions
Comments	N/A

Data / Parameter	GWP_{CH_4}
Data unit	t CO_2e/t CH_4
Description	Global-warming potential for CH_4
Source of data	VCS Standard (Version 4.7)
Value applied	28
Justification of choice of data or description of measurement methods and procedures applied	Default value from VCS Standard (Version 4.7) and IPCC Fifth Assessment Report
Purpose of data	Calculation of baseline emissions Calculation of project emissions Calculation of leakage emissions
Comments	N/A

Data / Parameter	$P_{l,b}$
Data unit	Head
Description	Population of grazing livestock type *l*, in baseline year *b*
Source of data	Grazing Displacement Management Plan
Value applied	Cattle: 183,540 Sheep: 641,788

Justification of choice of data or description of measurement methods and procedures applied	The animal population were obtained based on a sample survey of the animal population grazing in the project area year prior to the project start date during the baseline period.
Purpose of data	Calculation of baseline emissions
Comments	N/A

Data / Parameter	EF_l
Data unit	kg CH_4/ (head * year)
Description	Enteric CH_4 emission factor per head of livestock type *l* per year
Source of data	2006 IPCC Guidelines for National Greenhouse Gas Inventories
Value applied	Cattle: 56 Sheep: 5
Justification of choice of data or description of measurement methods and procedures applied	As detailed data are unavailable, the default values for low productivity systems recommended by the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (Table 10.10 or 10.11, Chapter 10, Volume 4) have been applied.
Purpose of data	Calculation of baseline emissions Calculation of project emissions Calculation of leakage emissions
Comments	N/A

Data / Parameter	$EF_{3,PRP,CPP}$
Data unit	kg N_2O-N/kg N input
Description	N_2O emission factor for cattle (dairy, non-dairy and buffalo), poultry and pigs manure and urine deposited on of applied to grassland
Source of data	2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories

Value applied	0.002
Justification of choice of data or description of measurement methods and procedures applied	As detailed data are unavailable, the default value for dry climates recommended by the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (Table 11.1, Chapter 11, Volume 4) has been applied.
Purpose of data	Calculation of baseline emissions Calculation of project emissions Calculation of leakage emissions
Comments	N/A

Data / Parameter	$EF_{3,PRP,SO}$
Data unit	kg N_2O-N/kg N input
Description	N_2O emission factor for sheep and other animals' manure and urine deposited on of applied to grassland
Source of data	2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
Value applied	0.003
Justification of choice of data or description of measurement methods and procedures applied	As detailed data are unavailable, the default value recommended by the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (Table 11.1, Chapter 11, Volume 4) has been applied.
Purpose of data	Calculation of baseline emissions Calculation of project emissions Calculation of leakage emissions
Comments	N/A

Data / Parameter	Nex_l
Data unit	kg N deposited/(t livestock mass * day)
Description	Nitrogen excretion of livestock type *l*

Source of data	2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
Value applied	Cattle: 0.38 Sheep: 0.32
Justification of choice of data or description of measurement methods and procedures applied	As detailed data are unavailable, the default value recommended by the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (Table 10.19, Chapter 10, Volume 4) has been applied.
Purpose of data	Calculation of baseline emissions Calculation of project emissions Calculation of leakage emissions
Comments	N/A

Data / Parameter	$W_{l,b}$
Data unit	kg
Description	Average weight of livestock *l*, in baseline year *b*
Source of data	Local expert judgment.
Value applied	Cattle: 300 Sheep: 45
Justification of choice of data or description of measurement methods and procedures applied	PRA Report, data from local expert judgement that are specific to the project area.
Purpose of data	Calculation of baseline emissions
Comments	N/A

Data / Parameter	$Days_{l,b}$
Data unit	Days
Description	Grazing days for livestock type *l* in baseline year *b*

Source of data	Grazing Displacement Management Plan
Value applied	138
Justification of choice of data or description of measurement methods and procedures applied	Derived from the grazing survey conducted prior to the project. The process of the survey is described in Grazing Displacement Management Plan.
Purpose of data	Calculation of baseline emissions
Comments	N/A

Data / Parameter	$H_{l,b}$
Data unit	Hours
Description	Average grazing hours for livestock type *l* per day during the grazing season in baseline year *b*
Source of data	Grazing Displacement Management Plan
Value applied	8
Justification of choice of data or description of measurement methods and procedures applied	Derived from the grazing survey conducted prior to the project. The process of the survey is described in Grazing Displacement Management Plan.
Purpose of data	Calculation of baseline emissions
Comments	N/A

Data / Parameter	$Frac_{GAS,MD}$
Data unit	kg N volatilized/kg of N deposited
Description	Fraction of volatilization from manure and urine deposited by grazing animals as NH_3 and NO_x
Source of data	2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
Value applied	0.212

Justification of choice of data or description of measurement methods and procedures applied	As detailed data are unavailable, the default value recommended by the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories (Table 8A.1, Chapter 11, Volume 4) has been applied.
Purpose of data	Calculation of baseline emissions Calculation of project emissions Calculation of leakage emissions
Comments	N/A

Data / Parameter	$EF_{l,M}$
Data unit	kg CH_4/ (head * year)
Description	CH_4 emission factor from manure of livestock type *l*
Source of data	2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.
Value applied	0.6
Justification of choice of data or description of measurement methods and procedures applied	As detailed data are unavailable, the default value recommended by the 2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories has been applied.
Purpose of data	Calculation of baseline emissions Calculation of project emissions Calculation of leakage emissions
Comments	N/A

Data / Parameter	$EF_{CO_2,k}$
Data unit	t CO_2/GJ
Description	CO_2 emission factor by fuel type k
Source of data	2006 IPCC Guidelines for National Greenhouse Gas Inventories
Value applied	Diesel: 0.0741

Justification of choice of data or description of measurement methods and procedures applied	Default value from 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Note that 2019 Refinement does not contain any refinement to this parameter.
Purpose of data	Calculation of project emissions
Comments	N/A

Data / Parameter	NCV_K
Data unit	GJ/t fuel
Description	Thermal value of fuel type k
Source of data	2006 IPCC Guidelines for National Greenhouse Gas Inventories
Value applied	Diesel: 43.0
Justification of choice of data or description of measurement methods and procedures applied	Default value from 2006 IPCC Guidelines for National Greenhouse Gas Inventories. Note that 2019 Refinement does not contain any refinement to this parameter.
Purpose of data	Calculation of project emissions
Comments	N/A

Data / Parameter	$SOC_{S,Baseline}$
Data unit	t C/ha
Description	Baseline SOC stock in the top 30 cm of soil layer (or greater depth if required) in stratum s
Source of data	Laboratory test data
Value applied	Please refer to the ER calculation spreadsheet for details.
Justification of choice of data or description of measurement methods and procedures applied	Option 2 is applied to estimate project removals due to changes in SOC, and the procedures of Section 8.2.8 of VM0026 (version 1.1) have been followed. $SOC_{S,Baseline}$ was determined in 2016, less than two years prior to the project start time. From 16-September-2016 to 28-October-

	2016, the organic carbon, bulk density and sand-gravel ratio (percentage of rocks larger than 2 mm, roots, and other dead residues with a diameter in the top 30 cm of soil) of 117 soil samples were measured by Shandong Huasheng Tiantong Standard Technical Service Co., Ltd., a company registered in Jinan City, Shandong Province since 27-August-2015. Soil sampling followed Guidelines for Sampling and Surveys for CDM project Activities and Programmes of Activities (version 4.0). The nationally approved standard Method for Determination of Soil Organic Matter (NY/T 1121.6-2006) was used to measure SOC of the soil samples.
Purpose of data	Calculation of baseline emissions
Comments	N/A

Data / Parameter	$DMI_{day,l}$
Data unit	kg dm/(head*day)
Description	Daily dry matter intake requirement of each type of livestock *l*
Source of data	Industry standard Calculation of rangeland carrying capacity (NY/T 635-2015) [31] published by the Ministry of Agriculture of China
Value applied	Sheep: 1.8 Cattle: 8.1
Justification of choice of data or description of measurement methods and procedures applied	Default value
Purpose of data	Calculation of leakage emissions
Comments	N/A

[31] NY/T 635-2015 Calculation of rangeland carrying capacity.

Data / Parameter	$ANPP_{GUI,REF}$
Data unit	t dm/ha
Description	Aboveground net primary productivity in the reference region that is the likely location of unidentified grasslands to which livestock are relocated
Source of data	Peer-reviewed study: Wang Jie. (2017) The Relationship between Biodiversity and Aboveground Biomass with Soil Properties in North Slope of Qilian Mountains Meadow Steppe. (Master's thesis, Northwest Normal University)
Value applied	1.38
Justification of choice of data or description of measurement methods and procedures applied	Published peer-reviewed study
Purpose of data	Calculation of leakage emissions
Comments	N/A

Data / Parameter	$H_{GUI,I,t}$
Data unit	Hours
Description	Average grazing hours per day during grazing season for livestock of each type I displaced to unidentified grassland in year *t*
Source of data	Grazing Displacement Management Plan
Value applied	8
Justification of choice of data or description of measurement methods and procedures applied	Derived from the grazing survey conducted prior to the project. The process of the survey is described in Grazing Displacement Management Plan.
Purpose of data	Calculation of leakage emissions
Comments	N/A

3.1.2 Data and Parameters Monitored (VCS, 3.16)

Data / Parameter	$P_{l,t}$
Data unit	Head
Description	Population of livestock type *l* under project in year *t*
Source of data	Project grazing survey
Description of measurement methods and procedures to be applied	The project proponent and the County Forestry and Grassland Bureaus conducted annual grazing surveys by visiting all the project participants during the monitoring period. The parameter is then derived from the survey results.
Frequency of monitoring/recording	Annually
Value monitored	Refer to the ER calculation spreadsheet for details
Monitoring equipment	N/A
QA/QC procedures to be applied	Guidance provided in IPCC 2000 chapter 8 is applied.
Purpose of the data	Calculation of project emissions
Calculation method	N/A
Comments	N/A

Data / Parameter	$H_{l,t}$
Data unit	Hours
Description	Average grazing hours per day of livestock type *l* during grazing season in year *t*
Source of data	Project grazing survey
Description of measurement methods and procedures to be applied	The project proponent and the County Forestry and Grassland Bureaus conducted annual grazing surveys by visiting all the project participants during the monitoring period. The parameter is then derived from the survey results.

Frequency of monitoring/recording	Annually
Value monitored	8
Monitoring equipment	N/A
QA/QC procedures to be applied	Guidance provided in IPCC 2000 chapter 8 is applied.
Purpose of the data	Calculation of project emissions
Calculation method	N/A
Comments	N/A

Data / Parameter	$Days_{l,t}$
Data unit	Days
Description	Grazing days of lives tock *l* in year *t* under project
Source of data	Project grazing survey
Description of measurement methods and procedures to be applied	The project proponent and the County Forestry and Grassland Bureaus conducted annual grazing surveys by visiting all the project participants during the monitoring period. The parameter is then derived from the survey results.
Frequency of monitoring/recording	Annually
Value monitored	125
Monitoring equipment	N/A
QA/QC procedures to be applied	Guidance provided in IPCC 2000 chapter 8 is applied.
Purpose of the data	Calculation of project emissions
Calculation method	N/A
Comments	N/A

Data / Parameter	$W_{l,p}$
Data unit	kg
Description	Average weight of livestock under project
Source of data	Local expert judgment.
Description of measurement methods and procedures to be applied	N/A
Frequency of monitoring/recording	Recorded with each measurement taken
Value monitored	Cattle: 300 Sheep: 45
Monitoring equipment	N/A
QA/QC procedures to be applied	Crosscheck with previous records and reconduct the survey if there is a significant change observed
Purpose of the data	Calculation of project emissions
Calculation method	N/A
Comments	N/A

Data / Parameter	$FC_{p,j,k,t}$
Data unit	kg fuel
Description	Fuel consumption by type *k*, machine type *j*, parcel grassland *p*, in year *t* under project
Source of data	Diesel statistics
Description of measurement methods and procedures to be applied	The County Forestry and Grassland Bureaus recorded the diesel consumption of sowing tractors and transport trucks during the implementation of the project

Frequency of monitoring/recording	Record fuel consumption during the implementation of the project.
Value monitored	0
Monitoring equipment	N/A
QA/QC procedures to be applied	Guidance provided in IPCC 2000 chapter 8 is applied.
Purpose of the data	Calculation of project emissions
Calculation method	N/A
Comments	N/A

