



**GREEN
CLIMATE
FUND**

Meeting of the Board
9 – 13 November 2020
Virtual meeting
Provisional agenda item 11

GCF/B.27/02/Add.01

21 October 2020

Consideration of funding proposals - Addendum I

Funding proposal package for FP141

Summary

This addendum contains the following seven parts:

- a) A funding proposal titled "Improving Adaptive Capacity and Risk Management of Rural communities in Mongolia";
- b) No-objection letter issued by the national designated authority(ies) or focal point(s);
- c) Environmental and social report(s) disclosure;
- d) Secretariat's assessment;
- e) Independent Technical Advisory Panel's assessment;
- f) Response from the accredited entity to the independent Technical Advisory Panel's assessment; and
- g) Gender documentation.

Table of Contents

Funding proposal submitted by the accredited entity	3
No-objection letter issued by the national designated authority(ies) or focal point(s)	73
Environmental and social report(s) disclosure	75
Secretariat's assessment	78
Independent Technical Advisory Panel's assessment	90
Response from the accredited entity to the independent Technical Advisory Panel's assessment	104
Gender documentation	107

Funding Proposal

Project/Programme title:	Improving Adaptive Capacity and Risk Management of Rural Communities in Mongolia
Country(ies):	Mongolia
Accredited Entity:	United Nations Development Programme
Date of first submission:	2018/06/22
Date of current submission	2020/09/15
Version number	V.13



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Contents

Section A	PROJECT / PROGRAMME SUMMARY
Section B	PROJECT / PROGRAMME INFORMATION
Section C	FINANCING INFORMATION
Section D	EXPECTED PERFORMANCE AGAINST INVESTMENT CRITERIA
Section E	LOGICAL FRAMEWORK
Section F	RISK ASSESSMENT AND MANAGEMENT
Section G	GCF POLICIES AND STANDARDS
Section H	ANNEXES

Note to Accredited Entities on the use of the funding proposal template

- Accredited Entities should provide summary information in the proposal with cross-reference to annexes such as feasibility studies, gender action plan, term sheet, etc.
- Accredited Entities should ensure that annexes provided are consistent with the details provided in the funding proposal. Updates to the funding proposal and/or annexes must be reflected in all relevant documents.
- The total number of pages for the funding proposal (excluding annexes) **should not exceed 60**. Proposals exceeding the prescribed length will not be assessed within the usual service standard time.
- The recommended font is Arial, size 11.
- Under the [GCF Information Disclosure Policy](#), project and programme funding proposals will be disclosed on the GCF website, simultaneous with the submission to the Board, subject to the redaction of any information that may not be disclosed pursuant to the IDP. Accredited Entities are asked to fill out information on disclosure in section G.4.

Please submit the completed proposal to:

fundingproposal@gcfund.org

Please use the following name convention for the file name:

“FP-[Accredited Entity Short Name]-[Country/Region]-[YYYY/MM/DD]”

A. PROJECT/PROGRAMME SUMMARY			
A.1. Project or programme	Project	A.2. Public or private sector	Public
A.3. Request for Proposals (RFP)	Not applicable		
A.4. Result area(s)	<p>Check the applicable GCF result area(s) that the overall proposed project/programme targets. For each checked result area(s), indicate the estimated percentage of GCF budget devoted to it. The total of the percentages when summed should be 100%.</p>		
	<p>Mitigation: Reduced emissions from:</p> <p><input type="checkbox"/> Energy access and power generation:</p> <p><input type="checkbox"/> Low-emission transport:</p> <p><input type="checkbox"/> Buildings, cities, industries and appliances:</p> <p><input type="checkbox"/> Forestry and land use:</p> <p>Adaptation: Increased resilience of:</p> <p><input checked="" type="checkbox"/> Most vulnerable people, communities and regions:</p> <p><input type="checkbox"/> Health and well-being, and food and water security:</p> <p><input type="checkbox"/> Infrastructure and built environment:</p> <p><input checked="" type="checkbox"/> Ecosystem and ecosystem services:</p>	<p>GCF contribution:</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>N/A</p> <p>38%</p> <p>N/A</p> <p>N/A</p> <p>62%</p>	
A.5. Expected mitigation impact	<p>As per suggestion by GCF Sec, estimate CO2 sequestration from sustainable land management not included, to eliminate risk of double counting with ADB/GCF project</p> <p><i>Indicate t CO2eq over lifespan</i></p>	A.6. Expected adaptation impact	<p>Direct beneficiaries: 26,000 households (130,000 people) 50% or 65,000 female</p> <p>Indirect beneficiaries: 160,000 households (800,000 people) 50% or 400,000 female</p>
			<p>Direct beneficiaries: 4.5% of total national population</p> <p>47% of the population in target aimags</p> <p>Indirect beneficiaries: 26% of total national population</p> <p>100% of herder households in target aimags</p> <p>Gender</p> <p>50% of all direct and indirect beneficiaries</p>
A.7. Total financing (GCF + co-finance)	79,301,276 USD	A.9. Project size	Medium (Upto USD 250 million)
A.8. Total GCF funding requested	23,101,276 USD		
<p>Mark all that apply and provide total amounts. The sum of all total amounts should be consistent with A.8.</p>			

A.10. Financial instrument(s) requested for the GCF funding	<input checked="" type="checkbox"/> Grant <u>23,101,276</u> <input type="checkbox"/> Loan <u>Enter number</u> <input type="checkbox"/> Guarantee <u>Enter number</u>	<input type="checkbox"/> Equity <u>Enter number</u> <input type="checkbox"/> Results-based payment <u>Enter number</u>	
A.11. Implementation period	7 years	A.12. Total lifespan	20 years
A.13. Expected date of AE internal approval	6/22/2018	A.14. ESS category	B
A.15. Has this FP been submitted as a CN before?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	A.16. Has Readiness or PPF support been used to prepare this FP?	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
A.17. Is this FP included in the entity work programme?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	A.18. Is this FP included in the country programme?	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
A.19. Complementarity and coherence	<i>Does the project/programme complement other climate finance funding (e.g. GEF, AF, CIF, etc.)? If yes, please elaborate in section B.1.</i> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>		
A.20. Executing Entity information	The Executing Entity is Mongolia, represented by the Ministry of Environment and Tourism (MET) <u>National Designated Authority</u> Mr. Batjargal Zamba Nature Conservation Fund Ministry of Environment and Tourism (MET)		
A.21. Executive summary (max. 750 words, approximately 1.5 pages)			
<p>1. With an observed temperature increase of 2.1°C over the past 70 years¹, Mongolia is among the countries most impacted by climate change. Increased temperatures, coupled with decreased precipitation, have resulted in a drying trend impacting pastures and water sources, and shifting natural zones. Changes have also been observed related to the frequency and intensity of extreme events, including disasters brought about by dzud (summer drought followed by harsh winters [low temperatures and higher snowfall]), drought, snow and dust storms, flash floods and both cold and heat waves. Responses to climate impacts by herders have, furthermore not been informed by climate information or by the potential impact of those responses on land and water resources. Unsustainable herding practices and livestock numbers are further stressing increasingly fragile ecosystems and related ecosystem services.</p> <p>2. Livestock productivity and quality has been declining in the changing landscape due to drought conditions, heat stress, harsh winters and unsustainable practices, resulting also in reductions in outputs for subsistence and important income sources. Studies indicate that livestock sector production decreased by 26% compared to that of the 1980s, along with its contribution to the country's economy.</p> <p>3. Herder households make up one third of the population in Mongolia, approximately 160,000 households or 90% of the agriculture sector. Around 85% of all 332 soum economies in 21 provinces of the country are agriculture based. While herder households are the most exposed to climate risks, their scale and thus potential impact also means that tailored interventions can support transformational change towards more climate-informed and sustainable herder practices, benefitting the sector, the economy and the environment.</p> <p>4. The proposed project seeks to strengthen the resilience of resource-dependent herder communities in four aimags vulnerable to climate change. This will be achieved through three complementary Outputs:</p> <ul style="list-style-type: none"> • Integrate climate information into land and water use planning at the national and sub-national levels • Scaling up climate-resilient water and soil management practices for enhanced small scale herder resource management 			

¹ Technology Needs Assessment, Volume 1 – Climate Change Adaptation in Mongolia, Ministry of Environment and Green Development, 2013

- **Build herder capacity to access markets for sustainably sourced, climate-resilient livestock products**

5. The proposed project brings together climate-informed natural resources management and sustainable livestock practices – building on traditional cooperative approaches among herders, innovative technologies, such as blockchain for traceability of sustainably sourced and climate-resilient livestock products, and with links to a responsible private sector investment fund to ensure long term, market-driven sustainability. As 80% of Mongolia is rangeland, information generated under Output 1 is relevant across the country and will be applied at the sectoral, national and local levels. Interventions under Outputs 2-3 are focused on priority aimags identified by government, with high vulnerability to climate change impacts and slow onset disasters, as well as fragile catchment areas that need protection/rehabilitation. As the areas are also representative of diverse ecological zones, the approaches and interventions of the project can be replicated in other aimags of the country.

6. With Mongolia, represented by the Ministry of Environment and Tourism (MET) as the executing entity (implementing partner), and the Ministry of Agriculture and Light Industry (MoFALI) as a key partner, this integrated proposal is fully aligned with national priorities and is in support of Mongolia's adaptation and mitigation goals detailed in the nationally determined contribution (NDC), namely: to implement sustainable pasture management and emissions reductions in the livestock sector through soil carbon sequestration, to maintain availability of water resources through protection of runoff formation zones and their native ecosystems in river basins, and to introduce water saving technologies. The proposed project contributes to several Sustainable Development Goals (SDGs): SDG1 No Poverty, SDG12 Responsible Consumption and Production, SDG13 Climate Action, SDG15 Life on Land and SDG17 Partnerships for the Goals.

B. PROJECT/PROGRAMME INFORMATION

B.1. Climate context (max. 1000 words, approximately 2 pages)

7. Observed climate change trends in Mongolia are evident since the 1940's, with impacts on traditional herder households (30% of the population) and on the natural resources upon which they rely. These impacts are multi-faceted and interlinked, and include increases in air temperatures resulting in melting glaciers and permafrost, precipitation reductions (particularly during summer), intensifying desertification and an overall shift of desert zones to the North. Overall, climate change is having a drying effect on Mongolia and is contributing to land degradation and desertification - 90% of the Mongolian territory is regarded as vulnerable to desertification.²

8. Over the past 70 years the mean annual air temperature has increased by 2.1°C³. Annual and summer rainfall has decreased and is expected to continue to decrease, whilst winter snowfalls have increased in places. Together these increases in summer drought and increasing winter snowfalls contribute to more extreme dzud events resulting in high livestock losses. Average annual precipitation (90% of which falls as rainfall during April-September) has decreased by 10% over the past 70 years, resulting in overall higher aridity, particularly during summer. This warming and drying trend has contributed to desertification in Mongolia, affecting 70% of the grasslands of the country to varying degrees. Pastureland health and availability of biomass heavily affect livestock and livelihoods of herders. Winter pasture yield and grazing capacity following a dry summer versus a relatively mild summer significantly affects the survival rates of animals. Ecosystems of the forest steppe and the high mountains are projected to decrease and the steppe and the desert steppe are expected to expand. Pasture biomass is expected to decrease significantly in all regions, especially in the forest-steppe and steppe regions⁴.

9. Seasonal thawing of permafrost layers has also increased, changing the patterns and typology of permafrost, as well as vegetation patterns and water resources. The area of glaciers has decreased by 30% over the last 70 years, leading to changes in river runoff - expected to be lower in most regions of Mongolia, and higher in some mountain areas. Lake volumes are expected to change, with some rising due to glacier and permafrost melting, but mostly lowering or disappearing altogether⁵. The latest study commissioned by Ministry of Environment and Tourism (MET)/UNDP shows that the permafrost distribution shrunk by 5% in the last 20 years over the country's territory⁶.

10. General Circulation Models (GCM) project that Mongolia will be warmer by 2.56°C and 5.16°C by 2050 and 2090 respectively. Studies further suggest that for East Asia by the end of the century, 1-in-20-year maximum daily precipitation events are likely to become 1-in-4-year to 1-in-15-year events, and the 1-in-20-year hottest day will likely become 1-in-2-year or annual events.⁷ Whilst there may potentially be an overall increase in precipitation, this will be exceeded by increases in the evaporation rate⁸, reducing water availability and subsequent water resources. According to downscaled projections (scenario RCP8.5) using a regional climate model (RegCM4)⁹ ¹⁰, Mongolia's annual mean temperature will be warmer by 1.1-1.5°C, 2.2-3.4°C and 4.0-5.7°C by 2030, 2050 and 2080. Mean annual precipitation is projected to increase by 5.3-5.6%, 13.7-14.5% and 25.8-32.1% respectively at the same time, though there is an accompanying projected 10-20% decrease in summer rainfall throughout central parts of Mongolia. These projected decreases in summer rainfall and increases in temperature (increasing aridity during summer) are consistent with observed trends in historical climate, both at the national level and in target aimags, where decreasing precipitation, increasing temperatures and potential evapotranspiration during summer combine with increases in winter snowfall in 3 aimags (Figures 26-30, FS) to increase the intensity of dzuds (Figure 46 and 47, FS). These trends are consistent with downscaled projections using a regional climate model, which indicate increasing temperatures and decreasing precipitation during the summer season in the target aimags (Figures 37-40, FS) and simulated increases in the intensity of dzuds (Figure 44, FS).

² Batjargal, Zambyn; Desertification in Mongolia, RALA Report 200 (NEMA)

³ Technology Needs Assessment, Volume 1 – Climate Change Adaptation in Mongolia, Ministry of Environment and Green Development, 2013

⁴ MARCC (2014) Mongolia Second Assessment Report on Climate Change 2014. Minist. Environ. Green Dev. Mong. pp. 1-302.

⁵ <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2016GL072033>

⁶ Permafrost mapping in Mongolia, Insitute of Geoecology, 2016

⁷ IPCC. 2012. Summary for Policymakers. In Managing the Risks of Extreme Events and Disasters to Advance Climate Change Adaptation. A Special Report of Working Groups I and II of the Intergovernmental Panel on Climate Change. Edited by C. B. Field et al. Cambridge, UK and New York: Cambridge University Press, 1–19 (Figure SPM.4A and SPM.4B).

⁸ UNFCCC Third National Communication, 2018

⁹ Future projections of climate change over Mongolia is predicted using an ensemble mean of 10 Global Climate Models (GCMs). However, GCMs output (200km) have been downscaled to regional scale using Regional Climate Model (RCMs) similar to the CORDEX (Coordinated Downscaling Experiment, 50-60km) experiment, except down to a finer spatial resolution (30km). All climate change impact assessments on socio-economic sectors in the country were done based on these high resolution results during TNC (Third National Communication).

¹⁰ Third National Communication of Mongolia under UNFCCC, p.134-137, 2018

11. The country is also impacted by natural disasters, including harsh winters, drought, snow and dust storms, flash floods and both cold and heat waves, which take a heavy toll on livestock and thereby rural livelihoods. The magnitude and frequency of natural disasters have nearly tripled due to climate change¹¹ in the last decade. Related economic costs are estimated to be USD10-15million annually. Studies indicate drought as the most serious extreme disaster affecting the country in the last 50 years, with an increasing trend in the area affected by drought between 1951 and 2012.¹² Observations indicate that since 2000, summer droughts, which reduce pasture for livestock, are more frequently followed by harsh winters with heavy snowfalls and/or lower temperatures, the combination of which lead to dzud events. Since 1940 winter snowfall has increased by 22%, which combined with increasing summer drought (reducing pastures) leads to a significant increase in dzud events since 1999 (see Figures 45, 46 and 47, FS).

12. Extended periods of summer drought and winter snow coverage, as with dzud events, result in significant losses of livestock due to the lack of vegetation for grazing, and thus impacts herder livelihoods. This is consistent with experiences shared by herder representatives, who have reported increases in dzuds events and related losses to livestock.¹³ The 2009-10 dzud winter disaster was particularly devastating, when over 10 million head of livestock perished; 22% of the national herd. The disaster directly affected 200,000 households or nearly a million people in a country of 2.8 million¹⁴.

13. The climate rationale for the project is primarily based on observed and projected increases in the frequency and severity of dzud events, which quantify the combination of summer drought, followed by harsh winters (high snowfall and/or low temperatures), and which lead to increased livestock losses (91% of non-natural livestock mortality) during winter. The climate changes that contribute to increasing dzud intensity and frequency, particularly increases in summer drought, also lead to other secondary effects:

- Reductions in the number and area of lakes on the plateau¹⁵ which reduce access to water resources for livestock;
- Reduced vegetation and fodder available at the end of the summer and throughout the winter.

14. These increases in drought and consequent reductions in water and vegetation reduce the condition of livestock by the end of summer, which increases the risk of mortality during the following winter. If the winter is harsh (either low temperatures or high snowfalls) then mortality is higher. Unsustainable livestock practices also contribute to land degradation and affect water resources in Mongolia. Coping mechanisms, such as increasing the herd size to avoid a total loss during a dzud, have in part contributed to the growing number of livestock in Mongolia – now 70.9 million animals. The growing size, and changing make-up of the herds, apply pressure on land and water resources, accelerating land degradation and water scarcity.

15. The impact of climate change is therefore two-fold and mutually compounding 1) climate change is having an overall drying effect on Mongolia, changing the availability or condition of land and water resources, and 2) the choices made by herders to protect their herds against extreme events (i.e. increasing herd size to save from total loss during dzud) are adding pressure to increasingly fragile land and water resources. Recognizing this relationship, 3% of the national budget is allocated to support the National Mongolian Livestock Program¹⁶ which sets ambitious livestock reduction targets, with an overall purpose of developing “a livestock sector that is adaptable to climate change and social development and to create an environment where the sector is economically viable and competitive in the market economy, to provide safe and health food supply to the population, to deliver quality raw materials to processing industries, and to increase exports.” The Programme includes investments in livestock health and veterinary services (including measures to combat and prevent infectious animal diseases which currently prevent Mongolian livestock products from export), guidance for herders on herd structure, development of an animal registration database and network, construction of wells for livestock water supply, and development of industry marketing to capture the intended market.

16. Further, the Government of Mongolia has highlighted the impact of climate change on land and water resources and the vulnerability of herders in its adaptation strategy and programmes. As a party to the UNFCCC, Mongolian Parliament approved the National Action Programme on Climate Change (NAPCC) and updated it in 2011 to include concrete measures in response to climate change covering all principal sectors of the economy. Further, a technology needs assessment (TNA) was conducted to determine the highest priority sectors, and technologies needed, in order

¹¹ Mongolia SNC, Ministry of Nature and Environment, UNEP, 2010

¹² Wang, L., Yao, Z.-J., Jiang, L., Wang, R., Wu, S.-S., & Liu, Z.-F. (2016). Changes in Climate Extremes and Catastrophic Events in the Mongolian Plateau from 1951 to 2012. *Journal of Applied Meteorology and Climatology*, 55(5), 1169-1182. DOI: 10.1175/JAMC-D-14-0282.1

¹³ Discussions with Ministry of Agriculture officials and with representatives of the four aimags.

¹⁴ UNDP, NEMA, SDC (2010) The 2009-10 Dzud Winter Disaster in Mongolia: Lessons Learned (unpublished)

¹⁵ see <https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2016GL072033>

¹⁶ Approximately US\$75 million against 2017 budget.

to adapt to climate change. The participatory TNA process led by the National Climate Change Coordination Office (CCCCO) under the MET, applied Multi Criteria Decisions Analysis (MCDA), through which animal husbandry was identified among the most vulnerable sectors, given social, economic and environmental losses due to climate change impacts are expected to be higher than those of other sectors¹⁷. The agriculture sector is the second largest contributor (13.7% of GDP) and employs almost 40% of country's workforce.

17. Mongolia's Nationally Determined Contributions (NDC) includes an adaptation component, highlighting the country's need to overcome negative impacts of climate change, and strengthen resilience of ecosystems and socio-economic sectors, particularly animal husbandry, water resources and natural disaster management. The NDC is conceptually rooted in the Green Development Policy of Mongolia, approved by the Parliament in 2014, with which key sectorial action plans at the national level have been aligned. The recently approved Sustainable Development Vision (SDV) 2030 of Mongolia also reflects specific targets on adaptation to climate change, specifically maintaining stable ecosystems, integrated water resources management and agriculture sector development.

18. While the individual issues have been identified and are in part being addressed, critical for successful adaptation in Mongolia will be to recognize and work in the areas of interlinkages. Land and water resources cannot be protected without broader climate-informed land and water management. Sustainable land and water management cannot be achieved unless herders move away from activities which contribute to land degradation and water scarcity. Herders cannot make the changes needed without access to knowledge about how and where climate change is impacting the land and water resources on which they rely.

Baseline Scenario

Land and water use planning at the national and sub-national levels

19. Already, climate change impacts to Mongolia's ecosystems are notable; natural zones are shifting and vegetation cover has reduced significantly. Plant species composition of rangelands has changed, palatable species have decreased and so has the total biomass available as livestock forage. Changes in temperature, rainfall patterns, permafrost and glacial coverage further affect the availability of fresh water. With such a complex set of interacting factors impacting the ecological balance needed for sustainable herder livelihoods, an integrated ecosystems approach, informed by knowledge of the climate, is needed for effective management of natural resources, particularly of water and pastureland. Going forward the sustainable use of water and land resources will be critical for Mongolia to meet its goals of livestock sector development. Planning must be informed by climate knowledge, in particular, the impacts of climate change on water and land resources.

20. The Government makes winter plans regarding animals' location and their movements. The plan is based on pastureland carrying capacity defined by maximum biomass stock, but seasonal forecasts are not taken into account due to insufficient capacity¹⁸. Information on the changing landscape and available water resources would further inform these plans, providing guidance to herder households which could maximize the survival rate of their livestock. Greater coordination among agencies is also needed in order to fully realize the benefits that climate information could generate. At the national and sub-national planning level, climate information paired with data on the pastureland conditions and water resources, can inform sustainable water and land use planning, to ensure preparedness for extreme events, as well as for continuity and enhancement of ecosystem services in changing conditions.

21. In the absence of climate-informed planning, the livestock sector is placing incredible pressure on already fragile ecosystems. Mongolian herders are mostly nomadic or semi-nomadic; winter and spring camps are chosen for availability of some shelter and access to forage and water (access to summer and autumn pasture is less contested than to winter camps and, traditionally within a soum or similar sub-unit, are usually communally used). Migration circuits and extent are dependent largely on the availability of water and adequate grazing. For instance, with the drying affect climate change is having in Mongolia, herders are basing their movement on the availability of water at fewer points, resulting also in increased pressure on land resources around those water sources. Further, to protect themselves from excessive losses (i.e. during droughts or dzuds), herders have increased their number of livestock. Unchecked, this has resulted in an increase of over 50% in total number of livestock since 2012 – placing further stress on water and land resources already impacted by climate change. And the current numbers have more than doubled, to a total of 70.9 million, since 1990 (marked by the democratic transition).

22. Currently, the two largest groups of animals are represented by sheep (32.2 million, 45.5%) and goats (29.2 million, 41.2%) representing roughly a 1:1 ratio. Goats are particularly destructive to the landscape - pulling grass out by the

¹⁷ Technology Needs Assessment, Volume 1 – Climate Change Adaptation in Mongolia, Ministry of Environment and Green Development, 2013

¹⁸ Technology Needs Assessment, Volume 1 – Climate Change Adaptation in Mongolia, Ministry of Environment and Green Development, 2013

root and keeping it from regenerating, thereby accelerating land degradation. Per traditional knowledge, the ideal ratio within herds is 3 sheep to 1 goat, to avoid overstressing land. Other major livestock groups include cattle (4.7 million, 6.7%), horses (4.2 million, 5.9%) and camels (0.5 million, 0.7%).

23. The ongoing National Mongolian Livestock Programme (closing in 2021) set both overall livestock reduction targets and improved herd structure targets. The programme sought to reduce the total number of livestock by 16% or 6.8 million from the 2008 baseline, while improving the ratio of animals within the national herd – reducing the number of smaller animals, especially goats, while moderately increasing the number of larger animals. The target for reduction of small animals acknowledged the impact that large numbers of sheep, and goats especially, have on the landscape, while the increase in large animals sought to diversify livelihoods and improve productivity. However, as it was developed over 10 years ago, the targets did not adequately take into account the additional stresses that climate change would place on land and water resources. Had the current programme achieved its 2021 herd structure and herd size targets, it would have supported relieving some pressure on land resources, but the demand for water would have increased (see Annex 2). Current livestock figures, however, far exceed the programme’s 2021 targets, and pressure on both water and land resources have increased significantly from the 2008 baseline. The programme’s baseline and targets, compared to current figures are provided below.

	2008 NMLP Baseline		2021 NMLP Targets		Current Figures (2019)	
	Livestock (000s)	%	Livestock (000s)	%	Livestock (000s)	%
Camel	260	0.60%	328	0.90%	472	0.70%
Horse	2,208	5.10%	2,990	8.20%	4,215	5.90%
Cattle	2,511	5.80%	5,031	13.80%	4,753	6.70%
Sheep	18,354	42.40%	16,442	45.10%	32,267	45.50%
Goat	19,956	46.10%	11,666	32.00%	29,262	41.20%
Totals	43,288	100.00%	36,458	100.00%	70,969	100.00%

24. A national programme, a successor to the Mongolian Livestock Programme, will be developed over the next 2 years. Similarly, the programme is expected to include livestock reduction targets and herd structure targets. These targets will need to take into account the new baseline of 70.9 million animals and the significant impact that the larger herd has on the landscape and on water resources. It is also critical that targets are informed by the impacts of climate change on natural resources, and that policies and incentives for herders are in place, to support overall sustainable livestock management and sustainable use of natural resources. For instance, larger animals demand more fodder and water, but the productivity and outputs of large animals are much greater, at the same time the impact of smaller animals on the landscape should not be underestimated, especially at the current scale.

25. While the new national programme is still under development, it is expected to include a) livestock reduction targets of over 25% b) herd structure targets and c) the establishment of a land use payment system based on regional differences to limit the number of livestock within the carrying capacity, and to balance the grazing pressure (2050 Vision document).

Community level ecosystems-based adaptation approaches to protect land and water resources

26. The main climate change impacts in Mongolia are to natural resources and related ecosystems, specifically decreasing of green mass in rangelands and drying of water resources. Land degradation contributes to erosion and compaction of soil, which can reduce the soil’s capacity to regulate water. Similarly, decreases in water resources, as well as contributes to loss of biomass and soil erosion - accelerating desertification and affecting land productivity.

27. Such impacts pose a threat to the rural population whose livelihood is directly dependent on availability of land and water resources. Mongolian livestock obtains over 90% of its annual feed intake from the natural pastures. Pasture yields are strongly affected by climate and weather conditions. The peak of pasture biomass has declined by 20 to 30% during the past 40 years and is projected to continue to decline as climate conditions change. Likewise, palatable species composition has also declined. In addition to reduced nutrition from pastures, rising temperatures are expected to adversely affect the grazing time available to livestock. Water availability will be affected due to inconsistent-high, intensity-short-duration rainfall events. Extreme cold spells and higher frequency of dzud events will likely increase

mortality and further stress animals. This will also combine to result in a continued trend of reduction in average body weight and productivity.

28. Monitoring of ecosystems and ecosystem services, and related protection measures, can therefore be categorized into two areas a) sustainable pasture management and b) water resources management and efficient use. Related baseline efforts include: cooperative use among herders of shared natural resources, increased fodder production, sustainable land management and integrated water resources management (IWRM). While baseline efforts were not specifically designed as adaptation interventions, there are clear adaptation co-benefits – cooperation among herders prevents overexploitation of natural resources and therefore greater resilience to the drying effects of climate change, and better fodder production reduces the impact of harsher winters and dzuds on livestock. There is potential to build on these existing best practices, to include climate projections and related impacts on the landscape and on water resources. In this way, herder groups and soum governors can build adaptation into planning and include those projections in the design of support to herder communities.

Pasture Management

29. A nationwide assessment of rangeland health in 2015 indicated that 65% of Mongolian rangelands are significantly altered but that 90% still maintain the capacity to regenerate naturally through improved grazing management informed by the impact of climate change on land and reduced stocking rates. Without immediate interventions at scale, land degradation in Mongolia will continue beyond levels which can be naturally regenerated. Herder communities rely on healthy rangelands for livestock production and to prepare for winter, as they promote greater overall forage and better nutrition for animals, leading to healthy animals for a) better quality livestock products and b) higher survival rate of animals during increasingly harsh winters and dzuds.

30. Increased temperatures and decreased overall precipitation further exacerbate land degradation and accelerate desertification. In the proposed project aimags, desertification is a growing concern. A desertification map developed by the Institute of Geo-Ecology shows that an average of 62.8% of territories of the Dornod, 76.8% of Sukhbaatar, 58.4% of Khovd and 64.4% of Zavkhan aimags are showing signs of desertification to some extent, with an average of 26% of territories of Dornod aimag, 21.4% of Sukhbaatar, 5.3% of Khovd and 4.6% Zavkhan aimags are categorized as 'very severe'. Territories in eastern provinces (Sukhbaatar and Dornod) are estimated to have the highest percentage of strongly desertified areas compared to other provinces in Mongolia.

31. Pasture land in Mongolia is a public good and not yet adequately regulated to prevent unsustainable herding practices, including herd sizes that exceed the carrying capacity of the land. Traditional herder group-based approaches, however, have proven successful to foster the necessary cooperation for sustainable pasture management through herder group-based approaches. Community organizations of herders and forest user groups, are recognized as entities under the Civil Code (4.8.1.). Current land law provides for the option to allocate use rights to natural resources including winter and spring pastures to customary resource users. It also enables contracts between the soum governor and a group of herders/customary resource users for management and protection of an area of which the boundary should be agreed by neighboring users or groups.

32. At the local level, aimag and soum administrations have critical roles in providing technical assistance to herder associations and herder households in joint planning and co-management of natural resources. In this regard, annual land management plans of the soums are developed under participatory approach including herders and soum government officials and officers in charge of land, environment and agriculture. This community-based rangeland management (CBRM) approach is implemented successfully in parts of the country where the herder groups or pasture user groups are active. Through this approach, herders use grassland in accordance with the pasture management plan developed by them and the pasture use contract entered into with soum governors. Related ecological improvements are most notable for winter pastures – steppe landscapes in CBRM communities are healthier than those of non-CBRM communities. And winter/fodder preparation approaches through reserve pastures, small areas protected by fencing and large areas protected by consensus and guarding, have been successfully (re-) introduced. CBRM member households are therefore better prepared for dzud and lose a smaller proportion of their herds, indicating that CBRM can help reduce vulnerability and increase adaptive capacity¹⁹. Social cohesion developed through joint activities in natural resource management, and basic income generating activities are the basis for developing organizations such as cooperatives for production and marketing – a strategy that is pursued by the government. Successful interventions applying CBRM include those supported by development partner such as the Swiss Agency for Development and Cooperation (SDC) and International Fund for Agriculture Development (IFAD).

¹⁹ MOR2 Policy Brief No. 2 Community-based Rangeland Management in Mongolia: Outcomes and Keys to Success

33. Further, a newly introduced process by ALAGaC promotes group-based pasture land management through allocation of natural resource use rights at soum level, based on customary use, and facilitation of agreements among herders, herder groups and soum government. ALAGaC is responsible for overseeing country's land use and management. The agency monitors changes in land use characteristics, develops and implements policy on land ownership, possession, and use, and protection and rehabilitation of land resources, organizes and provides professional guidance for the development of land management plans at national and local levels.

34. There are opportunities to build on the CBRM approach to ensure that decision-making is informed by climate information and includes best practices related sustainable land management and ecosystems based adaptation, a) establishing reference sites in different ecological zones, b) aligning monitoring methods, and c) evaluating results of different approaches to pasture use planning and management.

35. To inform sustainable land management practices, guidelines are available. The *Sustainable Land Management for Combating Desertification* project (SLM Project) implemented by the Ministry of Food, Agriculture and Light Industry (MoFALI) and MET successfully piloted and scaled up sustainable land management practices based on a collaborative management approach from 2008 to 2012. In collaboration with other development partners, the SLM project developed guidelines for the development of the soum level annual pasture land management plan. This strengthened the capacity for collaborative management among the soum government land officers and organized herder groups, a key element for sustainable pasture land management in Mongolia. The project successfully piloted a series of practices for sustainable pasture use, (re)-introducing rotation and resting, fodder production, rehabilitation of water sources, protection from soil erosion, establishment of wind-breaks, intercropping, and cultivation of trees and bushes. The project generated technical reports to inform on species for fodder production windbreaks and soil protection feasible for different zones. The SLM project also supported establishment of the Center for Desertification Research and introduced SLM as a degree course at the National University of Mongolia, thus improving national research capacity for SLM and combating desertification. These resources can be drawn on in sustainable land management activities under the proposed project.