Data / Parameter	$PA_{mG,s,i,t}$
Data unit	ha
Description	Project areas of grassland with management practice *mG* in stratum s in year *t*
Source of data	Project records for grassland management.
Description of measurement methods and procedures to be applied	The County Forestry and Grassland Bureaus recorded the area of grassland with management practice *mG* in stratum s
Frequency of monitoring/recording	Record the area and management practice just after the management practice has taken place and report annually
Value monitored	Refer to the ER calculation spreadsheet
Monitoring equipment	GPS and GIS software were applied
QA/QC procedures to be applied	Guidance provided in IPCC 2000 chapter 8 is applied.
Purpose of the data	Calculation of project emissions
Calculation method	N/A
Comments	N/A

Data / Parameter	$SOC_{mG,s,i,t}$
Data unit	g C/kg soil
Description	SOC stock in the top 30 cm of soil (or greater depth if required) for management practice *mG*, stratum s (or greater depth if desired), sampling site *i*
Source of data	Soil Sample Test Report
Description of measurement methods and procedures to be applied	From 16-September-2024 to 15-October-2024, the project proponent conducted soil sampling from each stratum of the project. Soil samples were collected using a soil drill. At each sampling site, 3–4 samples were taken in an S-shaped pattern, then thoroughly mixed into a single composite sample inside a ziplock bag and sent to a qualified laboratory. The laboratory analyzed the soil samples and issued the Soil Sample Test Report, which contains the values of this parameter.
Frequency of monitoring/recording	At least once every five years, at the end of growing season in the year measured, until the end of the project crediting period
Value monitored	Please refer to the ER calculation spreadsheet for details
Monitoring equipment	Soil drill, electric furnace, test tube, oil bath pot, wire cage and dropper
QA/QC procedures to be applied	The collection of soil samples for measuring SOC was carried out by suitably trained staff following procedures in the nationally-approved standard Soil Quality – Guidelines for Soil Sampling Techniques (GB/T 36197-2018). The measurement of SOC was carried out by the qualified laboratory following procedures in the nationally-approved standard Method for Determination of Soil Organic Matter (NY/T 1121.6-2006).
Purpose of the data	Calculation of project emissions
Calculation method	N/A
Comments	N/A

Data / Parameter	$BD_{mG,s,i,t}$
Data unit	g soil/cm^3
Description	Soil bulk density in the top 30 cm of soil (or greater depth if required) for management practice *mG*, stratum s (or greater depth if desired), sampling site *i*
Source of data	Soil Sample Test Report
Description of measurement methods and procedures to be applied	From 16-September-2024 to 15-October-2024, the project proponent conducted soil sampling from each stratum of the project. Soil samples for measurement of soil bulk density were collected using a 100 cm^3 ring knife and then placed in aluminum boxes. The samples were sent to a qualified laboratory. The laboratory analyzed the soil samples and issued the Soil Sample Test Report, which contains the values of this parameter.
Frequency of monitoring/recording	At least once every five years, at the end of growing season in the year measured, until the end of the project crediting period
Value monitored	Please refer to the ER calculation spreadsheet for details.
Monitoring equipment	Ring knife, electronic scale, rubber hammer, oven and dryer.
QA/QC procedures to be applied	The collection of soil samples for measuring soil bulk density was carried out by suitably trained staff following procedures in the nationally-approved standard Soil Quality – Guidelines for Soil Sampling Techniques (GB/T 36197-2018). The measurement of soil bulk density was carried out by the qualified laboratory following procedures in the nationally-approved standard Method for Determination of Soil Bulk Density (NY/T 1121.4-2006).
Purpose of the data	Calculation of project emissions
Calculation method	N/A
Comments	N/A

Data / Parameter	$FC_{mG,s,i,t}$

Data unit	percent
Description	Percentage of rocks with a diameter larger than 2 mm, roots, and other dead residues in the top 30 cm of soil (or greater depth if desired), for management practice *mG*, stratum *s*, sampling site *i*
Source of data	Soil Sample Test Report
Description of measurement methods and procedures to be applied	From 16-September-2024 to 15-October-2024, the project proponent conducted soil sampling from each stratum of the project. Soil samples were collected using a soil drill. At each sampling site, 3–4 samples were taken in an S-shaped pattern, then thoroughly mixed into a single composite sample inside a ziplock bag and sent to a qualified laboratory. The laboratory analyzed the soil samples and issued the Soil Sample Test Report, which contains the values of this parameter.
Frequency of monitoring/recording	At least once every five years, at the end of growing season in the year measured, until the end of the project crediting period
Value monitored	Please refer to the ER calculation spreadsheet for details
Monitoring equipment	Soil drill, electronic scale and sieve.
QA/QC procedures to be applied	The collection of soil samples for measuring $FC_{mG,s,i,t}$ was carried out by suitably trained staff following procedures in the nationally-approved standard Soil Quality – Guidelines for Soil Sampling Techniques (GB/T 36197-2018). The measurement of $FC_{mG,s,i,t}$ was carried out by the qualified laboratory.
Purpose of the data	Calculation of project emissions
Calculation method	N/A
Comments	N/A

Data / Parameter	$Depth$
Data unit	cm

Description	Total soil depth, for calculating grassland SOC stock in the top 30 cm of soil (or greater depth if required)
Source of data	Soil sampling
Description of measurement methods and procedures to be applied	The value for soil depth is consistent with the measurements taken. During each soil sampling, the depth of 30 cm is applied.
Frequency of monitoring/recording	Recorded with each measurement taken
Value monitored	30
Monitoring equipment	Soil drill. Insert the soil drill into the soil to a depth of 30 cm, then carefully lift it out and transfer the collected soil into a ziplock bag.
QA/QC procedures to be applied	The staff received training before sampling to ensure they could properly collect soil samples using a soil drill.
Purpose of the data	Calculation of project emissions
Calculation method	N/A
Comments	N/A

Data / Parameter	$P_{GUI,l,t}$
Data unit	Head
Description	Total population of livestock of each type relocated to unidentified grasslands in year t
Source of data	Project grazing survey
Description of measurement methods and procedures to be applied	The project proponent and the County Forestry and Grassland Bureaus conducted annual grazing surveys by visiting all the project participants during the monitoring period. The parameter is then derived from the survey results.

Frequency of monitoring/recording	Annually
Value monitored	Please refer to the ER calculation spreadsheet for details
Monitoring equipment	N/A
QA/QC procedures to be applied	Guidance provided in IPCC 2000 chapter 8 is applied
Purpose of the data	Calculation of leakage emissions
Calculation method	N/A
Comments	N/A

Data / Parameter	$Days_{GUI,l,t}$
Data unit	days
Description	Days that the population of each type of relocated livestock of type *l* graze in unidentified grassland in year t
Source of data	Project grazing survey
Description of measurement methods and procedures to be applied	The project proponent and the County Forestry and Grassland Bureaus conducted annual grazing surveys by visiting all the project participants during the monitoring period. The parameter is then derived from the survey results.
Frequency of monitoring/recording	At the end of grazing season in every year
Value monitored	125
Monitoring equipment	N/A
QA/QC procedures to be applied	Guidance provided in IPCC 2000 chapter 8 is applied
Purpose of the data	Calculation of leakage emissions
Calculation method	N/A
Comments	N/A

3.1.3 Monitoring Plan (VCS, 3.16, 3.20)

1. Operation and management structure

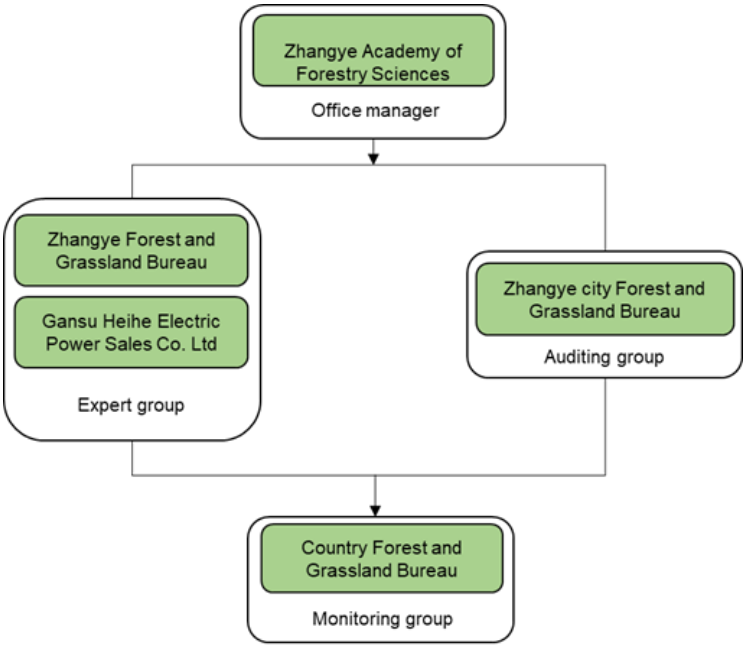

Figure 3.1 Organization structure of the monitoring team

A Monitoring Group, an Expert Group and an Auditing Group have been established, while an Office Manager oversees the entire working group. Their responsibilities are described below.

- Office Manager holds overall management responsibility, supervises the implementation of the monitoring plan, and assigns individual responsibilities to each member of the monitoring team..
- Expert Group provides technical expertise related to monitoring activities to ensure all procedures comply with VCS and CCB standards.
- Monitoring Group conducts the monitoring process, measures the required project parameters (as listed in Section 3.3.2), collects original data and evidence, and maintains relevant records.
- Auditing Staff performs internal verification of measurements, reviews monitoring records and documents, cross-checks evidence, and calculates emission removals for each verification period.

To ensure all monitoring personnel fully understand the monitoring process and related requirements, each team member received a Monitoring Manual with detailed explanations.

For the current monitoring period, the soil sampling activities, an essential part of the monitoring, were conducted from 16-September-2024 to 15-October-2024. The soil samples

were sent to a qualified laboratory. The laboratory analyzed the soil samples and issued the Soil Sample Test Report.

2. Monitoring process

2.1 Monitoring the applicability of the methodology

The applicability of the methodology to the project has been evaluated and it has been concluded that all the conditions are applicable. According to validated PD, during each verification, the project proponent should monitor for any changes to the project boundary. If a change to the project boundary is identified, the applicability conditions must be re-assessed for the affected project area. This process involves three key steps:

Step 1 Monitoring of the project boundary,

Step 2 Assessing the applicability conditions, and

Step 3 Reviewing the applicability checklist.

During the current monitoring period, no changes to the project boundary occurred, and the applicability conclusion established during validation remains valid.

2.2 Monitoring of project implementation

According to validated PD, the monitoring of project implementation involves the following information.

- A record of the grazing agents (e.g., herder households) involved the project.
    - The project proponent and County Forestry and Grassland Bureaus recorded each household involved in the project as well as the current situation of their grassland: area, type, grassland degradation area and degree, existing livestock species and quantity.
    - Each household was given a unique ID. Their name, location of their land, and date of entering into the agreement and leaving the agreement were recorded.
- A record of the geographic location of the project area for all areas of grassland.
    - The geodetic coordinates of the project area (and the stratification inside the area) were established, recorded and archived. This was achieved by field survey and by using GPS and GIS tools.
- A record of grassland management
    - The grassland management plan, together with a record of the plan as actually implemented during the project crediting period was made available for validation and verification.

- Subsidies received by each household in the project area due to sustainable management measures were also documented.

2.3 Recording of data and parameters monitored

The parameters monitored have been shown in Section 3.1.2.

For the estimate of annual CH_4 emissions from enteric fermentation, population of livestock type *l* ($P_{l,t}$) and grazing days of livestock type *l* ($Days_{l,t}$) were recorded annually during the monitoring period.

For the estimate of annual CH_4 and N_2O emissions from manure deposition during grazing, grazing days of livestock of type *l* ($Days_{l,t}$), and average grazing hours per day of livestock type *l* ($H_{l,t}$) during the grazing season were recorded in every grazing season, in each year during the monitoring period.

For the estimate of annual CO_2 emissions due to the use of fossil fuels for SGM, the following parameters were recorded at each time a management practice using machines was adopted and reported annually during the monitoring period:

- Quantity of fuel consumption ($FC_{p,j,k,t}$);
- Fuel type;
- Machine type.