Water Resources Protection and Use

36. Given the drying effects of climate change in Mongolia, it is critical to monitor, protect and manage water resources. With increased temperatures, water resources are becoming increasingly scarce. Latest observation of glacier retreat in the western mountainous region of the country indicates that water resources from glaciers may get completely exhausted within the next 2-3 decades²⁰, affecting the rivers and streams originating from these glaciers that have been providing water to the mountain valleys and grazing lands downstream, and communities for thousands of years.

37. As herders respond to climate change by migrating in search of healthier pastures, similarly the impacts of climate change on water resources also trigger migration. As water sources dry up, herders migrate in search of other sources for their herds. Water wells have traditionally been a source of water for livestock, however, the number of functioning livestock watering wells has fallen, while the livestock numbers have increased. This drop in functioning wells was mainly due the collapse of the state systems to maintain and renovate water infrastructure. In 2000, the GoM initiated a new programme to construct new wells and rehabilitate existing structures under the National Mongolian Livestock Program. In addition, around 500 reservoirs and ponds with a capacity of 92,500m³ are used for livestock water supply.

38. Combined, the drying of water sources due to climate change and decreased number of wells, result in increased pressure on rivers, springs, lakes and ponds that do have water. Related land degradation around those water sources and river basins affects hydrologic cycles and ecosystem services – reduced vegetation that prevents soil erosion, and compacting soil resulting in accelerated runoff and inhibited absorption of water and ground water recharge.

39. Overall the country's surface water resources have been declining and are expected to continue to decline through the drying effects of climate change. At the same time, however, the western mountainous region that contain half of country's surface water resources will have temporary abundance of water resources due to thawing of glaciers and permafrost that supply origin of major rivers – the western mountainous areas (Zavkhan, Khovd and Dornod aimags) show a temporary increase in number of surface water bodies due to melting glaciers, while in the eastern region's semi desert area (Sukhbaatar aimag) there has been a decrease. At the national level, glaciers have retreated by 30% in the last 70 years and permafrost areas have shrunk by 5% in last 20 years²¹.

40. The concept of IWRM was introduced in Mongolia to improve planning and ensure coordinated usage of water resources. As a part of the IWRM process, River Basin Administrations (RBAs) have been formally established in 21

²⁰ Mongolia Assessment report on Climate change, Government of Mongolia, 2014

²¹ Permafrost mapping in Mongolia, Institute of Geoecology, 2016

of the 29 water basins and have been tasked with developing Integrated Water Management Plans. So far, of the 12 river or lake basins pertinent to proposed aimags for intervention²², IWRM Plans incorporating preliminary climate change adaptation strategies have been developed for seven and plans are under development for four. However, the critical step of implementing these plans at the pasture level has not yet been taken and lacking are related climate change forecasts to ensure plans are climate-informed. There are however best practices, which can serve as a model, applying ecosystem based approaches for protection of water resources.

41. The UNDP/Adaptation Fund *Ecosystem Based Adaptation Approach to Maintaining Water Security in Critical Water Catchments in Mongolia* (EbA) project has built on experiences of the SLM project, promoting user groups and community participation to implement local adaptation measures, and is successfully introducing measures in water resources protection and efficient use. Under this project, integrated strategies/management plans for target landscapes and river basins have been developed, ratified and are under implementation already in Khentii, Uvs and Dornod aimags and 17 soums. The project has supported the development of IWRM plans for two RBAs including one that is pertinent to the proposed GCF project. Institutional structures for river basin management integrating climate change risks were established and are in operation in the target areas as model for replication. Commencing in 2012, its implementation is planned for completion in 2017. Target areas are the two main critical and unique landscapes - Turgen and Kharhira river basins in Western Mongolia, and the Ulz river basin in the Eastern Steppes. The main objective of the project is to maintain the water provisioning services supplied by mountain and steppe ecosystems by internalizing climate change risks within land water resource management. Project implementation is organized under three components on:

- Integrated strategies/management plans for target landscapes/river basins developed and under Implementation
- Implementing landscape level adaptation techniques to maintain ecosystem integrity and water security under conditions of climate change
- Strengthening capacities/institutions to support EbA strategies and integrated river basin management, their replication and mainstreaming in sector policies

42. There is also opportunity for water harvesting through small ponds. In the Altai Mountain ranges of western Mongolia in particular, there is a high potential to harvest water from glacier and snow melt to compensate for the water deficit during the hot and dry spell in summer. Through the pilot sites of the EbA project, water harvesting in high altitudes from snow and glacier melt and heavy summer rainfalls has shown to have multiple ecosystem service benefits:

- Regulated and stable water supply for livestock and wildlife and for irrigation with relatively low level of evaporation
- Ground water recharge
- Replenishment of soil moisture
- Minimizing soil erosion from intensive rain and potential land slides

43. Further, the National Mongolian Livestock Program is working to improve livestock water supply. This includes digging new and rehabilitating existing wells, creating new reservoirs, and introducing water harvesting measures to collect rain water or snow. The program works closely with herder groups and communities to establish agreements to ensure ownership as well as long term maintenance of the investments.

44. Best practices developed by the EbA project, as well as the SLM project, are well documented and should be used as guiding materials for further related work. Given the inextricable nature of herders and the landscape, any interventions seeking to rehabilitate or protect land and water resources must include and consider herder livelihoods – their challenges and their adaptation needs. Without which, maladaptive measures can continue to stress natural resources beyond tipping points, with implications for ecosystems, ecosystem services and for the people which rely on them.

Support to herder households and livestock productivity

45. Herder households make up 30% of the population of Mongolia. Given their reliance on natural resources, herders are the most sensitive to changes in the landscape and availability of water resources. While herders are extremely vulnerable to climate change, they can also inadvertently contribute to land degradation through unsustainable livestock management – exacerbating land degradation and stressing water sources.

²² The four project aimags are covered by 13 river basins. However, one river basin only includes 2% of one aimag and therefore is not considered under this project.

46. Impacts of climate change on land and water resources, and market forces, have resulted in response measures by herders that contribute to their vulnerability. For instance, as the market for meat is limited and value chains are undeveloped, herders have opted to raise more goats in order to benefit from the raw cashmere market. As a result, the number of livestock of Mongolia has increased to 70.9 million animals²³, with a disproportionate number of goats²⁴. This approach has several drawbacks 1) overpopulation of livestock degrades pasture and water sources, resulting in poor animal health and in substandard quality of livestock products (meat, milk, wool, leather etc), 2) as goats are more vulnerable to extreme cold, they ultimately incur greater losses during dzud events impacting herder livelihoods and 3) goats, in particular, are destructive to the landscape, pulling grass out by the root and keeping it from regenerating – contributing to land degradation.

47. The Government of Mongolia recognizes the growing number of livestock and is working towards addressing it through the National Mongolian Livestock Programme²⁵. The Programme seeks to reduce the overall number of livestock by addressing the animal health challenges (e.g. hoof-and-mouth disease) that prevent export of livestock products and contribute to the low livestock off-take rate. The Programme invests in livestock health and veterinary services, guidance for herders on herd structure, development of an animal registration database and network, construction of wells for livestock water supply, and development of industry marketing to capture the intended market. The Programme will be implemented in two phases; the first 2010-2015 was recently completed, and the second will soon commence and continue until 2021.

48. While the programme has fallen short of its Phase I targets, important progress and achievements have been made. A review of the program's first phase was undertaken in early 2015. The rate of implementation was estimated at 36.0% against the Phase I target, as at end-2014. The achievements from the Phase I of the Programme are as follows:

- Legislative framework strengthened by draft Laws on Animal health and Domestic animal gene fund, as well as a National sub programme to support productivity of animal husbandry;
- Approximately 21,000 herders and 16,000 professionals received refresher training opportunities through 332 state and 133 private entities.
- 859,229 animals got ear-tagged in 2014 alone and were entered into the national database with which a percentage of traceability reached 22% of all animals.
- Number of newly established wells for rural water supply reached a total of 2,067 wells. In 2014 alone 1,128 wells were established by allocating MNT10 Bln (approx. USD4.2 million).
- Although the overall number of animals has not yet begun to decrease, the herd structure improved with the percentage of goats in country's total livestock reduced by 0.2%.
- Land area allocated for special purposes and classified as long-distance and reserve pastures reached 5.4% of the country's total territory.
- And 10.3% of the country's herders covered by index-based livestock insurance scheme.

49. A national programme, a successor to the Mongolian Livestock Programme is expected to include creating “favorable investment and business conditions for development of the pasture and intensive livestock industries simultaneously, and decrease the exposure to natural risk and increase the productivity of the livestock industry”.

50. Improvements to livestock health and reductions to livestock numbers will not be sufficient to increase adaptive capacity of herder households. Significant investment has been made by the government to support livestock product processing of raw materials (see Annex 2), with the goal of broadening the domestic market and extending into the international market. However, herders will require support in order to eventually access markets for products which are of higher value and which are consistent with sustainable land and water management criteria in the face of climate change (e.g. sustainably-sourced cashmere).

51. If practices continue as usual, herders will produce only raw materials, but of decreasing value. As climate change is impacting the grasslands and water sources that animals need for sustenance, the result is increasingly undernourished or unhealthy animals, and therefore lower quality livestock products. For cashmere, this means undernourished goats with coarser hairs. The same can be said of other livestock products – increasingly undernourished and unhealthy animals result in reduced quality of livestock products. In response, herders have opted for larger herds to cover the losses of decrease quality and thus value of livestock products – adding more pressure on

²³ <http://en.montsame.mn/agriculture/number-livestock-increases-almost-56-million-heads>

²⁴ Per traditional knowledge, the ideal ratio within herds is 3 sheep to 1 goat to avoid overstressing land. Currently, the two largest groups of animals are represented by sheep (32.2 million) and goats (29.2 million) representing approximately a 1:1 ratio, followed by cattle, horses and camels.

²⁵ 3% of the national budget is allocated to the Programme, or approximately USD75 million against 2017 budget.

grasslands and water resources. While there is still time for impactful interventions, this dangerous cycle can quickly push Mongolia towards a tipping point. Support is needed for herders to move away from low quality raw materials, and towards climate-informed herding practices for both sustainability of herder livelihoods as well as the natural resources on which herders rely.

52. The livestock sector overall can be described as a low input – high risk-low productivity sector. In 2015, there were 153,085 herder households corresponding to around 30% of the people living in the country. The agriculture sector contributes 14.7% to the country's economy, 85.6% of which is livestock husbandry and ~7% of export income, whereas the contribution to a national economy was 38% in 1995. Livestock is the main livelihood source for more than 70% of the rural population. Although there are 70.9 million head of livestock in Mongolia, MoFALI and Green Gold project data shows that more than 60% of herder households own less than 200 animals which makes their annual disposable income below national poverty line and therefore the most vulnerable population segment in the country. During project consultations, aimag officials stated that up to 88% of the herder households in the Dornod aimag are indebted. The debt is due to combined impacts of remoteness, lack of regular cash income, land-use conflict, and, now, increasing climate change risks and related disasters.

53. Climate change renders current herding practices and production systems more unviable than they have already become (in part, due to increasing intensity of climate variability, but also reflecting the emphasis on herd sizes as a proxy for collateral by informal and formal purveyors of finance). The impact of climate change hampers efforts to reduce animal numbers with a view to increasing incomes by boosting the value per unit of production. This further compromises the ability to develop markets and lowers incomes for herders. Breaking this cycle and promoting a sustainable pasture management practices is key to developing a climate resilient livestock industry and to reducing vulnerability of herder communities. Thus, recalibrating the livestock sector requires climate-adaptive and resilient strategies which, in turn, require investment, training and upskilling at the herder level, improved processing and reduced value-chain fragmentation.

54. Knowledge on herders' institutions for pasture management and income generation, and on apex organizations for processing and marketing, has been much expanded in recent years, with contributions by other projects supported by the UNDP, World Bank (*Sustainable Livelihoods Project*, now in Phase III), SDC (*Green Gold Project*), and IFAD (*Project for Market and Pasture Management Development*); all of which share approaches of collective action by herders. The government's Herder Policy and the Law on Cooperatives likewise seek to promote collective action and community organization. The concept of the Law on Pastureland was approved by the Government in May 2016 after pending almost a decade. The law allows pasture user groups to obtain possession rights over the land where they reside.

55. The government, development partners and development banks have been active in the livestock sector over the last two decades. The World Bank's *Integrated Livestock-based Livelihoods Support Project* has been mainstreamed into all aimags. It has supported livestock production, pasture management and rural community development in all aimags and focused on linking herders to markets and raising livestock productivity through animal health, breeding and genetic improvement and nutrition. SDC, the International Fund for Agriculture Development (IFAD) and the United States Agency for International Development (USAID) through Mercy Corps are active in livestock and pastureland management, value addition to livestock products and rural business development. Further, there are other programmes on quality upgrading, better pricing methods, business capacity development of herder groups, milk sector development, fodder supply system, food safety system, intensive livestock production systems, animal health systems, drugs and epidemic prevention, and rural income diversification. The GoM has also invested significantly in value chain development (e.g. processing centers for livestock products, the Cashmere Program), poor quality products and animal health however has been challenges for maximizing impact of these investments. Climate change is exacerbating these challenges, as pasture and water resources become increasingly degraded or scarce.

56. Overall, livestock sector interventions are focused largely on animal health and short term measures to improving herder livelihoods (e.g. dzud relief programmes), but not necessarily on building long term climate resilience, nor on ensuring that livestock practices are in the long term climate resilient or sustainable. There are opportunities to integrate climate resilience into programmes that support herder households, while extending support to help herders access markets for livestock products, particularly products which were sourced sustainably through climate informed use of natural resources.

Summary of Gaps Related to Baseline Efforts

57. There are opportunities to bring available information, climate and environmental, together to produce tailored products that could inform livestock planning towards greater climate-resilience, and ensure medium to long-term preparedness measures. For instance, the National Agency for Meteorology and Environmental Monitoring (NAMEM)

collects environmental data related to land carrying capacity, and officers of the soum livestock unit undertake data collection on indicators to monitor implementation of the five priority areas of the National Livestock Program, including pastureland management. These data however are not analyzed in the context of climate change and vulnerability in a manner that could inform climate-resilient livestock planning.

58. While there are several successful interventions related to sustainable use of natural resources and herder livelihoods in Mongolia, efforts have been siloed, focused for instance solely on development of value chains, or cooperation of herders on natural resources management. Cooperative approaches among herders for pastureland and water management have been developed for sustainable use of land and water resources, but not necessarily taking into account the impact climate change is having, or will have, on natural resources. Similarly, investments into value chains have been with a focus on economic development and herder productivity, without necessarily considering the longer term sustainability of herder practices given limits of natural resources in the changing climate. There are opportunities to foster an integrated approach, building on established efforts and best practices, while applying a climate lens to interventions.

59. Importantly, the link to markets for sustainable livestock products is needed to ensure adaptation is a viable solution for both land and water resources, as well as herder livelihoods. For instance, the natural and organic quality of Mongolian livestock products, significant idle production capacity, availability of educated workers, relatively low labor costs, agro-processing and other value addition for primary agricultural products, together provide an opportunity to reduce the vulnerability of not only herder livelihoods but also the overall economy of Mongolia. Current government policies consider agro-processing as one of the priority sectors for development for transforming the Mongolian economy from low-value-added to high-value-added production and its diversification. In order to promote the premium quality of the sector and regulate labeling and certification processes, Organic Food Law has been drafted and approved by the Government in 2016.

60. The Government of Mongolia seeks a long term solution that ensures continued service of its ecosystems in the face of climate change, while also building resilience of its most climate-vulnerable group, herders. To do this, an integrated approach which brings together a) climate-informed planning and disaster preparedness, b) cooperative approaches for protection of land and water resources and c) a forward-thinking approach to increase resilience and improve productivity for herder livelihoods is needed.

Key barriers that must be addressed in order to achieve the long term solution

Technical capacity and limited computing/storage capacity, prohibiting longer term climate-resilient planning

61. Mongolia has a well-established hydromet system. Currently, hydrometeorological data are collected through a national monitoring network of 135 meteorology stations operating 24 hours with 5-6 employees and in 95 of them automatic data loggers are coupled with traditional (analog) data collection system. The network also includes 181 monitoring posts with 1-2 employees each. There are 7 upper-air, as well as 147 hydrological and 152 agro-meteorological observation posts. The hydrometeorology agency employs 1,979 individuals at central and local (aimag and soum) levels. Complementing this are internationally available seasonal and monthly forecasts. Accuracy for these are, however, relatively low at mid and high latitudes compared to other regions, resulting in more neutral seasonal and monthly forecasts.

62. While existing computing and storage capacity is sufficient to use the data for current application (i.e. daily to weekly weather forecasts), investment is needed for improved accuracy of monthly and seasonal forecasts and to generate the climate models needed to inform longer term climate-informed planning. With the existing system, 536 out of the available 768 cores are used for short term weather forecast models, prohibiting expansion towards longer forecasts with finer grids for higher accuracy, particularly for a country covering 1,564,116 km². The national weather service (NWS) is forecasting based on existing ground and upper air observation, satellite and radar monitoring, and modeling systems. However, the NWS needs to move towards and initiate impact based forecasts (IBF) and ensure that IBF is used to support forecast based finance (FBF), and its scale-up. Towards that end, there are capacity gaps related to computing resources, setting-up an early warning system (particularly for dzuds), effectively using radar and satellite remote sensing data, as well as processing these data in GIS environments to produce IBF which can support climate service and information requirements. Upgrades in the computing and storage capacity would allow for more accurate projections to better inform planning and adaptation measures (i.e. land and water resources management, livestock, rangeland, arable farming, health, infrastructure, disaster management, water resource, forest, permafrost, wild animals, ecosystem etc.). Applying this information to planning and for climate-resilient policies, will also require strengthening capacity of technical staff to develop the necessary models and analyses, as well as sensitization of decision-makers to the impacts of climate change on natural resources and thus herder livelihoods.

Drying water sources due to climate change and limited wells presenting challenges for herders to access water for livestock

63. Rivers, streams and ponds, and related ecosystems are facing increasing pressure by grazing animals due to the decline in functional livestock water wells. The national IWRM plan indicates that between 1990 and 2000 the number of functioning livestock watering wells fell from 38,000 to 31,000²⁶, while the number of livestock has significantly increased. This drop in functioning wells was mainly due the collapse of the state systems to maintain and renovate livestock infrastructure.

64. In 2000 the GoM initiated a new program to construct new wells and rehabilitate existing structures under the Mongolian National Livestock Program but progress has been slow with most investments being close to Ulaanbaatar. In 2009, totally 39.3 thousand wells were operational for livestock watering and from which 26.8 thousand are located in the pasture. In addition, around 500 reservoirs and ponds with a capacity of 92,500m³ are used for livestock water supply.

65. Support is needed to expand the coverage for water well construction and rehabilitation to reach underserved remote herder communities, in order to improve access to underutilized pastures and relieve pressure from overstressed land and water sources that are increasingly fragile due to climate change. Importantly, planning of these wells must be informed by climate change to avoid overexploitation of groundwater in areas which will become increasingly water stressed by climate change. Further, opportunities to harvest existing water supplies are underutilized. In the western Altai Mountain ranges and Great Lakes Valley, there are opportunities to better harvest glacier melt through rehabilitation of ancient water supply networks, which should be further explored.

Limited haymaking and storage impacting livestock health and survival, resulting in significant economic loss to herders during winters/dzud events

66. In nomadic livestock husbandry, animals are raised throughout the year in open pastures. However, the availability of forage decreases in August and the grass starts to dry from late August-September. After October, feed is deficient in both quantity and quality. With the impact of climate change, winters are becoming harsher and the incidence of dzud is increasing, with corresponding increases in losses, particularly for subsistence herders who make up the majority. Just a few more centimeters of snow beyond the average locks the forage under a thick frozen layer, preventing animals from reaching it and causing high mortality among the livestock. The winter dzud of 1999, 2000 and 2001 reduced the national herd by about one-third. The dzud of 2009-2010 resulted in the death of over 10 million animals out of 43 million, at an estimated cost of more than USD 340 million. As a result of these two dzuds, more than 20,000 households lost their livelihoods.

67. As a coping mechanism, some herder households allow for a larger herd. This approach has several set backs, 1) more animals against limited natural resources result in unhealthy animals and low quality livestock products, and 2) at scale this approach further exacerbates land degradation. Increased haymaking and related storage can ensure that animals have nourishment through the increasingly harsh winters, resulting in stronger and healthier animals, fewer losses and increased quality of livestock products. This can also give herders the assurance needed to cope with harsh winters by increasing their herd size.

Policy, regulatory or market factors that contribute to increased number of livestock and thus pressure on land and water resources

68. Overpopulation of livestock degrades pasture and water resources resulting in substandard animal health and low quality of livestock products (i.e. cashmere, wool, milk, meat, leather, etc), which further compromises the ability to develop markets and ensure reliable income for herders. Breaking this cycle and promoting sustainable pasture management practices is key to protecting land and water resources, developing a climate resilient livestock industry and to reducing vulnerability of herder communities. The following are the main drivers inhibiting reduction of livestock numbers:

- Lack of markets – with unrestricted access to pasture and lack of access to markets, the livestock off-take rate is below the replacement rate
- Lack of individual or group land tenure – land is owned by the state therefore a non-exclusive and unregulated public good
- Government subsidies – public transfer payments and commercial credits tied to number of livestock owned
- Economic model for livestock value chains dominated by payments based on volume

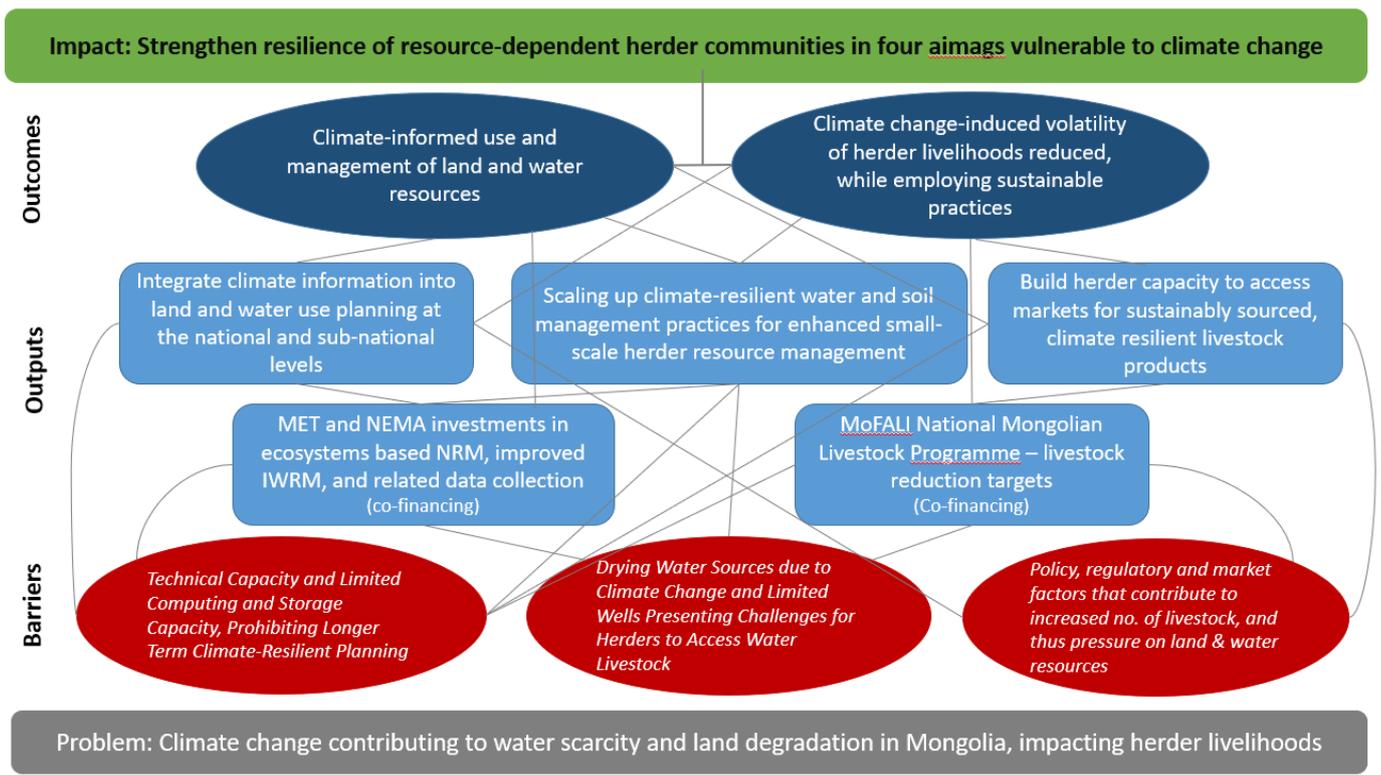
²⁶ IWRM plan of Mongolia, 2013, Chapter: 5.2 Agriculture sector, pp 64

69. Without intervention in the form of policy transformation towards an enabling environment for sustainable livestock products and away from incentives that favor a large number of animals, livestock numbers will continue to increase beyond carrying capacity of the land.

B.2. Theory of change (max. 1000 words, approximately 2 pages plus diagram)

70. The objective of the proposed project is **to strengthen the resilience of resource-dependent herder communities in four aimags vulnerable to climate change**. The proposed project seeks an integrated approach to address climate change impacts on herder livelihoods and on the natural resources on which they rely. This will require strengthening capacity to generate climate models for longer term climate resilient planning, while reconciling the ambitious economic development goals of livestock sector with the limits of increasingly fragile land and water sources due to climate change. To do this, the project complements significant investment from the Government of Mongolia related to the livestock sector and natural resources management, while addressing the key barriers through strengthening the computing and capacity needs for long term climate-informed planning, investments in water access points, and support to the policy transformations needed to remove incentives for maladaptive herder practices.

Theory of Change Diagram



71. To address the barrier related to capacity, the project will strengthen capacity of NAMEM to collect and analyze the data necessary for climate-informed planning. This will include investments to computing equipment and data storage, as well as technical training to enable climate-informed and risk-informed livestock planning. Support will also be provided to integrate climate change into aimag and soum level development plans to ensure that local planning considers climate change in regards to carrying capacity of land resources and guidance to herders on Integration of climate change and climate-informed carrying capacity into aimag and soum level development plans

72. To address the barrier of water access, the project will apply EbA measures to protect land and natural water resources, while also establishing or rehabilitating water wells for livestock. Using community-based resources management, herders will coordinate on rotational pastures and sustainable use of water resources, as well as establishing means of maintaining EbA results and water well investments. This will relieve pressure on rivers, streams and ponds as well as on over-utilized pastures which are increasingly fragile due to climate change.

73. Support to haymaking and pasture reserves, and related storage, will ensure livestock are better able to survive increasingly harsh winters, and losses to subsistence herders are reduced. Stronger and healthier animals are not only

able to survive the harsh climatic events (i.e. dzud) but also are less likely to be affected by outbreak of infectious diseases.

74. And to address the policy barrier, the project will support the planned policy transformations under the National Mongolian Livestock Programme, by ensuring that changes are informed by climate risk. Also, analytical products will be developed to inform related programmes, such as government investments in livestock commodities development and dzud relief programmes to ensure that support does not inadvertently incentivize growing livestock numbers against land and water resources which are increasingly drying due to climate change.

75. This approach is underpinned by a number of assumptions, including: a) MET and MoFALI commitment to climate-informed planning, including the integration of climate information into national and sub-national planning, co-financing for investments and the approval of needed reforms, b) investments identified during proposal development (e.g. water wells, SLM measures, etc.) are validated with resource user agreements and c) herders adopt adaptive practices and are willing to cooperate through herder producer organizations.

B.3. Project/programme description (max. 2000 words, approximately 4 pages)

76. The objective of the project will be achieved through a combination of a) enhanced climate informed planning for land and water use localized to the aimag level, b) ecosystem-based adaptation measures and c) building herder capacity to pursue climate resilient livelihoods. The proposed project takes an integrated approach, implemented by MET, in close collaboration with MoFALI, particularly the National Mongolian Livestock Programme, to address the impacts of climate change on natural resources, as well as supporting the necessary changes to the livestock sector through planning, policy transformations and adaptive herder practices.

- Output 1: Integrate climate information into land and water use planning at the national and sub-national levels**
- Output 2: Scaling up climate-resilient water and soil management practices for enhanced small scale herder resource management**
- Output 3: Build herder capacity to access markets for sustainably sourced, climate resilient livestock products**

77. Proposed areas for intervention are the Zavkhkhan, Khovd, Dornod and Sukhbaatar aimags covering steppe, desert steppe, mountain, mountain steppe and forest steppe zones (see Annex 16). These sites were selected by government, not because they are the most degraded areas of the Mongolia, but rather the urgent need to protect critical watersheds in a drying environment. The selection criteria were as follows:

- High vulnerability to climate change impacts and slow onset disasters
- Fragile catchment areas that need protection/rehabilitation
- Representation of diverse ecological zones to maximize impact of interventions
- Availability of previously generated adaptation best practices in similar eco-regions
- Isolation or distance from the central area and support

78. GCF resources will finance the additional costs of integrating climate change into land and water use planning, management and development, as well as investments in water harvesting, management and access structures in all soums of the four project aimags to address issue of few watering points in the four target aimags. The project will also support land-use planning and management, emphasizing climate-resilient, sustainable and ecosystem-focused pasture management. The project together with local government authorities will assist communities develop and implement land and water management plans incorporating ecosystem based adaptation principles and fund the development of small-scale infrastructures required to reduce the negative impacts of adverse weather events and trends. Importantly, through support to policy transformation and market access for sustainably-sourced livestock products, the project will incentivize behavior change among herders towards greater climate resilience.

Output 1: Integrate climate information into land and water use planning at the national and sub-national levels
(GCF grant: USD 5,236,744; Co-financing: USD 11,200,000)

79. Output 1 is focused on supporting the Government of Mongolia to move beyond short term preparedness and emergency response, and towards longer term climate-informed planning. This will include developing the technical capacity to forecast medium-to-long term climate change, then applying that information to predict related changes to water and land resources. Support will be provided at both the national and sub-national levels to effectively integrate this climate change and related impacts into climate-resilient planning. Importantly, GCF resources will complement

the Government of Mongolia's National Mongolian Livestock Programme, by bringing a climate lens to planned policy and regulatory reforms.

Activity 1.1. Enhance technical capacity for long-term climate resilient development planning, and medium-term response planning capacity

80. GCF resources will support NAMEM to enhance their capacity to develop seasonal and long-term climate change forecasts. GCF funds will invest in the acquisition and installation of weather/climate forecasting/prediction software and equipment, to enable NAMEM to develop longer term (seasonal, decadal and climate change) models and deliver forecasts. This will considerably increase technical and computing capacities and capabilities compared to the current system and allow the agency to increase accuracy and spatial resolution of the atmospheric models (GCMs, RCMs) and use dynamic models for forecasting. The introduction of this additional computing capacity will strategically complement the existing capacity allowing NAMEM to provide the key weather forecasts and climate predictions required for planning and preparedness for enhancement of subnational and national natural resources management (water, land and forest) planning, with key focus on pasture management and livestock husbandry.

81. The proposed project will also invest in strengthening human resources capacity at NAMEM with targeted training courses and workshops. The training will include:

- Training to NAMEM senior and technical staff on applying methods, models, and post-processing approaches including: weather research and forecasting (WRF) model, Community Earth System Model (CESM), and NCAR command language (NCL)
- Training to technical and operational level staff of NAMEM and NEMA on the processing, interpretation and use of outputs generated by the climate modelling results, climate change impact, vulnerability and risk assessments and climate informed development planning and emergency planning and coordination at central level.

82. The project will also provide training to local government at the aimag and soum levels on climate change impacts, conducting vulnerability and risk assessments and integrating climate change and the results of vulnerability and risk assessments into planning. The training will emphasize cross-sectoral planning approaches by including environmental, land and agricultural officers, as well as hydro-met and NEMA personnel. The personnel trained will lead the development planning to guide adaptation measures (management and infrastructure) under Output 2 of the proposed project. The four aimags will pilot the incorporation of climate change into development planning for replication across the country. Strengthened national technical capacity (i.e. NAMEM and NEMA), guidelines for climate risk informed forecasts and projections can therefore be applied across the country.

83. Improved data and forecasting ability, coupled with local information (e.g. vulnerability assessments and information on environmental conditions supported under Output 2), the project will support a quantitative approach to impact and risk. Consistent with the impact based forecasting (IBF) methodology supported by WMO, the project will support MET and MoFALI with guidelines, tools and training on impact estimation (developing operational impact models for water availability, operational pasture yield/fodder and dzuds), as well as risk reduction and response scenarios to inform decision making. This would inform early warning to herders, as well as government preparatory planning and related investment, including for instance: increasing fodder production if a dzud is expected or if pasture yield is expected to be low, informing herders of which water sources are expected to dry up due to increased temperature or drought, or taking additional adaptation or conservation measures in areas where land is particularly vulnerable to degradation due to conditions. Training will extend to each of the four selected aimags for government officials on the interpretation and use of outputs generated by climate modelling and climate informed development planning, as well as seasonal livestock sector planning and emergency planning and coordination at provincial levels.