To estimate project removals due to changes in SOC, Option 2 has been selected, and the following parameters were monitored during the monitoring period.

- SOC content ($SOC_{mG,s,i,t}$);
- Soil bulk density ($BD_{mG,s,i,t}$);
- Percentage of rocks with a diameter larger than 2mm, roots and other dead residues ($FC_{mG,s,i,t}$);

The soil sampling, handling and storage, processing and measurement, and quality control procedures implemented in soil organic carbon analysis follow a scientific peer-reviewed approved standard. Refer to **Sampling design and stratification** below for details.

For the estimate of leakage emissions, refer to **Monitoring for leakage emission** below for details.

2.4 Sampling design and stratification

According to the validated PD, the project area has been stratified into relatively homogeneous units based on the following aspects: management practice, soil texture and grassland type.

Sampling framework

According to the validated PD, the calculated sample size (i.e., the total number of sample plots) was 54, with 3 sample plots in each of the 18 strata, by using a precision of 15 percent at the 95 percent confidence level. The actual number of sample plots for this monitoring period is significantly larger than the calculated sample size.

Soil samples were collected using a soil drill. At each sampling site, 3–4 samples were taken in an S-shaped pattern, then thoroughly mixed into a single composite sample inside a ziplock bag and sent to a qualified laboratory for the measurement of soil $SOC_{mG,s,i,t}$ and $FC_{mG,s,i,t}$. Additionally, at each sampling site, another soil sample was collected using a 100 cm^3 ring knife and then placed in aluminum boxes; these soil samples were sent to the same laboratory for the measurement of $BD_{mG,s,i,t}$.

For the measurement of $SOC_{mG,s,i,t}$, the procedures in nationally-approved standard Method for Determination of Soil Organic Matter (NY/T 1121.6-2006) were followed.

For the measurement of $BD_{mG,s,i,t}$, the procedures in nationally-approved standard Method for Determination of Soil Bulk Density (NY/T 1121.4-2006) were followed.

For the measurement of $FC_{mG,s,i,t}$, due to the absence of nationally recognized standard for measuring the percentage of rocks larger than 2 mm, roots, and other dead residues, procedures in a research[32] were followed.

Following the measurements, the laboratory issued the Soil Sample Test Report, which contains the values of $SOC_{mG,s,i,t}$, $BD_{mG,s,i,t}$ and $FC_{mG,s,i,t}$.

2.5 Monitoring for leakage emission

The parameters required for estimating leakage emissions mainly include $Days_{GUI,l,t}$ and $P_{GUI,l,t}$, which are derived from annual grazing surveys. Refer to Section 3.2.3 for details.

3. Monitoring frequency

The monitoring of the project implementation will take place at least every five years after the project registration in order to ensure the continuity of the benefits. Periodic monitoring and verification will take place at least every five years.

4. Data management

All data collected as part of monitoring will be archived electronically. The project proponent will store all information, and physical copies will be maintained as backups. All data collected shall be archived for a period of at least two years after the end of the last crediting period of the project activity.

[32] Xie yingge, Li xia. Research progress on determination methods of gravel content in soil[J]. Soils, 2012,44(1):17-22.

5. QA/QC procedures

The following QA/QC procedures will be adopted:

1) Training will be provided to the staff to ensure the proper implementation of the monitoring plan. All relevant staff are required to complete the training course before operations start.

2) The monitoring team will regularly check the monitoring equipment to ensure its normal operation before each monitoring activity.

3) If the validated monitoring plan cannot be followed during the monitoring process due to unforeseen circumstances, an updated monitoring plan must be submitted to the VVB during the corresponding verification. The updated plan must indicate the relevant deviations from the original plan and the reasons for the deviations.

4) All soil samples must be backed up. If an issue arises with the testing equipment or abnormal data is identified, the corresponding soil sample must be retested to ensure accuracy and reliability.

3.1.4 Dissemination of Monitoring Plan and Results (VCS, 3.18; CCB, CL4.2)

The monitoring plan as part of the validated PD has been made publicly available on Verra Registry.

Two weeks before the monitoring activities for this monitoring period began, the project proponent further disclosed the monitoring plan and monitoring manual to local stakeholders by posting the documents on local bulletin boards in villages around the project area and by distributing printed copies of the documents. Stakeholders were invited to review the documents and provide feedback.

After the monitoring activities were completed and the results were obtained, the draft MR and MR summary were completed and will be made publicly available on Verra Registry from which the stakeholders could download the documents. The draft MR summary was also shared with stakeholders in the same manner as the monitoring plan and monitoring manual.

All stakeholder comments and responses regarding the monitoring plan and results will be summarized and published as part of the final version of the MR.

3.2 Quantification of GHG Emission Reductions and Removals

3.2.1 Baseline Emissions (VCS, 3.15)

Baseline emissions include CH_4 emissions due to enteric fermentation and N_2O and CH_4 emissions due to manure management.

$$BE_b = BE_{CH_{4EF},b} + BE_{GHG_{MD},b} \quad \text{Equation 1}$$

1. Baseline CH_4 emissions due to enteric fermentation

Baseline CH_4 emissions from enteric fermentation are calculated using the following:

$$BE_{CH_{4EF},t} = \frac{GWP_{CH_4} \times \sum_{l=1}^{L} P_{l,b} \times EF_l \times Days_{l,b}}{1000 \times 365} \quad \text{Equation 2}$$

Where:

$BE_{CH_{4EF},b}$ = Baseline CH_4 emissions from enteric fermentation

GWP_{CH_4} = Global-warming potential for CH_4 (t CO_2e/t CH_4)

$P_{l,b}$ = Population of grazing livestock type *l*, in baseline year *b* (head)

l = Index of livestock type

EF_l = Enteric CH_4 emission factor per head of livestock type *l* per year (kg CH_4 head*year)

$Days_{l,b}$ = Grazing days inside the project area for each livestock type *l* in baseline year *b* (days)

1000 = Conversion factor for t CH_4 to kg CH_4

365 = Conversion factor for years to days

2. Baseline N_2O and CH_4 emissions due to manure management

Baseline emissions from manure management include N_2O and CH_4 emissions from manure and urine deposited on grassland soil during the grazing season.

$$BE_{GHG_{MD},b} = BE_{N_2O_{MD},b} + BE_{CH_{4MD},b} \quad \text{Equation 3}$$

Where:

$BE_{GHG_{MD},b}$ = Baseline N_2O and CH_4 emissions due to manure management

$BE_{N_2O_{MD},t}$ = Baseline N_2O emissions from manure and urine deposited on grassland soil in baseline year *b* (t CO_2e)

$BE_{CH_{4MD},t}$ = Baseline CH_4 emissions from manure and urine deposited on grassland soil in baseline year *b* (t CO_2e)

2.1 Baseline N_2O emissions from manure management

Baseline N_2O emissions from manure management are calculated using the following:

$$BE_{N_2O_{MD},b} = GWP_{N_2O} \times (BE_{D,N_2O_{MD},b} + BE_{ID,N_2O_{MD},b}) \quad \text{Equation 4}$$

Where:

GWP_{N_2O} = Global warming potential for N_2O (t CO_2e/t N_2O)

$BE_{D,N_2O_{MD},t}$ = Direct N_2O emissions from manure and urine deposited on grassland soil during the grazing season in baseline year *b* (t N_2O)

$BE_{ID,N_2O_{MD},t}$ = Indirect N_2O emissions from manure and urine deposited on grassland soil during the grazing season in baseline year *b* (t N_2O)

Baseline direct N_2O emissions from manure and urine deposited on grassland soil are calculated using the following:

$$BE_{D,N_2O_{MD},b} = \sum_{l1=1}^{L1} F_{MD,l1,b} \times EF_{3,PRP,CPP} \times 44/28 \quad \text{Equation 5}$$

And/or

$$BE_{D,N_2O_{MD},b} = \sum_{l2=1}^{L2} F_{MD,l2,b} \times EF_{3,PRP,SO} \times 44/28 \quad \text{Equation 6}$$

$F_{MD,l1,b}$ and $F_{MD,l2,b}$ must be calculated using the following equation for livestock type *l*.

$$F_{MD,l1,b} = \frac{P_{l,b} \times W_{l,b} \times Nex_l \times H_{l,b} \times Days_{l,b} \times (1 - Frac_{GAS,MD})}{1000_a \times 24 \times 1000_b} \quad \text{Equation 7}$$

Where:

$F_{MD,l1,b}$ = Annual amount of nitrogen in cattle, poultry and pigs manure and urine deposited on grassland soil during the grazing season in baseline year *b*, adjusted for volatilization as NH_3 and NO_x (t N)

$F_{MD,l2,b}$ = Annual amount of nitrogen in sheep and other animals manure and urine deposited on grassland soil during the grazing season in baseline year *b*, adjusted for volatilization as NH_3 and NOx (t N)

$EF_{3,PRP,CPP}$ = N_2O emission factor for cattle, poultry and pigs manure and urine deposited on grassland soil during the grazing season (kg N_2O-N/kg N input)

$EF_{3,PRP,SO}$ = N_2O emission factor for sheep and other animals manure and urine deposited on grassland soil during the grazing season (kg N_2O-N/kg N input)

$l1$ = Index of livestock cattle, poultry and pigs

$l2$ = Index of livestock sheep and other animals

$P_{l,b}$ = Population of livestock type *l* in baseline year *b* (head)

$W_{l,b}$ = Average weight of livestock type *l* in baseline year *b* (kg livestock mass/head)

Nex_l = Nitrogen excretion of livestock type *l* (kg N deposited /(t livestock mass*day))

1000_a = Conversion factor for t livestock mass to kg livestock mass

$H_{l,b}$ = Average grazing hours per day for livestock type *l* in baseline year *b* (hour)

24 = Conversion factor for days to hours

$Days_{l,b}$ = Grazing days for livestock type *l* inside the project area in baseline year *b* (days)

1000_b = Conversion factor for t N to kg N

$Frac_{GAS,MD}$ = Fraction of volatilization from manure and urine deposited by grazing animals as NH_3 and NOx (kg N volatilized/kg of N deposited)

l = Index of grazing livestock types

For **baseline indirect N_2O emissions from urine and manure N deposited on grassland soils** which include two components, the indirect N_2O emissions from leaching and runoff are excluded as the annual precipitation of the project area is less than annual potential evapotranspiration; the indirect N_2O emissions from the atmospheric deposition of N volatilized as NH_3 and NO_x after urine and manure N is deposited on grassland soils in baseline year *b*, are calculated using the following:

$$BE_{ID,N_2O_{MD},b} = \sum_{l=1}^{L} F_{MD,l,b} \times Frac_{GAS,MD} \times EF_{4,MD} \times 44/28 \quad \text{Equation 8}$$

Where:

$BE_{ID,N_2O_{MD},b}$ = Indirect N_2O emissions from manure and urine deposited on grassland soil during the grazing season in baseline year *b* (t N_2O)

$F_{MD,l,b}$ = Annual amount of manure and urine deposited on grassland soil from livestock type *l* during the grazing season in baseline year *b*, adjusted for volatilization as NH_3 and NOx (t N)

$Frac_{GAS,MD}$ = Fraction of volatilization from manure and urine deposited by grazing animals as NH_3 and NOx (kg N volatilized/kg of N deposited)

$EF_{4,MD}$ = N_2O emission factor for atmospheric deposition of urine and manure N on soils and water surfaces, (kg N_2O-N/(kg NH_3-N + NOx-N volatilized))

l = Index of grazing livestock types

2.2 Baseline CH_4 emissions from manure management

Baseline CH_4 emissions from manure management are calculated using the following:

$$BE_{CH_4MD,b} = \frac{GWP_{CH_4} \times \sum_{l=1}^{L} EF_{lM} \times P_{l,b} \times H_{l,b} \times Days_{l,b}}{1000 \times 365 \times 24} \quad \text{Equation 9}$$

Where:

$P_{l,b}$ = Population of grazing livestock type *l*, in baseline year *b*, head

EF_{lM} = CH_4 emission factor from manure of livestock type *l* (kg CH_4/(head*year))

$H_{l,b}$ = Average grazing hours per day for livestock type *l* in baseline year *b* (hour)

$Days_{l,b}$ = Grazing days for livestock type *l* inside the project area in baseline year *b* (days)