84. Importantly, this Output would support the development of the national programme, a successor to the Mongolian Livestock Programme, – ensuring it is informed by projected climate impacts on the natural resources upon which herders rely. This national programme is expected to have a greater focus on climate smart livestock management and sustainability. And like the ongoing programme, it will seek to improve herd structure, while reducing overall herd size. This builds on work started under the Fourth Priority Area of the ongoing phase: Develop livestock production that is adaptable to climatic and ecological changes with strengthened risk management capacity.

85. Ensuring that climate risk informed planning is paired with the necessary finance and support is critical. The project will support integration of climate information and related risks into planning and public budgeting. The project will also support dialogue and the development of methodologies towards forecast based financing (FBF), for public planning

but also for coordination of other potential funding sources. The Humanitarian Country Team (HCT)²⁷ will serve as the platform for dialogue and decision making, where aspects such as triggers for action, flexible funding, contingency plans and an enabling environment²⁸ can be discussed and agreed. This will build on and be informed by the best practices and lessons learned of the IFRC's Forecast-based Financing for Vulnerable Herders in Mongolia pilot project, which developed an FBF module for dzud as well as related cost benefit analyses.

86. The project will assist State Emergency Commission Secretariat hosted by NEMA to improve medium term response planning (i.e. planning for projected seasonal extreme weather events). Support will include technical support for emergency planning and coordination, and guidelines and procedures for seasonal planning, and coordinating of national and international responses. The project together with NEMA will fund the training of aimag level government representatives in contingency planning for projected extreme weather events.

87. Information generated and capacity developed under this Output will also support transboundary climate-informed planning. The improvement of Mongolia's Hydromet system, and data and analyses generated through this project, are beneficial to neighboring countries, as well as the Central Asia sub-continent with similar landscape and climate conditions. More accurate hydromet forecasts and data can be used for reducing regional vulnerabilities to climate risks and weather hazards, in particular transboundary eco-regions of global significance, such as Daurian Steppes and Altai Mountains. NAMEM already has bilateral cooperation agreements with the Russian Federation and the People's Republic of China (PRC), where information and data sharing protocols are defined.

88. Sub-activities include:

- Validation of specifications for NAMEM technical capacity and computing equipment
- Strengthen the technical and human resources capacity within NAMEM to produce seasonal to long term climate models
- Support development of guidelines and tools (incl water availability, operational pasture yield/fodder and dzud impact models) for impact based forecasting (IBF), climate risk informed land, water and livestock planning to be adopted at the national and aimag level
- Support to MoFALI and MET to integrate climate change and risks and plan for long-term climate resilient development at the national, aimag level (dissemination and application following Development Planning Law)
- Support to NEMA planning, applying projected seasonal extreme weather events
- Support application of seasonal forecasts to national and aimag level systems and planning/budgeting to respond to extreme events (e.g. drought, dzud), incl forecast based financing (FBF)
- Strengthen technical capacity in the State Emergency Commission (under NEMA) in emergency planning, incl guidelines and procedures for seasonal planning, and coordination of national and international responses and related finance

Activity 1.2. Integration of climate change and climate-informed carrying capacity into aimag and soum level development plans (incl. Integrated River Basin Management Plans (IRBMP))

89. The project will build on the existing Integrated River Basin Management Plans (IRBMP) for the 12 river/lake basins in the target aimags to include climate change considerations, as historically NAMEM was not able to produce detailed forecasts specific to the basin. The IRBMPs developed by various development partners and NGOs are varied in their resolution and level of detail. The planning process proposed in this project starts with these IRBMPs, develops River Basin climate risk and adaptation profiles and options, and then downscales that to soum level development plans and Resource User Agreements at the herder level. As herder groups are the key stakeholder in developing RUAs together with local government, the process facilitates a bottom-up feedback mechanism for the large-scale IRBMPs.



²⁷ The HCT is made up of UN agencies (incl. UNDP) and International Organizations (incl. the International Federation of Red Cross and Red Crescent Societies (IFRC)) that undertake humanitarian actions and have accepted to co-lead, with government, sector wide approaches to preparing for and responding to disasters in Mongolia. The overall objective of the HCT is to facilitate a harmonized and effective approach to assist people affected by humanitarian crisis. Results to be achieved by this high-level body will ensure that the activities of both Government and supporting organizations are coordinated, that humanitarian assessments are jointly conducted, that support is delivered in a timely and efficient manner and longer-term recovery from humanitarian crisis is achieved. In times of non-disaster, its activities focus on preparedness, especially on areas of policy coordination, response planning, monitoring sectoral work, information sharing and resource mobilization. One of the major tasks of the Humanitarian Country Team is to ensure linkages to national and international non-governmental organizations, providing opportunities for dialogue and consultation.

²⁸ Early Warning Early Action: Mechanisms for Rapid Decision Making (IFRC, Save the Children, OXFAM, FAO, WFP)

90. The project will downscale these national and regional strategies and incorporate climate change projections to develop climate risk and adaptation profiles as a common platform to guide access, synthesis, and analysis of relevant data and information for disaster risk reduction and adaptation to climate change. The profiles developed at the river basin level and disaggregated to the aimag and soum levels will provide a reference source for the project to guide soum level officials and the community better integrate climate resilience in the development of soum Level Development Plans and Resource Use Agreements (RUAs) (see Output 2).

91. Based on the Climate Risk and Adaptation Profiles developed and using lessons learned from the UNDP EbA project, this component will support the development of Water Use and Management Plans for each soum. These will be comprehensive multi-year management and investment plans and monitoring and evaluation tools that will effectively set the baseline for the use and management of the hydrological and land assets of the watershed and serve as a road map for the implementation of subsequent project activities and investments. They will include a rapid resource mapping, water budgeting and ecological site descriptions to guide investments in infrastructure, integrated water resources management and sustainable pasture management. These plans will serve as a road map for the development of RUAs by the Resource User Groups and guide the implementation of subsequent activities and investments under the proposed project.

92. To provide technical input for the development of the Water Use and Management Plans on a participatory basis and in close collaboration with local agencies, the project will recruit external technical agencies to support the project teams. These external agencies will help define watersheds, conduct surface and groundwater balance assessments, link watershed plans to river basin management plans and recommend a suite of management options and infrastructure options. Activities and investments will be prioritized during the planning process, by applying criteria related to ecosystem services benefits (e.g. greater access to water sources for herder households and reducing pressure on land). The Water Use Plans will undergo a rigorous quality review and validation process before being used to prioritize and place investments (Activity 2.2 and 2.4). Criteria for prioritization will be informed by urgency, water access benefits to herders and potential of investments to relieve pressure on degraded rangeland.

93. Sub-activities include:

- Development of river basin climate risk and adaptation profiles and options
- Development of soum level resilience-based land and water use and management plans

94. While the river basin climate risk and adaptation profiles are specific to the project area - priority areas for this project as identified by the Government of Mongolia - the approach applied can be replicated in other river basins in the country.

Activity 1.3. Analytical products to support policy and regulatory transformation promoting sustainable land and water management and resilient herder livelihoods

95. The proposed GCF project will develop scenario analyses, to support the planned policies and reforms relevant to the livestock sector – comparing a business-as-usual scenario in which rangeland ecosystems eventually collapse versus an ecosystem based adaptation scenario in which productivity losses are halted and then reversed. With this important tool, the proposed GCF project can inform the necessary reforms to policies and programmes which inadvertently contribute to the unsustainable number of livestock in the country against a drying landscape due to climate change. Support will be provided to decision-makers in applying this information in drafting changes to existing policies and programmes, which still assists herders, but in a manner which does not accelerate degradation of already fragile ecosystems. To complement this work, the proposed project will also support sensitization of decision-makers and ministry staff, climate change impacts on land and water resources, related ecosystem services and on livestock productivity and herder livelihoods. Products will consider available or potential resources, to support sustainable land and water management and resilient herder livelihoods, including: central and local government budgets, BIOFIN, the Mongolia Conservation Trust Fund (MCTF), impact investment (where investors could include private sector actors, development financing institutions (DFIs), multilateral development banks (MDBs), foundations, family offices, and high net-worth individuals), and access to finance supported by ADB's Aimag and Soum Centers Green and Resilient Regional Development Investment Program (ASDIP).

96. Sub-activities include:

- Review of current livestock policy, investments and related public/private programmes which could inadvertently contribute to land degradation by incentivizing maintenance of large herds (e.g. dzud relief programmes, insurance schemes, etc.)
- Drafting of policy transformations to support sustainable use of natural resources and climate-resilience in the livestock sector and submission for approval by appropriate ministerial party

- Informed by results of Activity 1.1, conduct scenario analyses to inform resilient land and water management and livestock sector, and related (e.g. finance sector) policies
- Sensitization on climate change impacts on natural resources and the livestock sector for decision-makers to enable the necessary reforms

Output 2: Scaling up climate-resilient water and soil management practices for enhanced small scale herder resource management

(GCF grant: USD 11,103,118, Co-financing: USD 26,200,000)

97. To address the challenges presented by climate change, there is an urgent need to conserve and rehabilitate the ecosystem services upon which Mongolia's rural economy, traditional culture, and rich biodiversity depend. This Output is focused on investments needed to protect land and water resources and the cooperation mechanisms necessary sustainable management of shared resources, using traditional community level agreements informed by best practices. The project will also invest in infrastructure measures such as wells, community water harvesting ponds and tanks as well in land management measures such as fences and fodder cultivation to reduce the impact of prolonged dry spells and slow onset disasters. Building on best practices, the Output will foster sustainable use of land and water resources by herder communities, while making critical investments to protect catchment areas and overstressed land.

Activity 2.1. Enhance cooperation among herders on sustainable use and stewardship of shared land and water resources (formalized through Resource User Agreements)

98. Community based Resource User Groups (RUGs) will be the key point of focus for the implementation of activities under this Output. All herder households in four target provinces are expected to benefit from the project. The project will focus on identifying and working with already existing user groups established through the past interventions, at the same time create new ones wherever there is need. The Green Gold project has already successfully established and capacitated user groups in Khovd and Zavkhan and initiated activities in Dornod in 2016 – three of the four target aimags for this project. These will be strengthened and others established in uncovered areas. Given the remoteness and distance between households, RUGs per soum are expected to have 15-20 herder households each. The proposed project will support RUGs in developing or compiling Resource Use Agreements (RUA) for an integrated approach towards shared sustainable land and water use. RUAs will be guided by soum development plans supported under Output 1, which will consider climate change impacts on land and water resources as well as carrying capacity. The Resource User Agreements will define:

- Climate risk informed practices for pastures (and forests where appropriate)
- Climate risk informed practices for water use and management, including ownership and use of engineered wells, hand wells and water harvesting investments and
- Small scale community infrastructure, and related commitment for operations and maintenance

99. The RUAs would define the stocking rates within a resilient carrying capacity, management principle to ensure rangeland health, and the rights of access, rights of exclusion and rights of tenure by the RUGs who enter the agreement. Based on lessons learned from ongoing programmes including the Green Gold and IFAD projects, incentives will be developed to discourage overgrazing and encourage sustainable use and finance community investments. This includes supporting the establishment of a risk management facility, cost-shared between herders and the local government, for disaster preparedness and response, and to further finance pasture and water management activities, and to establish or rehabilitate wells. Any existing land use agreements on rangelands will be extended to encompass all seasonal pastures and clearly specify herders' responsibilities.

100. In partnership with local government officials and community representatives will help register the RUGs with local authorities, define their operating procedure and legitimize their user rights and responsibilities. Cadres of facilitators will be trained to continuously engage with the community to establish RUGs and then continue through the other activities described below.

101. Sub-activities include:

- Formalize and/or strengthen Resources User Groups
- Development, consolidation and registration of resilience-based Resource Use Agreements (RUA) (including Watershed Agreements)

102. Enhanced cooperation among herders will ensure greater sustainability in the use of natural resources. In addition, however, investments are needed to protect catchment areas (Activity 2.2), establish haymaking and pasture reserve areas (Activity 2.3) and improve water access (Activity 2.4) in response to the impacts of climate change. Adaptation measures supporting conditions and availability of water and pasture resources are based on the best

practices generated through relevant interventions by UNDP and other development partners. Immediate needs were identified during the project development phase through consultation with local governments and communities. These will be implemented through active cost-sharing by both Government and local communities. Project will support technical oversight and professional entities will be contracted for the actual investments. Not only the local herder communities are expected to contribute their labor, they will be monitoring the process jointly with local Government entities. Following local law, costs of such investments are to be shared by the local government²⁹; and full operations and maintenance (O&M) costs related to wells are borne by the local government. The related co-financing for this investment is captured in the letter from MET and MOFALI (see Annex 13a). For further information related to operations and maintenance, please see the related plan in Annex 21, related commitment letters have also been provided in Annex 13b.

Activity 2.2. Reforestation of critical catchment areas to protect water resources and ecosystem services

103. The project will support ecosystem based measures to promote climate risk informed use and management of land and water resources. Riparian degradation is a major contributor to vulnerability of water provisioning ecosystem services. The project will invest in catchment reforestation and replanting native vegetation along riparian areas and degraded lands to minimize undermining and increase water retention and grassland productivity. Where appropriate, enclosures³⁰ along riparian areas to enhance and restore watershed health. Enclosures will be placed strategically to restore function to severely degraded riparian areas in areas of high biological value, including wetlands. Within enclosures, the project will regenerate native woodland and grassland species.

104. Interventions will focus mainly on forest restoration at river headwaters where there was previous tree cover. Best practices will be applied to reforestation efforts. For instance, where trees need to be actively planted or sown, indigenous trees have shown to be generally better conservers of water than exotics. Spacing will depend on species and purpose. Stakeholder consultations in the target aimags indicate the need for 2500ha of reforestation in catchment areas. This includes: Khovd, 1200ha; Dornod 400ha, Sukhbaatar 300ha; and Zavkhan 600ha. Estimated costs are USD2.982million. USD2.535million is requested from GCF with the balance to be provided by local governments. In accordance with the national law, local government shall be responsible to allocate 15% of the total cost as well as 3 years of nursing.

105. GCF resources will also support the development of guidance materials and related training to herder for effective management of catchment areas going forward. Roles and responsibilities will be defined and enforced through the RUAs.

106. Sub-activities include:

- Validate identified investments through RUAs
- Implementation of Rangeland User Agreements
 - 2500ha catchment reforestation
- Development of guidance materials and delivery of training to herders on effective and optimal management of catchment areas

Activity 2.3. Establish haymaking and pasture reserve areas, and emergency fodder storage facilities to reduce volatility to livelihoods related to climate change induced extreme events

107. Otor is a traditional practice of migration to specially-reserved remotely located pasture areas in preparation for winter or in times of winter disasters like dzud or other extreme events. This practice is consistent with sustainable land management practices. In order to avoid excessive winter losses, the project will support implementation of the pasture management plans of RUAs related to haymaking and pasture reserves, including use and exclusion agreements and infrastructure measures to increase capacity and resilience of herders to cope with climate change impacts and manage pastoral risks. Infrastructure investments will include collective activities such as the fencing of hayfields for winter pasture conservation and fodder preparation, construction of winter shelters for livestock, and fodder storage structures.

108. Stakeholder consultations indicate the need to protect pastures in all four of the target aimags: Khovd 1200 ha (USD 907K), Dornod 400ha (USD 756K), Sukhbaatar 720ha (USD 538K), Zavkhan 900ha (USD1M). 48 storage facilities across the four aimags will also be supported, for a total of USD600K. The total requested from GCF is USD1.7M, with the balance to be covered by local governments, as well as costs related to maintenance.

²⁹ Cost support by local government: wells - 5% + O&M, hand wells - 30% + O&M, natural spring protection – 30% + O&M. Similarly, local government shall be responsible to allocate 15% of investments related to catchment reforestation, haymaking and pasture reserves, plus 3 years nursing.

³⁰ Cultural sensitivity will be respected when selecting the type of fencing supported by this project. Mongolian traditional belief systems oppose the piercing of the ground for fencing.

109. Rangeland Use Agreements for the sustainable management of pasture will enforce seasonal rotational grazing and resting schedules, long term agreements for the maintenance of rangeland health and plans to adjust and reduce stocking rate to rangeland carrying capacity agreed between RUGs and soum governments. And GCF resources will support guidance material and related training

110. As haymaking and pasture reserves are included in RUAs, sub-activities are similar and linked to the above Activity. These include:

- Validate identified investments through RUAs
- Implementation of Rangeland User Agreements
 - 3,720ha of haymaking or pasture reserve areas
 - 48 emergency fodder storage facilities
- Development of guidance materials and delivery of training to herders on effective and optimal management of pasture reserves

Activity 2.4. Improve water access through protection of natural springs, construction of new water wells, rehabilitation of existing wells and water harvesting measures

111. With limited number of functioning wells, herders increasingly rely on water sources such as rivers for their livestock, adding pressure to catchment areas. Under Activity 2.4, where ground water extraction is found feasible and sustainable based on the results of Output 1, the project will rehabilitate existing wells (including solar-powered pumps when appropriate) for regulated water extraction as per the Water Use and Management Plans. In cases where grazing land is underutilized due to the lack of water sources, the project will support establishment of 125 new groundwater wells and rehabilitation of 165 abandoned wells, for an estimated cost of USD 2M. The main criteria of site selection for newly established or rehabilitated wells is highest reduction of pressure on grazing land and increasing carrying capacity of pasture. Shortage of water sources can be a key factor in underutilizing grazing land in good condition. Ownership of the wells will remain with local Governments as per Law on Water, but herder groups can obtain possession right and sign User agreement to ensure operation and maintenance thereof.

112. Where gully erosion is taking place, the project will invest in construction of small-scale erosion controls to rehabilitate and maintain riparian habitat including water harvesting with 18 earthen weirs based upon successful international approaches designed to slow flow rates, retain soil, and restore/maintain natural flow and vegetation, for an estimated cost of USD 453K. Similarly, the project will support protection of 88 natural springs for an estimated cost of USD 83K. Soum officials will be responsible for ensuring enclosures are respected and enforcing any restrictions.

113. Further, in the western Altai Mountain ranges and Great Lakes Valley there are opportunities to undertake ecosystem-based adaptation measures that are low cost and supportive to primary ecosystems based on traditional knowledge and practices enhanced by modern knowledge. To ensure glacier melt is efficiently used to support water security, water harvesting in high altitudes will be replicated upon through best practices established by the EbA project. There are a number of abandoned ancient irrigation and water supply networks that are transformed into almost a natural landscape, which can be restored at low cost and reused without requiring new studies of soil conditions and water sources, as well as costly engineering design work for water channels and reservoirs and large investments for construction.

114. Sub-activities include:

- Ensure appropriate, climate-informed siting for investments, based on Output 1
- Implementation of resiliency-based Watershed Agreements through Public Private Community Partnerships
 - 88 natural springs protected
 - 290 wells rehabilitated or constructed
 - 18 water harvesting structures

115. Upon the project closure, RUAs typically spanning over 10-15 years, are expected to be extended formally between resource user groups and local Governments. Amendments may reflect changes based on the lessons learned through the previous phase. Specific activities in RUAs will be funded by herders themselves. Moreover, RUGs will be able to access the fee for using natural resources collected by Local Governments, 30-80% of which is expected to be invested back to restoration of natural resources³¹.

³¹ Mongolian Law on reinvestment of natural resource use fees for the protection of the environment and the restoration of natural resources, 2012

116. RUAs will be registered at the national level in a database established by ALAGaC. They will be developed in accordance with procedures established by ALAGaC, and with the participation of all relevant local government entities. The plans will include the identified key investments and seek funding from public resources (e.g. local budgets, soum development budget, pasture management fund).

Output 3: Build herder capacity to access markets for sustainably sourced, climate-resilient livestock products
(GCF grant: USD 5,645,864, Co-financing USD 15,800,000)

117. The climate-informed planning and policy transformations supported by Output 1, and the investments and cooperation on shared use of natural resource supported under Output 2, will contribute to protection of catchment areas and pasture land. Interventions are needed however to also support behavior change by herders – enabling herders to move away from practices that are not compatible with the changing landscape and increasingly volatile due to climate change. With climate change, most herders in the target aimags face the following challenges: 1) reduced grassland and water resources for livestock, resulting in undernourished or unhealth animals, and therefore decreased value of livestock products, 2) herders struggle to market livestock products, leaving them with neither the capital nor the incentive to invest in sound herd management focused on quality and manageable quantity, and 3) herders fail to insert themselves into value chains which would provide consistent off-take because they are unable/disincentivized to supply consistent, sustainably sourced products of high quality.

118. The Output will be implemented in close collaboration with the National Mongolian Livestock Programme. As co-financing investment, the Programme has committed to addressing factors that burden herder livelihoods and stifle the domestic and international markets for livestock products, namely animal health and livestock traceability. GCF will complement this investment, with industry wide initiatives to raise awareness and build capacity related to sustainably-sourced climate resilient products.

Activity 3.1. Identify public-private-community partnership for sustainably sourced climate resilient livestock products

119. Market analyses, as well as stakeholder consultations, have highlighted interest and potential for sustainably sourced, climate resilient livestock products from both local and international buyers. This Activity is focused further exploring that potential, raising awareness of the private sector about the products available. To begin this process, the proposed project would engage experienced private entities and/or CSOs as service providers to support the identification, selection and facilitation of these partnerships. Consistent with recommendations from the private sector during project development, Investment Fairs will be organized linking herders and organized herder groups and/or cooperatives with buyers, and meat and fiber processors. These will be conducted in the four aimags selected for the project and enable herder groups to display their products, and provide for site visits for the private sector commodity associations to meet with herders, as well as meetings with aimag level government officials, development projects and civil society organizations active in this sector.

120. The project will support public-private-community partnerships; these would be commodity-specific agreements between a private entity (or consortium of private entities) and an HPO to promote backward vertical integration and develop viable value chains. The proposed project will assist these partnerships with the identification of profitable strategies, coordination of activities and support to HPOs in improvements in the sustainability of value chains that promote climate-adaptive herder practices and sustainable use of land and water resources. Recalibration of herder size with the carrying capacity of specific geographic ecosystems will be promoted as one of sustainability considerations. Once finalized, the agreements would be validated by a multi-stakeholder committee set up by the project for this purpose to ensure consistency with the project objective. The project will develop a legal template for these agreements detailing roles and responsibilities including financial and in-kind support from all concerned parties (herders, local government, project, other). A unified screening tool will be developed for the validation of these agreements.

121. The target aimags of the proposed project are in the Western and Eastern regions, which have consistently been among the poorest in the country (36% and 43.9% respectively); and studies have shown that gains related to poverty rates particularly in rural areas are fragile - vulnerable to minor socio-economic difficulties and weather conditions³². With buyers committed through the partnership agreement, herders can have assurance that the risk of losses related to change is mitigated.

122. Sub-activities include:

- Consultations with private sector to assess the type/level of information needed to further engagement and investment in climate-resilient livestock products

³² <http://www.worldbank.org/en/news/press-release/2017/10/17/2016-poverty-rate-in-mongolia-estimated-at-296-percent>

- Promotion and conduct of livestock investment fairs to identify public-private-community partnership (PPCP) opportunities
- Based on identified opportunities, facilitation and finalization of PPCP agreements

Activity 3.2. Establishment and training of Herder Producer Organizations (or cooperatives)

123. This Output builds on the Resource User Groups and the Resource User Agreements established in Output 2 to form and channel project interventions via Herder Producer Organizations (HPOs) (similar to herders' cooperatives). These will be collective action enterprises that are formed by one or more RUGs coming together to collectively engage with the private sector, where demand and supply are consistent with the overall project approach of climate-resilient planning and sustainable land and water use.

124. Based on the needs agreed above, the project will facilitate the setting up of Herder Producer Organizations (HPOs). A readiness assessment will be developed and conducted prior to a formal establishment of an HPO to gauge existing decision-making and community governance mechanisms, as a pre-condition for a fair and equal involvement of all interested members of the community to participate in the HPOs. The Resource User Groups (RUGs) the project will set up and strengthen under Output 2 will be essentially geographically based extended family unit of 15-20 households on average. These RUGs will be aggregated to set up Herder Producer Organizations through the application of organizational models and intensive sensitization and training programs. The strategy will be sufficiently flexible to not only promote adaptive cooperative models but also to embrace other forms of business-oriented collective action and producer groupings that contribute to economic development and the well-being of herder households. These can include producer associations, Limited Liability Companies (LLCs), partnerships, other standard legal entities, and even loose temporary relationships to address specific issues or activities (in this document all such forms of corporative organizations will be referred to as Herder Producer Organizations - HPOs).

125. Training will be provided to the HPOs on the commodities detailed in the public-private-community agreements, including production, post-harvest processing, post-harvest value addition and on-site storage. The project will also support the HPOs to plan and prepare business proposals including cost-benefit analysis for future resource mobilization and partnership building for sustainably sourced livestock products.

126. Sub-activities include:

- Readiness assessment to gauge existing decision-making and community governance mechanisms, as a pre-condition for a fair and equal involvement of all interested members of the community to participate in the HPOs
- Market specific training in production, post-harvest processing, post-harvest value addition and on-site storage
- Small upfront investments to support business needs (e.g. equipment to assess microns for wool and cashmere)
- Impact evaluation of project interventions on herder households

Activity 3.3. Improve traceability for sustainably sourced, climate resilient livestock products

127. GCF funding will provide technical assistance to develop the knowledge base required to improve traceability for sustainably sourced, climate resilient livestock products to access higher value domestic and international markets. This will entail surveying and analysis the premium range for various products and understand their market position, workshops to facilitate private off-takers with herder groups to bridge the supply and demand of these high-end products and drafting legal documents into the PPCP agreements detailing the roles of each stakeholder. GCF funding will also be used to develop a demo product of a traceable cashmere that tracks the movement of a sustainably sourced, high-quality cashmere bail from herder's handoff to transport personnel to factory intake point all the way to a buyer. Once this produce traceability system is proven, government co-finance will be used to purchase equipment at mass scale and IT infrastructure to replicate the produce traceability design to wider groups of herders.

128. The traceability demo will ensure offline and online options for herders without reliable connectivity. GCF funding will be used to provide technical assistance to train the government and selected HPOs on using the system. The overall results and performance of the system will be recorded. A pipeline of other products will be identified and prioritized accordingly. This will assist the herders to have a range of high-end products with stable buyers and therefore diversifying their income sources and reduce climate impact on their livestock portfolio. The community usage of traceable products will also encourage the behavior of increase livestock quality and gradually decrease the overall low quality, climate vulnerable livestock.

129. Traceability of sustainably sourced products is critical to support herders to ultimately get a premium for sustainably sourced products. A universally accepted definition of "sustainably sourced", however, is lacking. To that end, the project will collaborate closely with ongoing and planned efforts related to branding and certification in Mongolia and globally. For instance, through collaboration with Sustainable Fibre Alliance (SFA) on cashmere traceability, the

principles of certification of sustainability sourced cashmere introduced by SFA have been further developed. The approach applies a practice-based standard that reviews the quality of a) animal husbandry and b) rangeland stewardship using 23 assessment criteria. Trained independent examiners review the community practices every year using a traffic-light system to incentivize continuous improvement in practices to gain accreditation. The certificate is valid for three years. Every year the producer/herder organizations undergo external assessment. If, during the three-year period, the compliance score improves compared to the initial assessment result, the herder organization may request that their accreditation is extended for another three-year period. The inventory of the accredited herder groups and organizations would then be incorporated into the (blockchain) database, which helps trace the source of raw cashmere for the producers and end users. It is being tested for cashmere at first and the same principle will apply for other types of commodities. The project will facilitate the process of third-party certification process through capacity building.

130. Sub-activities include:

- Surveying and analysis of traceability of sustainably sourced climate resilient livestock products
- Review/Drafting standards for climate-resilient products certification process
- Drafting agreements in PPCP to support traceable products development
- Develop a demo traceable livestock product
- Analyze and document traceability system results, disseminate for knowledge sharing

Activity 3.4. Generation and dissemination of knowledge products to support private-sector engagement and herder enfranchisement in climate-resilient and sustainable production in Mongolia

131. Realization of the three above Activities will build capacity of herder households and related cooperatives to ensure (i.e. branding and certification) that livestock products were sustainably sourced and are climate resilient, while co-financing (e.g. National Mongolian Livestock Programme) will support herders to meet international health and hygiene standards related to livestock. In combination, these investments will provide the necessary assurances to private-sector investors that there is an enabling environment in the four aimags to produce a consistent supply of quality primary and value-added products for domestic and, in time, international customers.

132. This Activity is focused on building the evidence base of benefits of sustainably sourced, climate resilient products. Knowledge products and communications materials will be developed for different audiences, including herders to provide assurance for behavior change, the private sector to mobilize partnerships and responsible investment, and the public to influence demand.

133. Sub-activities include:

- Generate knowledge products detailing best practices for innovative financing mechanisms (e.g. sustainable sourcing platforms, impact investment fund)
- Promotion of project achievements to raise awareness of private sector and/or potential investors and consumer/public awareness about need for sustainable practice

134. Across Outputs, the project will ensure synergies and complementarity with related programmes. ADB's Aimag and Soum Centers Green and Resilient Territorial Development Investment Program applies a similar model related to land management, value chains and herder livelihoods. Sharing of lessons learned and best practices would benefit both projects and ensure success of upscaling and replication efforts. Further, the ADB project supports access to financing and credit risk guarantee for agri-business companies and agri-cooperatives. Related successes and best practices could further inform the sustainability plan or exit strategy of the project. As the UNDP project will be implemented for a shorter duration, a solid basis set through UNDP project at the target areas with herders, herder producer organizations and local government will be taken over by ADB's Tranche 2 and 3 investments in ensuring sustainability and access to financing and markets by herder communities and enabling mitigation benefits (methane reduction) through reduction of livestock number that exceeds the carrying capacity of pastureland.

B.4. Implementation arrangements (max. 1500 words, approximately 3 pages plus diagrams)

135. The Executing Entity will be Mongolia, represented by the Ministry of Environment and Tourism (MET). The project will be implemented following UNDP's National Implementing Modality (NIM), according to the Standard Basis Assistance Agreement between UNDP and the Government of Mongolia (signed in 1976), the Country Programme Action Plan (CPAP), and as policies and procedures outlined in the UNDP POPP (see <https://popp.undp.org/SitePages/POPPSubject.aspx?SBJID=245&Menu=BusinessUnit>).

136. The national executing entity – also referred to as the national 'Implementing Partner' in UNDP terminology – is required to implement the project in compliance with UNDP rules and regulations, policies and procedures, including

NIM guidelines. These include relevant requirements on fiduciary, procurement, environmental and social safeguards, and other performance standards. In legal terms, this is ensured through the national government's signature of the UNDP Standard Basic Assistance Agreement (SBAA), together with a UNDP project document which will be signed by the Implementing Partner to govern the use of the funds. The (national) Implementing Partner for this project is be the Ministry of Environment and Tourism (MET), which is accountable to UNDP for managing the project, including the monitoring and evaluation of project interventions, achieving project outcomes, and for the effective use of UNDP resources. MET will lead the implementation for Outputs 1 and 2 and will assign MoFALI, NAMEM (part of MET) and NEMA as key Responsibility Parties. UNDP will provide support services in both technical and operations support for Output 3 whereby UNDP will assume the responsibility for mobilizing and applying effectively the required inputs and partnerships to reach its expected deliverables. For this Output, UNDP will assume the overall management responsibility and accountability for project implementation and ensure close cooperation with the MoFALI as the critical government counterpart in its implementation.

137. The justification to engage UNDP as Service Provider is as follows: successful implementation of Output 3 requires close collaboration and coordination of technical inputs from the MET, MoFALI, local governments, FAO, domestic and international private sector companies, industry associations and cooperatives. Given the complexity of partnerships envisaged under the Output 3 and the need to continuously build trust for these partnerships to succeed, UNDP will be the best entity to engage various partners from both public and private sector, either following competitive procurement process or other partnership arrangement. Such support services and the cost involved, shall be detailed in LOA for UNDP support services. As the support services will be provided by UNDP, usual UNDP regulations, rules and procedures apply.

138. In addition, the Government of Mongolia may request UNDP to provide direct project services for this project. The UNDP and Government of Mongolia acknowledge and agree that those services are not mandatory, and will be provided only upon Government request and specified in the Letter of Agreement. If requested, the direct project services would follow UNDP policies on the recovery of direct project costs relating to GCF funded projects.