1000 = Conversion factor for t CH_4 to kg CH_4

365 = Conversion factor for years to days

24 = Conversion factor for days to hours

3. Baseline emissions and removals

According to VM0026 (version 1.1), the emissions and removals in baseline year *b* are calculated as follows:

$$BE_b = BE_{N_2O_{SN},b} + BE_{BB,b} + BE_{CH_{4EF},b} + BE_{GHG_{MD},b} + BE_{FC,b} - BRWP_b \quad \text{Equation 10}$$

Where:

BE_b = Baseline emissions and removals in year *b* (t CO_2e)

$BE_{N_2O_{SN},b}$ = Baseline N_2O emissions due to fertilizer use in baseline year *b* (t CO_2e)

$BE_{BB,b}$ = Baseline GHG emissions from biomass burning in baseline year *b* (t CO_2e)

$BE_{CH_{4EF},b}$ = Baseline CH_4 emissions from enteric fermentation in baseline year *b* (t CO_2e)

$BE_{GHG_{MD},b}$ = Baseline GHG emissions from manure management in baseline year *b* (t CO_2e)

$BE_{FC,b}$ = Baseline CO_2 emissions from farming machine fossil fuel consumption in baseline year *b*, (t CO_2)

$BRWP_b$ = Baseline removals from existing woody perennials in baseline year *b* (t CO_2)

According to the validated PD, the baseline scenario does not involve fertilizer use, biomass burning, farming machine fossil fuel consumption or removals from existing woody perennials, i.e., $BE_{N_2O_{SN},b}$, $BE_{BB,b}$, $BE_{FC,b}$, and $BRWP_b$ are 0. Therefore, the equation is simplified as follows:

$$BE_b = BE_{CH_{4EF},b} + BE_{GHG_{MD},b} = BE_{CH_{4EF},b} + BE_{N_2O_{MD},b} + BE_{CH_{4MD},b} \quad \text{Equation 11}$$

3.2.2 Project Emissions (VCS, 3.15)

1. Project CH_4 emissions due to enteric fermentation

Project CH_4 emissions from enteric fermentation in different management practices are calculated using the following respectively:

$$PE_{CH_{4EF},t} = \frac{GWP_{CH_4} \times \sum_{l=1}^{L} P_{l,t} \times EF_l \times Days_{l,t}}{1000 \times 365} \quad \text{Equation 12}$$

Where:

GWP_{CH_4}	=	Global-warming potential for CH_4 (t CO_2e/t CH_4)
$P_{l,t}$	=	Population of grazing livestock type *l* in year *t* under project (head)
l	=	Index of livestock type
EF_l	=	Enteric CH_4 emission factor per head of livestock type *l* per year (kg CH_4 head*year)
$Days_{l,t}$	=	Grazing days inside the project area for each livestock type *l* in the project year *t* (days)
1000	=	Conversion factor for t CH_4 to kg CH_4
365	=	Conversion factor for years to days

2. Project N_2O and CH_4 emissions due to manure management

The project emissions from manure management include N_2O and CH_4 emissions from manure and urine deposited on grassland soil during the grazing season.

Project N_2O and CH_4 emissions in different management practices are calculated using the following respectively:

$$PE_{GHG_{MD},t} = PE_{N_2O_{MD},t} + PE_{CH_{4MD},t} \quad \text{Equation 13}$$

Where:

$PE_{GHG_{MD},t}$	=	Project GHG emissions from manure management in year *t* (t CO_2e)
$PE_{N_2O_{MD},t}$	=	Project N_2O emissions from manure and urine deposited on grassland soil in year *t* (t CO_2e)
$PE_{CH_{4MD},t}$	=	Project CH_4 emissions from manure and urine deposited on grassland soil in year *t* (t CO_2e)

2.1 Project N_2O emissions from manure management

$$PE_{N_2O_{MD},t} = GWP_{N_2O} \times (PE_{D,N_2O_{MD},t} + PE_{ID,N_2O_{MD},t}) \quad \text{Equation 14}$$

Where:

GWP_{N_2O}	=	Global warming potential for N_2O (t CO_2e/t N_2O)

$PE_{D,N_2O_{MD},t}$ = Project direct N_2O emissions from manure and urine deposited on grassland soil during the grazing season in year *t* (t N_2O)

$PE_{ID,N_2O_{MD},t}$ = Project indirect N_2O emissions from manure and urine deposited on grassland soil during the grazing season in year *t* (t N_2O)

Project direct N_2O emissions from manure and urine deposited on grassland soil are calculated using the following:

$$PE_{D,N_2O_{MD},t} = \sum_{l1=1}^{L1} F_{MD,l1,t} \times EF_{3,PRP,CPP} \times 44/28 \quad \text{Equation 15}$$

And/or

$$PE_{D,N_2O_{MD},t} = \sum_{l2=1}^{L2} F_{MD,l2,t} \times EF_{3,PRP,SO} \times 44/28 \quad \text{Equation 16}$$

$F_{MD,l1,t}$ and $F_{MD,l2,t}$ must be calculated using the following equation for livestock type *l*.

$$F_{MD,l1,t} = \frac{P_{l,t} \times W_{l,p} \times Nex_l \times H_{l,t} \times Days_{l,t} \times (1 - Frac_{GAS,MD})}{1000_a \times 24 \times 1000_b} \quad \text{Equation 17}$$

Where:

$F_{MD,l1,t}$ = Annual amount of nitrogen in cattle, poultry and pigs manure and urine deposited on grassland soil during the grazing season in year *t*, adjusted for volatilization as NH_3 and NOx (t N)

$F_{MD,l2,t}$ = Annual amount of nitrogen in sheep and other animals manure and urine deposited on grassland soil during the grazing season in year *t*, adjusted for volatilization as NH_3 and NOx (t N)

$EF_{3,PRP,CPP}$ = N_2O emission factor for cattle, poultry and pigs manure and urine deposited on grassland soil during the grazing season (kg N_2O-N/kg N input)

$EF_{3,PRP,SO}$ = N_2O emission factor for sheep and other animals manure and urine deposited on grassland soil during the grazing season (kg N_2O-N/kg N input)

$l1$ = Index of livestock cattle, poultry and pigs

$l2$ = Index of livestock sheep and other animals

$P_{l,t}$ = Population of grazing livestock type *l* in year *t* (head)

$W_{l,p}$ = Average weight of livestock *l* under project (kg livestock mass/head)

Nex_l	=	Nitrogen excretion of livestock type *l* (kg N deposited /(t livestock mass*day))
1000_a	=	Conversion factor for t livestock mass to kg livestock mass
$H_{l,t}$	=	Average grazing hours per day during grazing season in year *t* (hours)
24	=	Conversion factor for days to hours
$Days_{l,t}$	=	Grazing days for livestock type *l* inside the project area in year *t* (days)
1000_b	=	Conversion factor for t N to kg N
$Frac_{GAS,MD}$	=	Fraction of volatilization from manure and urine deposited by grazing animals as NH_3 and NOx (kg N volatilized/kg of N deposited)
l	=	Index of grazing livestock types

For **project indirect N_2O emissions from urine and manure N deposited on grassland soils** which include two components, the indirect N_2O emissions from leaching and runoff are excluded as the annual precipitation of the project area is less than annual potential evapotranspiration; the indirect N_2O emissions from the atmospheric deposition of N volatilized as NH_3 and NO_x after urine and manure N is deposited on grassland soils in baseline year *b*, are calculated using the following:

$$PE_{ID,N_2O_{MD},t} = \sum_{l=1}^{L} F_{MD,l,t} \times Frac_{GAS,MD} \times EF_{4,MD} \times 44/28 \qquad \text{Equation 18}$$

Where:

$PE_{ID,N_2O_{MD},t}$	=	Project indirect N_2O emissions from manure and urine deposited on grassland soil during the grazing season in year *t* (t N_2O)
$F_{MD,l,t}$	=	Annual amount of manure and urine deposited on grassland soil from livestock type *l* during the grazing season in year *t*, adjusted for volatilization as NH_3 and NOx (t N)
$Frac_{GAS,MD}$	=	Fraction of volatilization from manure and urine deposited by grazing animals as NH_3 and NOx (kg N volatilized/kg of N deposited)
$EF_{4,MD}$	=	N_2O emission factor for atmospheric deposition of urine and manure N on soils and water surfaces, (kg N_2O-N/(kg NH_3-N + NOx-N volatilized))

2.2 Project CH_4 emissions from manure management

Project CH_4 emissions from manure management are calculated using the following:

$$PE_{CH_{4MD},t} = \frac{GWP_{CH_4} \times \sum_{l=1}^{L} EF_{lM} \times P_{l,t} \times H_{l,t} \times Days_{l,t}}{1000 \times 365 \times 24} \qquad \text{Equation 19}$$

Where:

$P_{l,t}$ = Population of livestock type *l* in year *t* (head)

EF_{lM} = CH_4 emission factor from manure of livestock type *l* (kg CH_4/(head*year))

$H_{l,t}$ = Average grazing hours per day during grazing season in year *t* (hours)

$Days_{l,t}$ = Grazing days for livestock type *l* inside the project area in year *t* (days)

1000 = Conversion factor for t CH_4 to kg CH_4

365 = Conversion factor for years to days

3. Project CO_2 emissions due to the use of fossil fuels

Project CO_2 emissions due to the use of fossil fuels are calculated using the following:

$$PE_{FC,t} = \frac{\sum_{p=1}^{P}\sum_{j=1}^{J}\sum_{k=1}^{K} FC_{p,j,k,t} \times EF_{CO_2,k} \times NCV_k}{1000} \quad \text{Equation 20}$$

Where:

$FC_{p,j,k,t}$ = Fuel consumption by fuel type k, by machine type j, on grassland parcel p, in year *t* (kg fuel/year)

$EF_{CO_2,k}$ = CO_2 emission factor by fuel type k (t CO_2/GJ).

NCV_k = Thermal value of fuel type k (GJ/t fuel)

1000 = Conversion factor for tonnes fuel to kg fuel

k = Index of fuel type

j = Index of machine type

p = Index of grassland parcel

4. Project removals due to changes in soil organic carbon

Estimate of project removals due to changes in SOC using a measurement approach.

The SOC stock in stratum s, sampling site i, under project in year *t* are calculated using the following:

$$P_{SOC_{mG,s,i,t}} = SOC_{mG,s,i,t} \times BD_{mG,s,i,t} \times Depth \times (1 - FC_{mG,s,i,t}) \times 0.1 \quad \text{Equation 21}$$

Where:

$P_{SOC_{mG,s,i,t}}$ = SOC stock in the top 30 cm (or greater depth if required) of soil for management practice mG, stratum s, sampling site i under project in year *t* (t C/ha)

$SOC_{mG,s,i,t}$ = SOC content in the top 30 cm of soil (or greater depth if required) for management practice mG, stratum s, sampling site i, under project in year *t* (g C/kg soil)

$BD_{mG,s,i,t}$ = Soil bulk density in the top 30 cm of soil (or greater depth if required) for management practice mG, stratum s, sampling site i, under project in year *t* (g soil/cm^3)

$Depth$ = Top soil depth, for calculating grassland SOC stock in the top 30 cm of soil (or greater depth if required) (cm)

$FC_{mG,s,i,t}$ = Percentage of rocks larger than 2 mm, roots, and other dead residues with a diameter in the top 30 cm of soil (or greater depth if required), for management practice mG, stratum s, sampling site i under project in year *t* (percent)

0.1 = Conversion factor for SOC to t C/ha

mG = Index of management practice

S = Index of stratum

i = Index of sampling site

Calculate average carbon stock of all monitored sites in management practice mG, stratum s, under project using the following:

$$P_{SOC_{mG,s,t}} = \frac{\sum_{i=1}^{I} P_{SOC_{mG,s,i,t}}}{I} \quad \text{Equation 22}$$

Where:

$P_{SOC_{mG,s,t}}$ = Average carbon stock in stratum s under project (t C/ha)

I = Monitored sites in stratum s, under project

The following is used to calculate the difference between the carbon stock for management practice mG under project in year *t*, and the carbon stock under the baseline scenario, for all strata.

$$P_{mG,t} = \sum_{s=1}^{S} (P_{SOC_{mG,s,t}} - SOC_{s,Baseline}) \times PA_{mG,s,t} \quad \text{Equation 23}$$

Where:

$P_{mG,t}$ = Difference in the carbon stock between the project in year *t* and the baseline scenario (t C)

$PA_{mG,s,t}$ = Project areas with management practice mG in stratum s in year *t* (ha)

$P_{SOC_{mG,s,t}}$	=	Average carbon stock in stratum s under project in year *t* (t C / ha)
$SOC_{s,Baseline}$	=	Baseline SOC stock of stratum s, in the top 30 cm soil layer (or greater depth if required) (t C / ha)
S	=	Strata under project
s	=	Index of stratum

The following is applied to calculate average carbon stock of all management practice, under project in year *t*.

$$P_t = \sum_{mG=1}^{M} P_{mG,t} \qquad \text{Equation 24}$$

Where:

P_t	=	Carbon stock under project in year *t* (t C)
M	=	Number of management practice

As this is the 2nd monitoring of SOC stock, the annual project removals due to changes in SOC stock in year *t* must be calculated using the following:

$$PR_t = \frac{(P_t - P_{t-f})}{f} \times \frac{44}{12} \qquad \text{Equation 25}$$

Where:

PR_t	=	Project removals due to changes in SOC in year *t* (t CO_2e)
PR_t	=	Carbon stock under project in year *t* (t C)
PR_{t-f}	=	Carbon stock under project in year *t-f* (t C)
f	=	SOC monitoring frequency (years)

5. Uncertainty analysis

The parameters regarding grazing and diesel consumption are from a full census or project records; therefore, the uncertainty of the calculated emissions is 0.

The uncertainty analysis is thus exclusively associated with SOC.

6. Project net GHG emissions by sources and removals by sinks

According to VM0026 (version 1.1), the net GHG emissions by sources and removals by sinks in project year *t* are calculated as follows:

$$PE_t = PE_{N_2O_{SN},t} + PE_{N_2O_{NF},t} + PE_{GHG_{BB},t} + PE_{CH_{4EF},t} + PE_{GHG_{MD},t} + PE_{FC,t} - PRWP_t - PR_t$$ Equation 26

Where:

PE_t = Project net GHG emissions by sources and removals by sinks in year *t* (t CO_2e)

$PE_{N_2O_{SN},t}$ = Project N_2O emissions due to fertilizer use in year *t* (t CO_2e)

$PE_{N_2O_{NF},t}$ = Project N_2O emissions as a result of N-fixing species within the project area in year *t* (t CO_2e)

$PE_{GHG_{BB},t}$ = Project GHG emissions from biomass burning in year *t* (t CO_2e)

$PE_{CH_{4MD},t}$ = Project CH_4 emissions from manure and urine deposited on grassland soil in year *t* (t CO_2e)

$PE_{GHG_{MD},t}$ = Project GHG emissions from manure management in year *t* (t CO_2e)

$PE_{FC,t}$ = Project CO_2 emissions from farming machine fossil fuel consumption in year *t* (t CO_2)

$PRWP_t$ = Project average net change in carbon stocks of existing woody biomass in year *t* (t CO_2)

PR_t = Project removals due to changes in SOC in year *t* (t CO_2e)

According to the validated PD, the project does not involve fertilizer use, biomass burning, N-fixing species or change in carbon stocks of existing woody biomass, i.e., $PE_{N_2O_{SN},t}$, $PE_{N_2O_{SN},t}$, $PE_{GHG_{MD},t}$, $PRWP_t$ are 0. Therefore, the equation is simplified as follows:

$$PE_t = PE_{CH_{4EF},t} + PE_{GHG_{MD},t} + PE_{FC,t} - PR_t$$
$$= PE_{CH_{4EF},t} + PE_{N_2O_{MD},t} + PE_{CH_{4MD},t} + PE_{FC,t} - PR_t$$ Equation 27

3.2.3 Leakage Emissions (VCS, 2.5, 3.2, 3.6, 3.15, 4.3)

According to VM0026 (version 1.1), the potential sources of leakage are 1) Market leakage due to reduction in the production of livestock products within the project boundary; and 2) Displacement of grazing beyond the project boundary.

According to the validated PD, the market leakage is reasonably considered to be 0, and the leakage from displacement of grazing activities to outside the project boundary shall be assessed and quantified using VMD0040 (version 1.0), which has been shown to be applicable for the project.

1) Assess whether Grazing Displacement Takes Place

According to the validated PD, there is likely to be displacement of grazing activity. During the current monitoring period, the survey shows that there was indeed grazing displacement. Therefore, proceed to the next step.

2) Survey of Grazing Displacement and Relocation Plans

According to the validated PD, the project proponent conducted a survey of all grazing agents whose livestock grazed in the project area prior to the project start date (1-November-2016 to 15-November-2016), which met the requirements of VMD0040 (version 1.0). This survey covered a full census of project participants and project non-participants whose livestock grazed in the project area during the baseline period (one year prior to the project start date) covered by the survey. In addition, the survey collected data on the number and type of livestock, and duration, that livestock under the control of project participants graze outside the project area during the period covered by the survey.

3) Prepare a Grazing Displacement Management Plan

A grazing displacement management plan has been prepared on the basis of the survey of grazing displacement and relocation plans. The grazing displacement management plan outlines the procedures of annual grazing surveys which will be conducted every year during the project lifetime to collect information on livestock grazed within the project area and displaced to non-project lands under the control of project participants, including the following data:

- The identity of each grazing agent;
- The number and type of livestock to be relocated;
- The number of days each year which they will graze outside the project area (measured in days, or the whole year if appropriate);
- The type of land (grassland, forest land, cropland) of each parcel to which grazing will be relocated, and where appropriate note the status (eg, degradation level) of the lands to which grazing will be relocated; and
- Any planned actions to avoid loss of above- or belowground carbon pools on the land parcels to which grazing will be relocated.

According to the validated PD, the following data will not be recorded:

- Location and area in hectares of each land parcel to which grazing will be relocated;
- A unique identifier code (where applicable) for each land parcel to which grazing will be relocated.

4) Determine whether Lands to which Livestock are Displaced are Identified or Unidentified

According to the validated PD, the grazing displacement management plan does not involve recording the geographic location to which livestock under the control of project participants would be relocated; the process of identifying the specific land areas to which livestock would be

relocated was considered not feasible at reasonable cost. Therefore, the land to which livestock grazing activity is displaced was categorized as *unidentified*.

5) Define the Type of Land to which Grazing will be Relocated

According to the validated PD, the unidentified lands were categorized as unidentified grassland. Leakage emissions from relocation of grazing to unidentified grasslands are quantified using the following steps.

Step 1 Estimate the area of grassland needed to sustain the population of livestock relocated to unidentified grasslands

The total area of unidentified grassland required to sustain the population of livestock relocated to unidentified grassland is to be calculated as:

$$Area_{GUI,t} = \frac{DMI_{GUI,t}}{ANPP_{GUI,REF}} \quad \text{Equation 28}$$

$$DMI_{GUI,t} = \sum_{l=1}^{L} \left(\frac{DMI_{day,l} \times P_{GUI,l,t}}{1000}\right) \times Days_{GUI,l,t} \quad \text{Equation 29}$$

Where:

$Area_{GUI,t}$	=	Area required to sustain the population of livestock displaced to unidentified grasslands in year *t* (ha)
$DMI_{GUI,t}$	=	Dry matter intake required to sustain the total number of livestock of all types l relocated to unidentified grasslands in year *t* (t dm)
$ANPP_{GUI,REF}$	=	Aboveground net primary productivity in the reference region that is the likely location of unidentified grasslands to which livestock are relocated (t dm/ha)
$DMI_{day,l}$	=	Daily dry matter intake requirement of each type of livestock *l* (kg dm/(head*day))
$P_{GUI,l,t}$	=	Population of livestock of each type relocated to unidentified grasslands in year *t* (head)
$Days_{GUI,l,t}$	=	Days that the population of each type of relocated livestock of type *l* graze in unidentified grassland in year *t* (days)

Step 2 Assess the risk of soil carbon loss due to overgrazing in unidentified grasslands

The previous calculation shows that the area required to sustain the population of livestock displaced to unidentified grasslands is significantly lower than the area of grassland available in Zhangye City.

According to the validated PD, the grazing displacement will not lead to consumption exceeding 50 percent of available biomass, and leakage due to soil carbon loss does not need to be accounted for.

Step 3 Estimate emissions from livestock displacement to unidentified grasslands

Step 3a: Estimate methane emissions from enteric fermentation by livestock displaced to unidentified grasslands

Calculate the leakage emissions due to enteric fermentation by livestock displaced to all unidentified grasslands outside the project area using:

$$LE_{GUI,CH_{4EF},t} = \frac{\sum_{l=1}^{L} P_{GUI,l,t} \times EF_l \times Days_{GUI,l,t} \times GWP_{CH_4}}{1000 \times 365} \quad \text{Equation 30}$$

Where:

$LE_{GUI,CH_{4EF},t}$	=	Leakage emissions in year *t* from enteric fermentation by livestock displaced to unidentified grasslands (t CO_2e)
$P_{GUI,l,t}$	=	Population of grazing livestock type *l* in year *t* displaced outside the project area to unidentified grasslands (head)
$Days_{GUI,l,t}$	=	Days in year *t* that livestock of each type l grazes on unidentified grassland (days)
GWP_{CH_4}	=	Global-warming potential of CH_4 (t CO_2e/t CH_4)
EF_l	=	Enteric CH_4 emission factor per head of livestock type *l* per year (kg CH_4/(ha*year))
l	=	Index of grazing livestock types

Step 3b: Estimate GHG emissions from manure management

Calculate the N_2O and CH_4 leakage emissions due to manure deposition on grassland caused by relocating the livestock to unidentified grasslands outside the project area using:

$$LE_{GUI_{MD,t}} = LE_{GUI,N2O_{MD,t}} + LE_{GUI,CH4_{MD,t}} \quad \text{Equation 31}$$

Where:

$LE_{GUI_{MD,t}}$	=	Leakage emissions from manure and urine deposited on unidentified grassland in year *t* (t CO_2e)
$LE_{GUI,N2O_{MD,t}}$	=	Leakage N_2O emissions from manure and urine deposited on unidentified grasslands in year *t* (t CO_2e)
$LE_{GUI,CH4_{MD,t}}$	=	Leakage CH_4 emissions from manure and urine deposited on unidentified grasslands in year *t* (t CO_2e)

$LE_{GUI,N2O_{MD,t}}$ is calculated as the sum of direct N_2O emissions and indirect N_2O emissions using:

$$LE_{GUI,N2O_{MD,t}} = GWP_{N2O} \times (LE_{GUI_D,N2O_{MD,t}} + LE_{GUI_{ID},N2O_{MD,t}}) \quad \text{Equation 32}$$

Where:

$LE_{GUI,N2O_{MD,t}}$	=	Leakage N_2O emission from manure and urine deposited on unidentified grasslands in year *t* (t CO_2e)
GWP_{N2O}	=	Global-warming potential of N_2O (t CO_2e/t N_2O)
$LE_{GUI_D,N2O_{MD,t}}$	=	Leakage direct N_2O emissions from manure and urine deposited on unidentified grasslands in year *t* (t N_2O)
$LE_{GUI_{ID},N2O_{MD,t}}$	=	Leakage indirect N_2O emissions from manure and urine deposited on unidentified grasslands in year *t* (t N_2O)

Leakage direct N_2O emission from manure and urine deposited on unidentified grasslands ($LE_{GUI_D,N2O_{MD,t}}$) is calculated using:

$$LE_{GUI_D,N2O_{MD,t}} = \sum_{l1=1}^{L1} F_{MD,GUI,t,l1} \times EF_{3,PRP,CPP} \times \frac{44}{28} \quad \text{Equation 33}$$

And/or

$$LE_{GUI_D,N2O_{MD,t}} = \sum_{l2=1}^{L2} F_{MD,GUI,t,l2} \times EF_{3,PRP,SO} \times \frac{44}{28} \quad \text{Equation 34}$$

Where:

$LE_{GUI_D,N2O_{MD,t}}$	=	Leakage direct N_2O emissions from manure and urine deposited on unidentified grasslands in year *t* (t N_2O)
$F_{MD,GUI,t,l1}$	=	Annual amount of nitrogen in cattle, poultry and pig manure and urine deposited on unidentified grasslands in year *t*, adjusted for volatilization as NH_3 and NOx (t N)
$F_{MD,GUI,t,l2}$	=	Annual amount of nitrogen in sheep and other animal manure and urine deposited on unidentified grasslands in year *t*, adjusted for volatilization as NH_3 and NOx (t N)
$EF_{3,PRP,CPP}$	=	N_2O emission factor for cattle (dairy, non-dairy and buffalo), poultry and pigs manure and urine deposited on grasslands (kg N_2O-N/kg N input)
$EF_{3,PRP,SO}$	=	N_2O emission factor for sheep and other animals manure and urine deposited on grasslands (kg N_2O-N/kg N input)

$$F_{MD,GUI,t,l} = \frac{P_{GUI,l,t} \times W_l \times Nex_l \times H_{GUI,l,t} \times Days_{GUI,l,t} \times (1 - Frac_{GAS,MD,l})}{1000_a \times 24 \times 1000_b} \quad \text{Equation 35}$$

Where:

$F_{MD,GUI,t,l}$	=	Annual amount of nitrogen in manure and urine deposited on unidentified grasslands by livestock type *l*, adjusted for volatilization as NH_3 and NOx (t N)
$P_{GUI,l,t}$	=	Population of grazing livestock type *l* in year *t* displaced outside the project area to unidentified grasslands (head)
W_l	=	Average weight of livestock *l* displaced to unidentified grasslands (kg/head)
Nex_l	=	Nitrogen excretion from livestock type *l* (kg N/(t animal mass*day))
1000_a	=	Conversion factor for nitrogen excretion (kg/t livestock mass) to nitrogen excretion (kg/kg livestock mass)
$H_{GUI,l,t}$	=	Average grazing hours per day during grazing season for livestock of each type l displaced to unidentified grassland in year *t* (hours)
24	=	Conversion day to hour
$Days_{GUI,l,t}$	=	Grazing days in year *t* for livestock type *l* displaced to unidentified grasslands (days)
1000_b	=	Conversion factor for kg to t
$Frac_{GAS,MD,l}$	=	Fraction of volatilization from manure and urine deposited by grazing animals as NH_3 and NOx (kg N volatilized/kg of N deposited)
t	=	Year
l	=	Index of grazing livestock types

CH_4 emission from manure management due to displacement of livestock to unidentified grasslands is calculated using:

$$LE_{GUI,CH4_{MD,t}} = \frac{GWP_{CH4} \times \sum_{l=1}^{L} EF_{l,m} \times P_{GUI,l,t} \times H_{GUI,l,t} \times Days_{GUI,l,t}}{24 \times 365 \times 1000} \quad \text{Equation 36}$$

Where:

$LE_{GUI,CH4_{MD,t}}$	=	Leakage CH_4 emissions from manure and urine deposited on unidentified grasslands in year *t* (t CO_2e)
GWP_{CH4}	=	Global-warming potential of CH_4 (t CO_2e/t CH_4)
$EF_{l,m}$	=	CH_4 emission factor per head of livestock type *l* in manure management system m (kg CH_4/(head*yr)
$P_{GUI,l,t}$	=	Population of livestock type *l* in year *t* displaced to unidentified grasslands (head)

$H_{GUI,l,t}$ = Average grazing hours per day during grazing season for livestock of each type l displaced to unidentified grassland in year *t* (hours)

$Days_{GUI,l,t}$ = Grazing days in year *t* for livestock type *l* displaced to unidentified grasslands (days)

1000 = Conversion factor for kg to t

Step 4 Calculate total leakage emissions from relocation of grazing to unidentified grasslands

Total leakage emissions from relocation of grazing to unidentified grasslands must be calculated as:

$$LE_{GUI,t} = LE_{OG,GUI,t} + LE_{GUI,CH4_{EF,t}} + LE_{GUI_{MD,t}} \quad \text{Equation 37}$$

Where:

$LE_{GUI,t}$ = Leakage due to displacement of livestock to unidentified grasslands in year *t* (t CO_2e)

$LE_{OG,GUI,t}$ = Leakage due to soil carbon loss resulting from overgrazing due to displacement of livestock to unidentified grasslands in year *t* (t CO_2e)

$LE_{GUI,CH4_{EF,t}}$ = Leakage due to enteric fermentation by livestock displaced to unidentified grasslands in year *t* (t CO_2e)

$LE_{GUI_{MD,t}}$ = Leakage due to N_2O and CH_4 emissions in manure and urine deposited on grasslands by livestock displaced to unidentified grasslands in year *t* (t CO_2e)

As described above, $LE_{OG,GUI,t}$ is 0. Therefore:

$$LE_t = LE_{GD,t} = LE_{GUI,t}$$

$$= LE_{GUI,CH_4EF,t} + LE_{GUI_{MD,t}} = LE_{GUI,CH_4EF,t} + LE_{GUI,N_20_{MD},t} + LE_{GUI,CH_4MD,t}$$

3.2.4 GHG Emission Reductions and Carbon Dioxide Removals (VCS, 3.15, 4.1)

The amount of emission reductions and removals achieved by the project in project year *t* is calculated using the following equation.

$$ER_t = BE_b - PE_t - LE_t \quad \text{Equation 38}$$

Where:

ER_t = Emission reductions and removals in year *t* (t CO_2e)

BE_b = Baseline emissions and removals in year *b* (t CO_2e)

PE_t = Project emissions and removals in year *t* (t CO_2e)

LE_t = Leakage emissions in year *t* (t CO_2e)

As this equation does not address the difference between reductions and removals, the following equations could be used alternatively in order to obtain reductions and removals separately.

$$ER_t = ER_{reduction,t} + ER_{removal,t} \quad \text{Equation 39}$$

$$ER_{reduction,t} = BE_b - PE_t - LE_t - PR_t \quad \text{Equation 40}$$

$$ER_{removal,t} = PR_t \quad \text{Equation 41}$$

Where:

$ER_{reduction,t}$ = Emission reductions in year *t* (t CO_2e)

$ER_{removal,t}$ = Removals in year *t* (t CO_2e)

The amount of emission reductions that can be issued as credits during the monitoring period is calculated using the equation.

$$VCU_t = ER_t - BC_t \quad \text{Equation 42}$$

Where:

VCU_t = Emission reductions eligible to be issued as VCUs in year *t* (t CO_2e)

BC_t = AFOLU buffer credits in year *t* (t CO_2e)

According to VM0026 (version 1.1), the amount of AFOLU buffer credits that must be deposited into the AFOLU pooled buffer account must be calculated by multiplying the non-permanence risk rating by the change in carbon stocks in a given monitoring period. However, this contradicts with CCB & VCS Monitoring Report Template CCB v3.0, VCS v4.4, according to which state "The buffer pool allocation is split proportionally between the reductions and removals". To be conservative, a minor deviation to the methodology is applied: the amount of AFOLU buffer credits that must be deposited into the AFOLU pooled buffer account are calculated by multiplying the non-permanence risk rating by the emission reductions achieved by the project, and these AFOLU buffer credits are split proportionally between the reductions and removals, as shown in the following equations.

$$BC_t = RR_t \times ER_t \quad \text{Equation 43}$$

$$VCU_t = ER_t - BC_t = ER_t \times (1 - RR_t) \quad \text{Equation 44}$$

$$VCU_{reduction,t} = ER_{reduction,t} \times (1 - RR_t) \quad \text{Equation 45}$$

$$VCU_{removal,t} = ER_{removal,t} \times (1 - RR_t) \quad \text{Equation 46}$$

i) Provide the requested information using the table below:

State the non-permanence risk rating (%)	15%
Has the non-permanence risk report been attached as either an appendix or a separate document?	☒ Yes ☐ No It is attached as a separate document.
For ARR and IFM projects with harvesting, state, in t CO_2e, the Long-term Average (LTA).	Not applicable as the project is not an ARR or IFM project.
Has the LTA been updated based on monitored data, if applicable?	☐ Yes ☐ No Not applicable as the project is not an ARR or IFM project.
State, in t CO_2e, the expected total GHG benefit to date.	
If a loss occurred (including a loss event or reversal), state the amount of t CO_2e lost:	Not applicable.

ii) Refer to the table below for buffer pool allocation and VCUs for the current monitoring period. Project emissions are negative because sinks exceed emissions in the project scenario. The buffer pool allocation is split proportionally between the reductions and removals.

Vintage period	Baseline emissions (t CO_2e)	Project emissions (t CO_2e)	Leakage emissions (t CO_2e)	Buffer pool allocation (t CO_2e)	Reductions VCUs (t CO_2e)	Removals VCUs (t CO_2e)
01-January-2022 to 31-December-2022	146,059	-239,455	93,948	43,735	11,695	236,136
01-January-2023 to 31-December-2023	146,059	-239,455	93,948	43,735	11,695	236,136
01-January-2024 to 31-December-2024	146,059	-239,455	93,948	43,735	11,695	236,136
Total	438,177	-718,365	281,844	131,205	35,085	708,408

Refer to the table below for the estimated ex-ante GHG emission reductions and carbon dioxide removals and the achieved reductions and removals for the monitoring period as well as the percentage difference and explanation of the difference. The quantities of reductions and removals are the total quantities before any deductions for buffer credits.

Vintage period	Ex-ante estimated reductions/ removals	Achieved reductions/ removals	Percent difference	Explanation for the difference
01-January-2022 to 31-December-2022	719,840	291,566	-59%	The grassland restoration process is much slower than expected
01-January-2023 to 31-December-2023	719,840	291,566	-59%	
01-January-2024 to 31-December-2024	719,840	291,566	-59%	
Total	2,159,520	874,698	-59%	

3.3 Optional Criterion: Climate Change Adaptation Benefits

Not applicable.

3.3.1 Activities and/or processes implemented for Adaptation (CCB, GL1.3)

Not applicable.

4 COMMUNITY

4.1 Net Positive Community Impacts

4.1.1 Community Impacts (CCB, CM2.1)

As stated in Section 2.3.1, "Local residents around the project area" (i.e., "Local herders", "Local Yugur people", "Local women", "Grassland guardians") and "Village collectives" are **Community Groups**, while "Zhangye Forestry and Grassland Bureau", "County Forestry and Grassland Bureaus" and "Local government" are **Other Stakeholders.**

The impacts on each of the Community Groups are summarized as follows.

Community group	Local residents around the project area
Impact	The breakdown of the impacts on each subgroup within this group is shown below.
Type of benefit/cost/risk	Actual direct benefits

Change in well-being	The breakdown of the change in well-being of each subgroup within this group is shown below.

Community group	Local herders
Impact	Subsidies received, benefit from grassland restoration
Type of benefit/cost/risk	Actual direct benefits
Change in well-being	Local herders received subsidies for complying with sustainable grazing measures. In the long term, they also benefit from restoration of degraded grasslands, which are a crucial part of their livelihood.

Community group	Local Yugur people
Impact	Subsidies received, benefit from grassland restoration, preserving their unique culture
Type of benefit/cost/risk	Actual direct benefits
Change in well-being	Local herders received subsidies for complying with sustainable grazing measures. In the long term, they also benefit from restoration of degraded grasslands, which are a crucial part of their livelihood and their unique culture, thus benefiting from the preservation of their traditional pastoral practices.

Community group	Grassland guardians
Impact	Income increases and skill improvement
Type of benefit/cost/risk	Actual direct benefits
Change in well-being	Each of them was paid 2,000 RMB per year, increasing their income. They also benefited from improved skills in sustainable grazing management.

Community group	Local women
Impact	Gender equity
Type of benefit/cost/risk	Actual direct benefits
Change in well-being	The project applies anti-discrimination and anti-harassment policies. Women share the same opportunities of employment and of skills training as men, benefiting from improved gender equity.

Community group	Village collectives
Impact	Benefit from grassland restoration
Type of benefit/cost/risk	Actual indirect benefits
Change in well-being	The village collectives, to which the grasslands in the project area belong, indirectly benefit from restoration of degraded grasslands.

4.1.2 Negative Community Impact Mitigation (VCS, 3.19; CCB, CM2.2)

As shown in Appendix 2, there were no pollutants and no associated adverse effects, and there is no risk associated with the safety of women, girls, children, and other marginalized groups. In fact, the project did not result in negative impacts on the well-being of community groups, and mitigation measures were not necessary.

4.1.3 Net Positive Community Well-Being (VCS 3.19; CCB, CM2.3, GL1.4)

As described in Section 4.1.1 and Section 4.1.2, the project resulted in a variety of positive community impacts while no negative impacts. Therefore, the project's net impacts on the well-being of all community groups are positive.