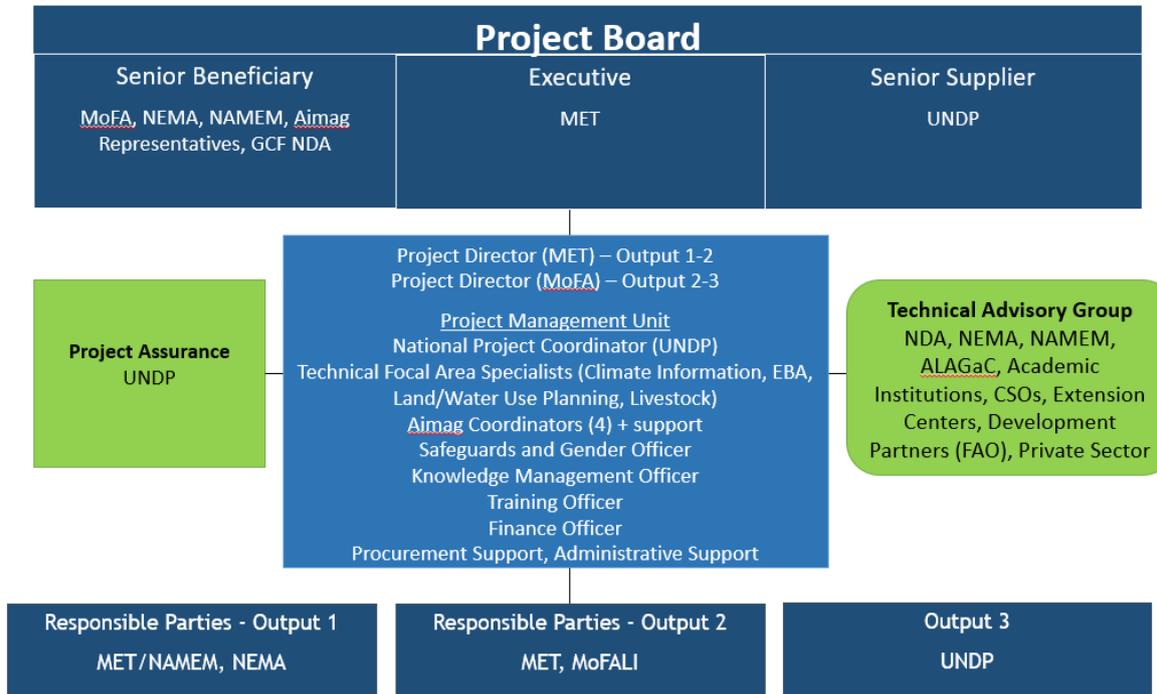
139. The Project Board will be the highest decision-making and coordination body for the project. It will be jointly co-chaired by the MET, MoFALI and UNDP represented by the State Secretaries and Deputy Resident Representative, respectively. The Program Board will comprise, at minimum, a representative from the MET, UNDP, MoFALI, NEMA, Governor Offices of 4 target aimags, NAMEM, livestock sector and related commodity industry associations and representatives of direct beneficiaries. To facilitate collaboration between the UNDP and ADB projects, an MOU will be signed between the organizations and ADB is welcomed as an observer to the Project Board. Observer status may be extended, as the situation demands, to representatives of other UN agencies, civil society organizations, academia and other stakeholders upon invitation of the Program Board. The Project Board will adopt its statute of procedures (Terms of Reference) in the first Project Board meeting.

140. The Project Board will ensure that activities under all three outputs of the project comply with the strategies, principles and overall approach outlined in this proposal. The Project Board is responsible for making decisions by consensus. Its responsibilities including recommendation for UNDP and Implementing Partner approval of project plans, substantive revisions and acceptance of the project progress reports. In order to ensure UNDP's ultimate accountability, Project Board decisions should be made in accordance with standards that shall ensure management for development results, the best value for money, fairness, integrity, transparency and effective international competition. In the case where a consensus cannot be reached, the final decision shall rest with UNDP. Project reviews by the Board will take place at least twice a year, or as necessary when raised by the Project Manager or one of the Board members. The Board must be consulted by the Project Manager for decisions where there are substantial changes required to the Annual Workplan as per deviation tolerances set by a donor or UNDP, whichever is lower.

141. UNDP's overall role as an Accredited Entity is to provide oversight and quality assurance through its Headquarter, regional and Country Office units. This role includes: (i) Day-to-day oversight supervision; (ii) Oversight of project completion; and (iii) Oversight of project reporting. It also includes oversight role in relation to reporting and knowledge-management. The 'project assurance' function of UNDP is to support the Project Board by carrying out objective and independent project oversight and monitoring functions. This role ensures appropriate project management milestones are managed and completed. Project assurance has to be independent of the Project Management; therefore, the Project Board cannot delegate any of its assurance responsibilities to the Project Manager, CTA or Project Directors. A UNDP Program Officer, or M&E Officer, typically holds the Project Assurance role on behalf of UNDP. The 'senior supplier' role of UNDP is to represent the interests of the parties which provide funding and/or technical expertise to the project (designing, developing, facilitating, procuring, implementing). The senior supplier's primary function within the Board is to provide guidance regarding the technical feasibility of the project. The senior supplier role must have the authority to commit or acquire supplier resources required. If necessary, more than one person may be required for

this role. Typically, the Implementing Partner/Executing Entity, UNDP and/or donor(s) would be represented under this role.

142. Project management arrangements:



143. Specific Roles of the Project Board

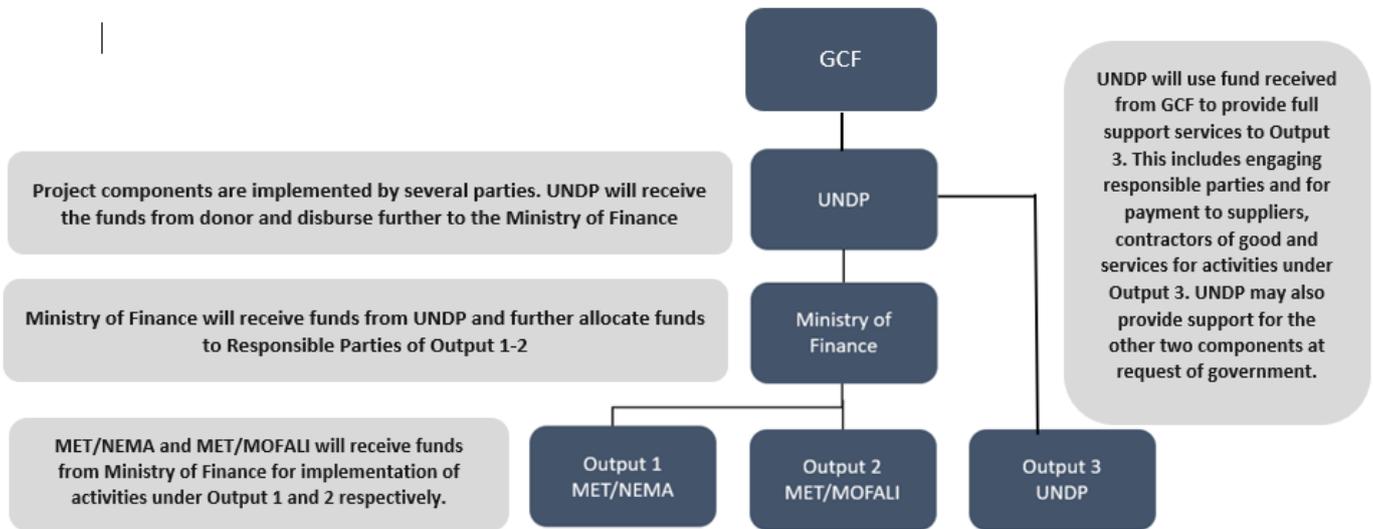
- The Board shall set strategic direction, reinforce government leadership of the program and coordinate all interventions;
- Provide guidance and agree on possible countermeasures/management actions to address specific risks;
- Authorizes the Annual Work Plan (prior to approval by UNDP);
- Conduct bi-annual meetings to review the Project Progress and provide direction and recommendations to ensure that the agreed deliverables are produced satisfactorily according to the approved Annual Work Plan;
- Provide ad-hoc guidance when project manager's is unable to come to a decision;
- Review and approve all activities that are supported by the program based on the program objectives, work plan and availability of funding;
- Provide technical advice to create synergy and uniformity between program supported activities and policy;
- Guide and support program delivery at sectoral level;
- Provide support in resource mobilization to support program funding gaps;
- Monitoring and evaluation of program activities through periodic meetings and occasional site visits;
- Receive reports on all activities supported by the program to serve as an additional basis to assess and monitor the program performance and delivery.

144. The National Project Coordinator (NPC) will lead the Project Management Unit and run the project on a day-to-day basis on behalf of UNDP and MET within the constraints laid down by the Project Board. The NPC function will end when the final project terminal evaluation report and other documentation required by the GCF and UNDP has been completed and submitted to UNDP. S/he is responsible for day-to-day management and decision-making for the project and has the responsibility is to ensure that the project produces the results specified in the project document, to the required standard of quality and within the specified constraints of time and cost. The annual work plan is prepared by the NPC and reviewed and endorsed by the Project Board. However, the final approval is provided by the Regional Technical Advisor, Global Environmental Finance Unit of UNDP as part of the quality assurance role. The NPC is also responsible for managing and monitoring the project risks initially identified and submit new risks to the Project Board for consideration and decision on possible actions if required and update the status of these risks by maintaining the project risks log according to the NIM Guidelines.

145. The Project Management Unit (PMU) will implement the project as per the work plan approved by the Project Board. One National Project Director will be appointed by each the MET and MoFALI, tasked with oversight to implement Output 1 and 2 respectively. They will ensure coordination and mobilize project implementation support from their respective ministries and partner organizations, and manage inter-sectoral coordination required in project implementation. In addition, the project will have key staff tasked with the following: safeguards and gender, communications, M&E, training, finance, procurement and admin support. When fully staffed, the total number of key staff and support staff in the PMU will be approximately twenty. In addition, the PMU will recruit consultants as needed.

146. As aimag level extensions of the PMU, four Project Coordination Offices (PCUs) will be set up. These offices will be responsible for the field implementation of the project. Each PCU will be headed by a coordinator and will consist of a team trained to facilitate RUGs and RUAs across the aimag and a team trained to set up HPO and facilitate market access. An engineer or a technical expert will be recruited to design and place infrastructure under Output 2. In addition the PCU will retain procurement and admin support.

147. Regarding the flow of funds, UNDP will transfer funds to the Ministry of Finance as per agreed work plan with the Implementing Partner. Based on the work plan agreed by the Implementing Partner, the Ministry of Finance will then further allocate funds to Responsible Parties for implementation. See flowchart below for the flow of funds. For Output 3, UNDP will not transfer funds to the Ministry of Finance. As UNDP provides support services to MET, budget related to Output 3 will be managed directly by UNDP as per requested services formalized in LOA.



B.5. Justification for GCF funding request (max. 1000 words, approximately 2 pages)

148. Climate change is significantly impacting the livestock sector, both through the drying effects that climate change is having on the natural resources upon which herders rely, as well as the dzud events which are increasing in frequency. In response, the government allocates budgetary resources through targeted government programmes to minimize losses and to protect the population and economic assets. Despite these investments, the performance of government programs is often sub-optimal, disconnected and geographically scattered. Considering the scale and complexity of the problem in a large country such as Mongolia, support is needed the government does not have the resources to provide end-to-end support such as the approach proposed in this project. Without intervention, recovery and relief costs will continue to grow, while the underlying challenges remain.

149. Government investment in adaptation has been increasing within the framework of relevant National Programmes, including those on livestock, cashmere and water, with only 10-20% of the investment secured through external/donor assistance. Costs of adaptation, however, are formidable. A study conducted by the Asian Development Bank posits that the minimum and maximum costs of adaptation across climate scenarios span a range from USD50 million to USD560 million per year for Mongolia with the highest maximum relative cost of adaptation (8.5% of baseline expenditure) compared to other East Asian countries³³. The Mongolia NDC estimates that based on current adaptation

³³ Westphal, Michael I.; Hughes, Gordon A.; Brömmelhörster, Jörn, Economics of climate change in East Asia. Mandaluyong City, Philippines: Asian Development Bank, 2013.

undertakings and gaps, Mongolia will need approximately USD 3.4 billion in technology and capacity building to meet the adaptation shortfall by 2030. The required investments estimated for the livestock, water and disaster management sectors are USD46 million, USD2.4 billion and USD65 million respectively.

150. GCF resources will complement government investment to ensure that planning related natural resources management and the livestock sector are informed by climate change, and that policies take a longer term towards climate resilient development. Through analytical products and technical support will inform public investment in improved coordination, mobilization of communities to invest in managing natural resources, encouraging herders to invest in land and water management, and through positive externalities, incentivize private sector investments beyond the project lifetime. The project brings together a number of interventions extensively tested, piloted and proven into an innovative package that provides end-to-end solutions to overcome barriers faced by herder households in Mongolia.

151. GCF funds will be critical to support with the upfront costs of setting up systems to build climate resiliency into these initiatives starting with the application of climate information in planning sustainable landscape interventions then bringing interventions to scale and finally connecting the sector to markets for the development of climate resilient value chains. The project is also designed to support enterprise development and mobilize SMEs and private sector investments. By crowding in public and private sector financing and mobilizing community-level investments, GCF resources will help lay the critical foundation for transformational change.

152. Taking into consideration factors such as a) the nature of benefit arising out of the project, b) climate change being the key driver, c) weaker economic nature of the target population, d) Mongolia's current economic situation, e) the persistent risks and IMF's recommendations and f) the catalytic nature of the GCF grants, the following is noted:

- There is significant co-financing from GoM (70%) and there is no incremental ability to stretch their contributions owing to budgetary and fiscal consolidation reasons as mentioned above.
- The nature of the benefits does not accommodate repayment of capital in whatever form or serviceability of a loan instrument.
- The nature of the beneficiaries and the level of essentiality of the service does not accommodate repayment of capital in whatever form or serviceability of a loan instrument.
- Hence, GCF is recommended to reduce / close the existing financing and knowledge gaps and barriers to improve resilience of Mongolia's herder population to climate induced impacts on water and pasture land resources by bringing in catalytic capital in the form of GCF grants.

B.6. Exit strategy and sustainability (max. 500 words, approximately 1 page)

153. The proposed project has been designed in close consultation with and involvement of relevant government agencies and technical line departments, international development partners such as ADB, SDC, IFAD and FAO, and national private sector groups. These consultations and discussions, combined with tried and tested models for improved and resilient land and water management that are detailed in the Feasibility Study (Annex 2) provide the project with a sound approach and suite of interventions which are implemented with strong community participation and engagement of local officials. Building on this foundation, the project ensures that the investments as well as the results of the interventions are sustained beyond the project period and in the longer-term through the elements of project design and implementation.

154. With the technology and training provided to NAMEM by the project, the agency will continue to be able to serve the country with accurate climate change modelling and forecasting. This capacity will remain with the agency for the lifetime of the technology. Likewise, the technology and capacity building provided to NEMA will act as a pilot to be replicated in aims not covered by this project.

155. GCF resources will invest in building capacities for climate-resilient, integrated solutions following a landscape or ecosystem approach based on river basins, soums and rangelands. The project promotes planning and coordination across government officials and communities to overcome the sectoral and piecemeal approach to land and water management that had been adopted in the past. Project outputs will also contribute to enhancing organizational capacity of herders to plan for and implement climate-risk informed local land and water management solutions, adopt technologies and systems for climate-smart production and integrate climate information and advisories ensuring their financial and human resource viability post-project. Considering that the project anchors all land and water management investments through agreements negotiated between herder groups and local government, the project promote explicit ownership of these investments. By doing so, the project will not only ensure that the investments respond to beneficiary needs but also ensure that community organizations, including youth and women's groups, will have sufficient technical

and financial capacity to keep improving system design and operations, even as climate variability increases and seasons become more unpredictable.

156. The agreements will also include O&M provisions with contribution from both the community and the local government. These agreements will last beyond the project period and will be designed in a way that the communities can hold the local government accountable and vice versa. The type of investments proposed are not technically complex, therefore the materials required for O&M will be readily available.

157. Through Output 3 the project intervention is to essentially provide the required viability gap funding to activate market forces. Upon project completion, the Herder Producer Organizations as a unit and the members as individuals will have organizational and marketing capacity to continue to engage with private sector in a manner that continues to be profitable for both parties. Likewise, once the value chains are established and functional, market incentives should serve to reinvest for their maintenance.

158. The project leverages domestic co-financing in the form of government financing that supports baseline funding of the proposed interventions as well as co-mingling of resources to support project implementation. Co-investments for the project include investments from the National Mongolian Livestock Programme focusing on animal health and value chain development, and from MET towards rehabilitation and O&M in the project targeted river basins and soums.

159. There are a number of measures to support future finance for sustainability of GCF investments, as well as further replication and upscaling. Climate information, as well as data related to the current and projected status of land/water resources and herder livelihoods, will be tailored to support these and ensure that climate risk and adaptation measures are fully integrated into programming.