4.1.4 Protection of High Conservation Values (CCB, CM2.4)

Not applicable as no HCVs have been identified related to community well-being in the project zone according to the validated PD.

4.2 Other Stakeholder Impacts

4.2.1 Mitigation of Negative Impacts on Other Stakeholders (VCS, 3.18, 3.19; CCB, CM3.2)

"Other Stakeholders" of the project refer to Zhangye Forestry and Grassland Bureau, County Forestry and Grassland Bureaus and Local government, all of which of local government agencies.

The project proponent maintained close and continuous communication with these government agencies. They gained valuable experience in the sustainable management of alpine grasslands and in semi-arid grasslands, which could potentially serve as a model for the management of other degraded grasslands. In addition, improved grassland productivity and coverage as a result of the project activities increased the aesthetic value of local grassland ecosystem, potentially attracting more tourists, and thus contributing to local economy.

During the monitoring period, there was no negative impact identified on their well-being, and mitigations were not necessary.

4.2.2 Net Impacts on Other Stakeholders (VCS, 3.18, 3.19; CCB, CM3.3)

The project provided the opportunity to gain more experience in sustainable grassland management, from which the Other Stakeholders could all benefit. In the meantime, the project did not result in negative impacts on the well-being of the Other Stakeholders, as described in Section 4.2.1. Therefore, the project's net impact on the well-being of Other Stakeholders is positive.

4.3 Community Impact Monitoring

4.3.1 Community Monitoring Plan (CCB, CM4.1, CM4.2, GL1.4, GL2.2, GL2.3, GL2.5)

The operation and management structure of the monitoring team has been shown in Figure 3.1; refer to Section 3.1.3 for description of the team members' responsibilities.

The community monitoring plan covers all community groups and other stakeholders identified, and adopts various monitoring methods to assess a set of variables and indicators defined in the validated PD.

The indicators described in the validated PD are all quantitative ones and they are:

- Indicator 1: Total number of community members who have improved skills and/or knowledge resulting from training provided as part of the project activities.
- Indicator 2: Number of female community members who have improved skills and/or knowledge resulting from training as part of the project activities.
- Indicator 3: Total number of people employed in project activities, expressed as number of full-time employees.
- Indicator 4: Number of women employed in project activities, expressed as number of full-time employees.

- Indicator 5: Total number of people who have improved livelihoods or income generated as a result of the project activities[33].
- Indicator 6: Number of women who have improved livelihoods or income generated as a result of the project activities.
- Indicator 7: Area of restored grassland from different management practices.
- Indicator 8: Number of community members of the Yugur ethnic group benefiting from the project activities.
- Indicator 9: Number of tourists received in the project zone each year.
- Indicator 10: Number of herders that received subsidies and the amount of subsidies received.

Each of the indicators affects different community groups or other stakeholders in different ways. Indicators 1 and 5 are directly related to all the community groups (including the subgroups). Indicators 3 and 4 are related to the community group "Grassland guardians". Indicator 2, Indicators 4 and 6 are specifically defined for "Local women", while Indicator 8 for "Local Yugur people". Indicator 9 does not directly affect any of the community groups, but tourism boosts the local economy and indirectly benefits everyone in the project zone. Indicators 7 and 10 are mostly associated with "Local herders". Although none of these indicators addresses "Other stakeholders", their opinions are also consulted by means of close and continuous communication between them and the project proponent.

The monitoring is conducted before every verification, and a variety of monitoring methods are adopted:

- Collection and review of documents including working contracts, wage payment records, subsidy distribution records, training records.
- Questionnaire survey, which has been described in Section 2.3.9.
- Semi-structured interviews in various forms, including interviews with representatives of community members, interviews with randomly selected herder households as well as group discussions.

From 09-September-2024 to 05-October-2024, the monitoring team distributed 80 questionnaires, and all of them were collected with valid answers. The relevant information has been provided in Section 2.3.9.

The community monitoring results are shown in Table 4.1.

[33] Refers to wage received by the community members for participating in temporary or permanent jobs

Table 4.1 Community monitoring indicators and community monitoring results for the current monitoring period

Indicator reference	Indicator	Affected community group(s)	Monitoring results
1	Total number of community members who have improved skills and/or knowledge resulting from training provided as part of the project activities.	All community groups	Training records were collected to show that local community members received training during this monitoring period. 90% of the questionnaire respondents mentioned improved skills and/or knowledge as an impact from the project.
2	Number of female community members who have improved skills and/or knowledge resulting from training as part of the project activities	Local women	Training records were collected to show that local female community members received training during this monitoring period. 92% of the female questionnaire respondents mentioned improved skills and/or knowledge as an impact from the project.
3	Total number of people employed in project activities, expressed as number of full-time employees	Grassland guardians	Working contracts and payment records show that 147 local community members were employed in full-time job positions during this monitoring period.
4	Number of women employed in project activities, expressed as number of full-time employees	Grassland guardians Local women	Working contracts and payment records show that 66 local female community members were employed in full-time job positions during this monitoring period.
5	Total number of people who have improved livelihoods or income generated as a result of the project activities	All community groups	Working contracts and payment records show that full-time grassland guardians received 2,000 RMB per year during this monitoring period.
6	Number of women who have improved livelihoods or income generated as a result of the project activities	Local women	Working contracts and payment records show that full-time female grassland guardians received 2,000 RMB per year during this monitoring period.
7	Area of restored grassland from different management practices	Local herders	The sustainable management of 261,059.80 hectares of degraded grasslands was continued during this monitoring period.

8	Number of community members of the Yugur ethnic group benefiting from the project activities	Local Yugur people	Most of the herders participating in the project are Yugur people.
9	Number of tourists received in the project zone each year	All community groups	Zhangye Statistics Yearbooks show that Zhangye received 15.291 million and 39.102 million tourists in 2022 and 2023, respectively. The number of tourists in 2024 is not available at the time of this MR writing. Note that the data in 2022 was an outlier due to COVID-related travel restrictions in China which were not completely removed until December 2022.
10	Number of herders that received subsidies and the amount of subsidies received	Local herders	The subsidy records show that all the herder households participating in the project received subsidies.

4.3.2 Monitoring Plan Dissemination (CCB, CM4.3)

The monitoring plan as part of the validated PD has been made publicly available on Verra Registry.

Two weeks before the monitoring activities for this monitoring period began, the project proponent further disclosed the monitoring plan and monitoring manual to local stakeholders by posting the documents on local bulletin boards in villages around the project area and by distributing printed copies of the documents. Stakeholders were invited to review the documents and provide feedback.

After the monitoring activities were completed and the results were obtained, the draft MR and MR summary were completed and will be made publicly available on Verra Registry from which the stakeholders could download the documents. The draft MR summary was also shared with stakeholders in the same manner as the monitoring plan and monitoring manual.

All stakeholder comments and responses regarding the monitoring plan and results will be summarized and published as part of the final version of the MR.

4.4 Optional Criterion: Exceptional Community Benefits

Not applicable.

4.4.1 Short-term and Long-term Community Benefits (CCB, GL2.2)

Not applicable.

4.4.2 Marginalized and/or Vulnerable Community Groups (CCB, GL2.4)

Not applicable.

4.4.3 Net Impacts on Women (CCB, GL2.5)

Not applicable.

4.4.4 Benefit Sharing Mechanisms (CCB, GL2.6)

Not applicable.

4.4.5 Governance and Implementation Structures (CCB, GL2.8)

Not applicable.

4.4.6 Smallholders/Community Members Capacity Development (CCB, GL2.9)

Not applicable.

5 BIODIVERSITY

5.1 Net Positive Biodiversity Impacts

5.1.1 Biodiversity Changes (VCS, 3.19; CCB, B2.1)

Change in Biodiversity	Grassland productivity of the project area
Monitored Change	Actual direct increase
Justification of Change	The restoration measures adopted in the project include reseeding grass, rest grazing and rotation grazing. Reseeding of native grass species directly and quickly increases grass growth and productivity, while rest grazing and rotation grazing ensure sustainable and scientific use of grassland resources, benefiting long-term grass productivity.

Change in Biodiversity	Grassland coverage of the project area
Monitored Change	Actual direct increase
Justification of Change	The restoration measures adopted in the project include reseeding grass, rest grazing and rotation grazing. Reseeding of native grass species directly and quickly increases grass growth and coverage, while rest grazing and rotation grazing ensure sustainable and scientific use of grassland resources, benefiting long-term grass coverage.

Change in Biodiversity	Number of grass species in the project area
Monitored Change	Actual direct increase
Justification of Change	Six native grass species have been planted in part of the project area, increasing the number of grass species in those areas.

Change in Biodiversity	Threats to endangered animals
Monitored Change	Actual indirect decrease

Justification of Change	The loss of wildlife habitat due to grassland degradation is a major threat to wildlife survival. The project can effectively restore grassland vegetation, alleviate grassland degradation, and restore wildlife habitat, thereby reducing the threat of wildlife, especially endangered animals.

5.1.2 Mitigation Actions (VCS, 3.19; CCB, B2.3)

The project has been carefully designed and implemented with biodiversity consideration in mind, especially in terms of fence building. The management team is equipped with knowledge and expertise regarding wildlife habitats and ecosystem protection.

Due to these measures being taken, there was no negative impact on biodiversity during the monitoring period, and measures were not necessary.

5.1.3 Net Positive Biodiversity Impacts (VCS, 3.19; CCB, B2.2, GL1.4)

The project achieved positive impacts on biodiversity in the project zone as shown in Section 5.1.1 and there was no negative impact as shown in Section 5.1.2. Therefore, the project's net impacts on biodiversity in the project zone are positive.

Species and habitat	The validated PD has identified several IUCN threatened or near-threatened species as well as various Level I and Level II nationally protected species of China. The project zone provides habitats for these rare, threatened or endangered species. In addition, the project is geographically close to Qilian Mountains, an important ecological barrier. The restoration measures implemented by the project have improved vegetation cover and biodiversity conditions, and no habitat disturbance occurred during the monitoring period. The project also contributes to the preservation of biodiversity of Qilian Mountains.
Areas needed for habitat connectivity	There are no areas needed for habitat connectivity in or near the project area.

5.1.4 High Conservation Values Protected (CCB, B2.4)

Not applicable as no HCVs have been identified related to biodiversity in the project zone according to the validated PD.

5.1.5 Species Used (VCS, 3.19; CCB, B2.5, 2.6)

All grass species used in the project are native, and the grass seeds were sown as a mixed seed blend rather than in a monoculture, as shown in the table below. There have been no adverse effects from the introduction of these species.

Species introduced	Classification	Justification for use	Adverse effects and mitigation
Elymus nutans	Native and Not monoculture	Grass reseeding in degraded grasslands	None
Elymus sibiricus	Native and Not monoculture	Grass reseeding in degraded grasslands	None
Poa pratensis	Native and Not monoculture	Grass reseeding in degraded grasslands	None
Agropyron cristatum	Native and Not monoculture	Grass reseeding in degraded grasslands	None
Festuca rubra	Native and Not monoculture	Grass reseeding in degraded grasslands	None
Artemisia sphaerocephala	Native and Not monoculture	Grass reseeding in degraded grasslands	None

5.1.6 Invasive Species (VCS, 3.19; CCB, B2.5)

There are no invasive species in the project area.

5.1.7 GMO Exclusion (CCB, B2.7)

No GMOs have been used to generate GHG emissions reductions or removals.

5.1.8 Inputs Justification (VCS, 3.19; CCB, B2.8)

Name	Chemical pesticides
Justification of Use	Chemical pesticides might be used as a last resort in cases of severe pest outbreak, which are extremely rare. The primary approach remains ecological pest control through habitat restoration and biological control (natural predators). Chemical pesticides will only be used if pest outbreaks reach critical levels that cannot be managed by other means. Should this happen, only government-approved and environmentally safe pesticides would be considered. Application must be conducted by trained personnel following best practices in a targeted manner to minimize environmental impact. Workers handling pesticides must receive training on safe application and must wear protective equipment. Community member must be informed of any planned pesticide use to prevent unintended exposure.

Adverse Effect	The application of chemical pesticides could lead to soil contamination and water contamination and might even pose health risks to workers and local communities. During the current monitoring period, no serious disease outbreaks occurred, and therefore, no chemical pesticides were used and no adverse effect took place.

Name	Biological control agents
Justification of Use	Biological control is the primary approach to addressing both pest outbreaks and overpopulation of rodents. For pest outbreaks, biological control agents include natural predators, parasitoids, pathogens, and competitors. Each of them is efficient to different pests. For overpopulation of rodents, biological control involves attracting natural predators of rodents, typically birds of prey, and in some cases mammalian predators or reptiles.
Adverse Effect	Biological control agents have no adverse effects on the local environment or communities. During the current monitoring period, no pest outbreak or overpopulation of rodents occurred.

5.2 Offsite Biodiversity Impacts

5.2.1 Negative Offsite Biodiversity Impacts (CCB, B3.1) and Mitigation Actions (CCB, B3.2)

No negative offsite impacts on biodiversity resulting from the project activity have been identified and mitigation measures were thus not necessary.

5.2.2 Net Offsite Biodiversity Benefits (VCS, 3.19; CCB, B3.3)

As described above, there are no negative offsite impacts on biodiversity, and the net impacts of the project on biodiversity in the project zone are positive. Therefore, the net effect of the project on biodiversity is positive.

5.3 Biodiversity Impact Monitoring

5.3.1 Biodiversity Monitoring Plan (CCB, B4.1, B4.2, GL1.4, GL3.4)

The operation and management structure of the monitoring team has been shown in Figure 3.1; refer to Section 3.1.3 for description of the team members' responsibilities.

The biodiversity monitoring plan includes State Variables that are monitored before every verification, as well as Pressure Variables and Response Variables that are monitored annually.

For the current monitoring period, the fieldwork regarding the State Variables was conducted by the project proponent from 10-August-2023 to 15-September-2023, and on the basis of the fieldwork the project proponent completed the Biodiversity Survey Report for this monitoring period in October 2023; the monitoring of the Pressure Variables and Response Variables was conducted every year by mobilizing grassland guardians, the County Forestry and Grassland Bureaus as well as the project proponent.

The monitoring indicators for each of these variables as well as the monitoring results are shown in Table 5.1.

Table 5.1 Biodiversity monitoring plan and biodiversity monitoring results for the current monitoring period

Indicator type	Description	Monitoring indicator	Indicator unit	Monitoring method	Monitoring frequency	Monitoring results
State variables	Quantity and quality of grassland in the project area	Grassland productivity	kg/Mu[34]	128 biodiversity monitoring sites were selected; at each of the monitoring sites, 3 quadrats of 1m×1m (1m^2) were applied to measure the grass species, numbers, heights and coverage within each quadrat. The aboveground biomass in each quadrat were collected and then its dry weight was measured	Before every verification	The grassland productivity increased compared to the 1st monitoring period
		Grassland coverage in the project area	ha		Before every verification	The grassland coverage increased compared to the 1st monitoring period
	Biodiversity and threatened status	Grass species in the project area	/		Before every verification	The grass species increased compared to the 1st monitoring period
		The numbers of endangered animals	/	30 transect lines were set, each about 2 to 3 kilometers, to observe and record the species and numbers of birds, mammals and reptiles along the lines. Birdwatching was conducted at dawn (06:00~10:00) and at dusk (16:00~22:00); for mammals and reptiles, their footprints, claw marks, hair, feces, nests, etc. were observed	Before every verification	25 species of birds, 4 species of mammals and 2 species of reptiles were identified and recorded. Among them, *Falco tinnunculus* and *Milvus migrans* are classified as Level II nationally protected species of China.

[34] 1 ha = 15 Mu

				and identified, combined with interviews with neighbouring community members.		
		Reduced threats to endangered animals. (Area of grassland restoration)	ha	During their regular patrol, the grassland guardians were responsible for recording and reporting area of vegetation restoration to the County Forestry and Grassland Bureaus.	Before every verification	261,059.80 hectares of degraded grassland, including 77,002.43 hectares of seriously degraded grassland were restored, increasing the wildlife habitats and reducing the threats.
Pressure variables	The frequency or intensity of anthropogenic impacts that are directly harmful to biodiversity in the project zone	Number of grassland fire occurrence	/	During their regular patrol, the grassland guardians were responsible for recording and reporting fire occurrence to the County Forestry and Grassland Bureaus. The County Forestry and Grassland Bureaus recorded the number of grasslands fires every year based on the reporting from the grassland guardians.	Annually	There was no fire in the project area during the current monitoring period
		Grassland area affected by pest outbreaks or overpopulation of rodents	ha	During their regular patrol, the grassland guardians were responsible for recording and reporting pest outbreak or overpopulation of rodents to the County Forestry and Grassland Bureaus.	Annually	There was no pest outbreak or overpopulation of rodents in the project area during the current monitoring period

				The County Forestry and Grassland Bureaus recorded pest outbreaks or overpopulation of rodents every year based on the reporting from the grassland guardians.		
		Overgrazing	ha	During their regular patrol, the grassland guardians were responsible for supervising and guiding the herders to implement sustainable grazing and regularly reporting to the County Forestry and Grassland Bureaus. The County Forestry and Grassland Bureaus recorded overgrazing circumstances every year based on the reporting from the grassland guardians.	Annually	There was no overgrazing in the project area during the current monitoring period
		Chemical pesticides	t	During their regular patrol, the grassland guardians were responsible for recording and reporting pest outbreak to the County Forestry and Grassland Bureaus. The County Forestry and Grassland Bureaus determined the method of controlling pest outbreaks; if chemical pesticides were applied, their application amount must be recorded, and their application	Annually	There was no application of chemical pesticides during the current monitoring period

				procedures must be supervised by the County Forestry and Grassland Bureaus.		
Response variables	The frequency or intensity of project interventions relevant to biodiversity	Grassland area under prevention control from fires	ha	The Forestry and Grassland Bureau recorded grassland area under prevention control from fires every year based on the reporting from the grassland guardians.	Annually	261,059.80
		Grassland area under prevention control from rodents and pests	ha	The Forestry and Grassland Bureau recorded grassland area under prevention control from rodents and pests every year based on the reporting from the grassland guardians.	Annually	261,059.80
		Project area of sustainable grassland management	ha	The Forestry and Grassland Bureau recorded project area of sustainable grassland management every year based on the reporting from the grassland guardians.	Annually	261,059.80
		Project area for restoration of degraded grassland	ha	The Forestry and Grassland Bureau recorded project area for restoration of degraded grassland every year based on the reporting from the grassland guardians.	Annually	261,059.80

5.3.2 Biodiversity Monitoring Plan Dissemination (CCB, B4.3)

The monitoring plan as part of the validated PD has been made publicly available on Verra Registry.

Two weeks before the monitoring activities for this monitoring period began, the project proponent further disclosed the monitoring plan and monitoring manual to local stakeholders by posting the documents on local bulletin boards in villages around the project area and by distributing printed copies of the documents. Stakeholders were invited to review the documents and provide feedback.

After the monitoring activities were completed and the results were obtained, the draft MR and MR summary were completed and will be made publicly available on Verra Registry from which the stakeholders could download the documents. The draft MR summary was also shared with stakeholders in the same manner as the monitoring plan and monitoring manual.

All stakeholder comments and responses regarding the monitoring plan and results will be summarized and published as part of the final version of the MR.

5.4 Optional Criterion: Exceptional Biodiversity Benefits

Not applicable.

5.4.1 Trigger Species Population Trends (CCB, GL3.2, GL3.3)

Not applicable.

APPENDIX 1: NEW PROJECT AREAS AND STAKEHOLDERS

No new project areas or stakeholders have been identified for this monitoring period.

APPENDIX 2: PROJECT RISKS TABLE

	Identified risk(s)	Potential impact of risk on stakeholders, ecosystem health, and biodiversity	Mitigation or preventative measure(s) taken
Natural and human induced risks to stakeholders' wellbeing	Fires, Extreme weather events, Pest outbreak, Overpopulation of rodents, Insufficient monitoring and assessment, as described in Section 2.2.7	Refer to Section 2.2.7	Refer to Section 2.2.7
Risks to stakeholder participation	No risk identified	Not applicable	The project has developed and implemented a transparent communication plan covering various stages and various aspects.
Working conditions	Refer to Section 2.3.17	Refer to Section 2.3.17	Refer to Section 2.3.17
Safety of women and girls	No risk identified	Not applicable	Refer to Section 2.3.13 and 2.3.16 for details.
Safety of minority and marginalized groups, including children	No risk identified	Not applicable	Refer to Section 2.3.13 and 2.3.16 for details.

Pollutants (air, noise, discharges to water, generation of waste, and release of hazardous materials and chemical pesticides and fertilizers)	Chemical pesticides might be used as a last resort in cases of severe pest outbreaks	Potential soil contamination and water contamination and even health risks to workers and local communities.	Refer to Section 5.1.8 for discussion on chemical pesticides.
Discrimination	No risk identified	Not applicable	The project strictly follows Labor Law of the People's Republic of China, which explicitly prohibits discrimination based on race, ethnicity, gender, and religion, and the project has a set of anti-discrimination and anti-harassment policies. The project adopts a transparent and fair employment process. All workers and employees receive training on anti-discrimination and anti-harassment. Refer to Section 2.3.13 and 2.3.16 for details.
Sexual harassment	No risk identified	Not applicable	
Equal pay for equal work	No risk identified	Not applicable	Refer to Section 2.3.16 for details.
Gender equity in labor and work	No risk identified	Not applicable	Refer to Section 2.3.16 for details.

Forced labor[35]	No risk identified	Not applicable	There has been no known risk of force labor in the project area. In addition, all workers of the project, including those employed by third parties, are hired through voluntary agreements.
Child labor	No risk identified	Not applicable	There has been no known risk of child labor in the project area. In addition, all workers of the project, including those employed by third parties, must have their ID verified to ensure that they are all adults.
Human trafficking	No risk identified	Not applicable	There has been no known risk of human trafficking in the project area. In addition, all workers of the project, including those employed by third parties, are from local community groups.
Recognition of, respect of, and promotion of the rights to IPs, LCs and customary rights holders	No risk identified	Not applicable	Refer to Section 2.5.5 for details.
Preserving and protecting cultural heritage	No risk identified	Not applicable	Refer to Section 2.5.4 for details.

[35] The identified risks and commensurate mitigation or preventative measure(s) for forced labor, child labor, and human trafficking, must be inclusive of staff and contracted workers employed by third parties.

Protecting and preserving property rights, customary rights, or protecting legal or customary tenure/access rights to territories, property, and resources, including collective and/or conflicting rights	No risk identified	Not applicable	Refer to Section 2.5.5 for details.
Impacts on biodiversity and ecosystems	No risk identified	Not applicable	The project is expected to enhance local biodiversity by restoring degraded grasslands. The introduction of rotational grazing, rest grazing and reseeding with native grass species contribute to habitat restoration and improved ecosystem functions.
Soil degradation and soil erosion	No risk identified	Not applicable	Overgrazing is one of the main factors leading to soil erosion. Through sustainable grazing management, the project increases soil organic matter as well as vegetation cover and reduces wind and water erosion.

Water consumption and stress	No risk identified	Not applicable	The project activities do not change the original water consumption pattern and do not introduce any water-intensive activities. The project primarily focuses on sustainable grassland management, which naturally enhances water retention in the soil and prevents excessive runoff. By improving vegetation cover, the project reduces the risk of water loss due to soil erosion.
Habitats (and areas needed for habitat connectivity) for rare, threatened, and endangered species	No risk identified	Not applicable	The project contributes to habitat improvement by restoring degraded grasslands, which are critical habitats for various wildlife species.
Areas needed for habitat connectivity	No risk identified	Not applicable	There are no areas needed for habitat connectivity in or near the project area.
Invasive species	No risk identified	Not applicable	There are no invasive species identified in the project area; the project does not introduce any invasive species.
Ecosystem conversion	No risk identified	Not applicable	Local community members have been informed that the project area will always remain as grassland and land conversion is strictly prohibited. Continued consultation and subsidies are deployed to help maintain grazing practices.

Adjustments to grazing practices	Reduced access to some grazing lands, reduced grazing periods	If not done properly, this could lead to reduced income of herders	Subsidies are provided for the herders. The County Forestry and Grassland Bureaus measures the grass yield and guides the herders to graze in areas in a reasonable manner.

APPENDIX 3: COMMERCIALLY SENSITIVE INFORMATION

Section	Information	Justification
2.5.6	The detailed fractions of different spending items in the benefit sharing plan are considered commercially sensitive information.	Stakeholder groups wish to keep this information private.

APPENDIX 4

Not applicable.