Sustainable Management of Land and Water Resources

National and sub-national planning budgets

160. Given the public goods nature of land and water resources, public finance is critical to ensure sustainability and further upscaling. Public planning currently does not fully integrate climate risk into plans. From the use of natural resources only, MNT 543 billion (USD 200 million) in fees are collected in 2015 alone and are primarily available to local governments to re-invest back to restoration and rehabilitation measures. Taking climate impacts into consideration, the project will help ensure that these considerable resources are used for their intended purpose to implement effective EbA measures.

BIOFIN & Mongolia Conservation Trust Fund (MCTF)

161. BIOFIN supports countries with a methodology that provides innovative steps to measure current biodiversity expenditures, assess financial needs, identify the most suitable finance solutions and provides guidance on how to implement these solutions to achieve their national biodiversity target. In Mongolia, BIOFIN phase 1 studies revealed key measures to successfully conserve and sustain biodiversity a long-term sustainable financing solution should be established based on the right policies and incentives, strong governance and institutional management, community participation, and private sector involvement. One of the proven international best practices to develop such long-term sustainable financing solution is to establish Mongolia Conservation Trust Funds (MCTF), which can attract resources from both international and local resources, increasingly focusing on private sector funding.

162. While the BIOFIN assessment suggested a specific biodiversity fund, this recommendation may be incorporated into the existing Environment and Climate Change Fund in Mongolia. The fund seeks “to ensure effective and efficient allocation of funds for the protection and rehabilitation of natural areas most valuable to human and wildlife well-beings, and sustainable utilization of its resources based on robust findings of environmental and field surveys, and through innovative technological applications and enhanced non-governmental participation in the monitoring policy implementations by raising public awareness and knowledge on environmental education and policies.”

Sustainably Sourced Livestock Products

National Mongolian Livestock Programme

163. Livestock is a critical sector in Mongolia, and it is increasingly vulnerable to the impacts of climate change. The livestock programme will be reviewed in 2021 and is expected to continue in a form of different programmes, including National programme to support intensified livestock husbandry and a Programme on Sustainable livestock development. In 2018 alone, MNT64.9Bln (~\$24.3Mln) was invested for implementation of the Livestock programme. At the same time, interventions implemented within the Animal health (2016-2020) and Cashmere programmes (2018-2021) are aligned with the Livestock programme objectives and funds allocated to these will be additional to the livestock programme. MoFALI is a key partner in the project and the GCF project will collaborate closely with the

Livestock Programme – supporting climate informed planning, as well as ensuring this significant public investment is guided towards sustainability and climate resilience going forward.

Cashmere Program & Mongolia Multi-Stakeholder Sustainable Cashmere Platform

164. 30% of the world's cashmere comes from Mongolia. It is critical to the Mongolian economy, and this is especially relevant given the degrading quality of the commodity, due to climate impacts and other factors including poor practices. The Government of Mongolia's Cashmere Program seeks "to increase the level of deep processing up to 60%, increasing the production of final end garments and exports of such goods, and an international level competitive capacity of such products." This investment in local processing could yield significant gains, in line with the government's development goals of gain more value in processing, rather than focusing on raw materials. This, in combination with the National Mongolian Livestock Programme, which focuses on animal health (relevant to meet phytosanitary standards for export) are expected to over time reduce the number of livestock. The GCF proposal will support these programmes with tailored climate information and related capacity strengthening to ensure climate-informed planning and public investment going forward.

165. Further, the traceability work will help to ensure sustainably sourced products for which there is a premium, can be appropriately tracked and verified to respond to the increasing consumer demand as well as political pressure (e.g. Fashion Pact) for sustainably sourced products related to the fashion industry. UNDP's work on applying blockchain technology in cashmere traceability was found feasible and will be essential to continue the initiative.

166. Supported by UNDP, stakeholder consultations have begun for the establishment of the Mongolia Multi-Stakeholder Sustainable Cashmere Platform. The platform is a national level umbrella mechanism, committed to collective action towards producing cashmere in a way that is "respectful to the environment, expands social and economic benefits for herders and their communities and ensures animal welfare." The platform brings together leaders from industry, herders, government, civil society and development partners. Private sector parties which have formally supported establishment of the platform thus far include: Theory, Tommy Bahama, UPW, Next Retail, Tiger of Sweden, The Schneider Group, H&M Group, NOYA Fibres, Lindex and Garnet Hill.

167. The platform seeks to establish Mongolia as a global leader in sustainable cashmere. For this to happen, GCF project will collaborate closely with the platform to ensure herder and environmental needs are considered in their deliberations and vice versa to ensure herders are able to meet the sustainability standards to be defined by the platform (i.e. at present there is no universal definition of sustainably sourced cashmere). This platform will help support the critical link to markets that herders and SMEs along the supply chain need to commit to producing sustainably sourced products.

Impact Investment Fund

168. Exploratory work is ongoing by UNDP to support the establishment of an inclusive business investment fund linking equity deployment to sustainable environmental and social outcomes. Initial research and consultations indicate the potential for a \$20 million 10-year closed-ended fund to catalyze capital and provide technical assistance towards sustainability in the livestock sector and climate-resilient livestock products. The fund would support key value chains, including, principally, fibres, feedstuffs and fodder, leather and hides, storage/warehousing, packaging, logistics/distribution, veterinary services. The focus is on both domestic and export opportunities. Such a vehicle can prove pivotal in supporting herders to access markets for sustainably sourced, climate-resilient livestock products.

169. The establishment of an impact investment fund would serve to demonstrate the viability and profitability of investing in Mongolia's livestock sector and would further drive additional private sector investment. It is believed that by improving the value chain by investing in it will unlock pent-up domestic and international demand for high quality and sustainably produced raw materials, and semi-finished and fully finished products. Doing so will have the additional benefit of relieving some pressure on publicly funded development interventions and technical assistance. Initial indications are that there is significant interest among development finance institutions, multilateral development banks, large apparel manufacturers for funding an impact investment fund. Potential investors include private sector actors, development financing institutions (DFIs), multilateral development banks (MDBs), foundations, family offices, and high net-worth individuals.

170. Establishment of a responsible investment fund would leverage the activities included in Output 3 and embed their long-term sustainability by first demonstrating the viability and profitability of investment in Mongolia's livestock sector, and crowding in private sector investment in additional funds thereafter. In this way, the untapped domestic and international demand for raw materials and products derived from the five value chains listed can be translated into concrete investment opportunities which reduce the need for publicly-funded development interventions and technical assistance.

171. UNDP will also collaborate closely with ADB and its Aimag and Soum Centers Green and Resilient Regional Development Investment Program (ASDIP) ensuring synergies and complementarity. ASDIP will establish the Green Inclusive Regional Agribusiness Fund (GIRAF) using a blended finance strategy, leveraging ADB and GCF funding to attract additional investments from commercial banks and nonbank financial institutions, small-, medium, and even large enterprises, agricultural cooperatives, and the government. The fund will address the financing constraints preventing agriculture cooperatives and agribusiness enterprises in the aimag and soum centers of Mongolia from capturing the full benefits of a well-functioning, inclusive, and climate-resilient livestock agribusiness value chain. Based on lessons learned and emerging best practices in agriculture finance, it is a response to the financing gap referred to as the missing middle, defined as the unmet capital needs of small-scale agriculture producers and SMEs, which has become significantly evident in the targeted aimags and soums. The fund will use a blended finance strategy to support financial inclusion and effectively link sustainable and resilient rangeland management to green, competitive, and economically diversified investments in the livestock agribusiness value chain. It will promote the use of innovative finance, including agriculture value chain finance, credit guaranty mechanisms, and performance-based grants, in unlocking and expanding access to finance by the missing middle through alternative options for addressing risk-adverse finance conditions, high collateral requirements, unaffordable interest rates, and rigid repayment terms.

C. FINANCING INFORMATION

C.1. Total financing

(a) Requested GCF funding (i + ii + iii + iv + v + vi + vii)		Total amount		Currency			
		23,101,276		USD			
GCF financial instrument		Amount	Tenor	Grace period	Pricing		
(i)	Senior loans	N/A	N/A	N/A	N/A		
(ii)	Subordinated loans	N/A	N/A	N/A	N/A		
(iii)	Equity	N/A			N/A		
(iv)	Guarantees	N/A	N/A				
(v)	Reimbursable grants	N/A					
(vi)	Grants	23,101,276					
(vii)	Results-based payments	N/A					
(b) Co-financing information		Total amount		Currency			
		56,200,000		USD			
Name of institution		Financial instrument	Amount	Currency	Tenor & grace	Pricing	Seniority
Ministry of Environment and Tourism (MET)		Grant	20,000,000	USD	N/A	N/A	N/A
National Emergency Management Agency (NEMA)		Grant	3,000,000	USD	N/A	N/A	N/A
Ministry of Food, Agriculture and Light Industry (MoFALI)		Grant	33,200,000	USD	N/A	N/A	N/A
(c) Total financing (c) = (a)+(b)		Amount		Currency			
		79,301,276		USD			
(d) Other financing arrangements and contributions (max. 250 words, approximately 0.5 page)		N/A					

C.2. Financing by component

172. The total budget for the proposed project is USD 79.301 million – USD 23.101 million in GCF resources and USD 56.200 million in co-financing.

173. Of the USD 79.301 million of project costing, 71% of the necessary budget resources or USD 56.200 million is co-financed by the Government of Mongolia (GoM). Taking into consideration the challenges faced in attracting loans, significant hurdles in involving private commercial actors and the poor affordability of target population for climate services, GCF grants are the best suited mechanism. This grant will act as catalytic capital that will crowd in further private investments. The GoM is bringing substantial resources to the project demonstrates its commitment to improve climate resilience of the herder community as an essential service to the population. In addition, the project proposal involves crowding in public and private sector financing and mobilizing community-level investments into the activities. GCF funding through this project will also facilitate sustained public and private participation. Not only does GCF's grant contribution catalyze 70% of the project budget, but also builds significant capacities which in turn is expected to attract livelihood enhancing private capital investments.

	MoFALI	MET	NEMA	NAMEM	Aimag Govt	Total
A. Co-financing during the Project Period						
Cash	33.200	20.000	3.000	N/A	N/A	56.200
Total A	33.200	20.000	3.000	0	0	56.200

B. O&M, including post-project period						
O&M	N/A	N/A	N/A	0.560	1.583	2.143
Total B	0	0	0	0.560	1.583	2.143
Total (A+B)	33.200	20.000	3.000	0.560	1.583	58.343

Co-financing:

174. The Ministry of Environment and Tourism (MET) has committed USD 20 million (cash) grant for technical capacity for climate-informed planning, sustainable natural resources management, ecosystems based adaptation and project management. Related to Outputs 1, 2, 3 and project management, the co-financing will support:

- Improvement of policy and regulatory framework for climate resilient development planning and ecosystem based natural resources management – USD 1 million (Activity 1.3, 3.4)
- Natural spring protection – USD 0.5 million (Activity 2.2)
- Implementation of Integrated Water Resources Management Plans through 14 River Basin Administrations in four target provinces – USD 3 million (Activity 1.2, 2.1)
- Water catchment protection and reforestation – USD 3.5 million (Activity 2.2)
- Establishment of hydro-meteorological stations in target provinces – USD 4 million (Activity 1.1)
- Capacity development for hydro-meteorology service professionals – USD 1.5 million (Activity 1.1, 3.4)
- Financing of climate change adaptation measures through Environment and climate change fund – USD 5.5 million (Activity 2.3, 2.4)
- Project management support – USD 1 million

175. The National Emergency Management Agency (NEMA) has committed USD 3 million (cash) grant to support emergency preparedness and response resulting from enhanced seasonal forecasts under Output 1 and 2, specifically:

- Implementation of capacity improvement for the central and local level NEMA to coordinate and plan responses to slow onset natural hazards– USD 1.5 million (Activity 1.1)
- Establishment of emergency supply storage facilities in target provinces – USD 0.8 million (Activity 2.3)
- Financing for early warning system operation – USD 0.7 million (Activity 1.1)

176. Critical to the success of the project will be close implementation with the National Mongolian Livestock Programme. The Programme will address challenges in the country related to a) animal health and meeting international hygiene standards for livestock products and b) supporting the necessary planning and policy transformation to ensure livestock numbers do not exceed the carrying capacity of the land – incentivizing sustainable practices in the livestock sector and enabling access to markets for Mongolian livestock products. The Ministry of Agriculture and Light Industry (MoFALI) has committed USD 33.2 million from the National Mongolian Livestock Programme as co-financing to Outputs 1, 2, 3 and project management, namely for:

- Livestock vaccination programme against sheep pox, bovine PPR, pleuropneumonia, bovine spongiform encephalopathy and Foot and Mouth Disease. USD 1.71 million annually and USD 12 million for the project duration (Activity 1.1, 1.2, 1.3, 2.1, 3.2, 3.3, 3.4)
- Establishment of groundwater wells for improved pastureland management – USD 2 million for the project target provinces (Activity 2.4)
- Animal breeding services through 68 centers in four aimags – USD 1.3 million (Activity 2.1)
- Livestock traceability improvement, ear-tagging and database – USD 5 million (Activity 3.3)
- Livestock fodder production – USD 4.8 million (Activity 2.3)
- Establishment of hay and fodder reserves in target provinces – USD 1.3 million (Activity 2.3)
- Pastureland improvement and rodent control measures in target provinces – USD 3.5 million (Activity 2.2)
- SME financing support to agriculture producers – USD 1.3 million in target soums (Activity 3.1)
- Project management support – USD 2 million

177. The proposed budget for the GCF project is presented below.

Component	Output	Indicative cost (USD)	GCF financing		Co-financing		
			Amount (USD)	Financial Instrument	Amount	Financial Instrument	Name of Institutions
Improving Adaptive	1. Integrate climate	16,436,744	5,236,744	Grants	11,200,000	Grants	MoFALI, MET, NEMA

Capacity and Risk Management of Rural Communities in Mongolia	information into land and water use planning at the national and sub-national levels						
	2. Scaling up climate-resilient water and soil management practices for enhanced small scale herder resource management	37,303,118	11,103,118	Grants	26,200,000	Grants	MoFALI, MET, NEMA
	3. Build herder capacity to access markets for sustainably sourced, climate-resilient livestock products	21,445,864	5,645,864	Grants	15,800,000	Grants	MoFALI, MET
	Project Management Costs	4,115,550	1,115,550	Grants	3,000,000	Grants	MoFALI, MET
Indicative total cost (USD)		79,301,276	23,101,276	56,200,000			

Parallel financing:

178. The project will also ensure synergy and complementarity with related interventions.

179. ADB's Aimag and Soum Centers Green and Resilient Territorial Development Investment Program (ASDIP) is currently under review by GCF. The integrated project brings together rangeland, agri-business and urban areas - linking green urban development, resilient and low-carbon rangeland management, and sustainable green agrobusiness value chain into an overall green and resilient agro-territorial development framework. The first tranche will apply similar measures related to rangeland management and support to herder livelihoods in the Bayan-Ulgii, Khovd and Uvs aimags. The ADB project scope further explores access to financing and credit risk guarantee for agri-business companies and agri-cooperatives.

180. The *Ensuring Sustainability and Resilience (ENSURE) of Green Landscapes in Mongolia* project, funded by the Global Environment Facility (GEF) commenced activities in 2019. The biodiversity project will support complementary activities related to rangeland management and sustainable value chains in the Zavkhan aimag. Implementation of the GCF project will ensure complementarity with the GEF project, thereby maximizing impact of combined resources.

181. GCF will complement ongoing work through the ENSURE project and UNDP to establish a multi-stakeholder cashmere platform, which will clear and disseminate market information of sustainable cashmere in a transparent and inclusive manner. Platform objectives include:

- To formulate and implement a collective action plan that addresses the root causes limiting the sustainability of cashmere in Mongolia;
- To influence and harmonize government policy that ensures a strong and coherent legal and institutional framework for sustainable cashmere in Mongolia;
- To establish partnerships and coordinated investments and actions that accelerates current efforts;
- To position Mongolia as a global leader for sustainable cashmere.

182. Activities include coordination among all suppliers, intermediaries and buyers, determining/providing sustainability definition, measurement and traceability solutions, and proposing buyer engagement mechanisms and incentives for herders. The draft roadmap has been disseminated among all stakeholders for their feedback. The Platform Steering Committee is expected to represent seven organizations: Mongolian Wool and Cashmere Association (MWCA), Mongolian National Federation of Pasture Users Group (NFPUG), MOFALI, MET, UNDP, the European Union (EU) and a domestic cashmere company. Six working groups will also be established to focus on a) consensus on sustainability, b) market access c) capacity building d) incentives and financing (one sub-group on access to finance and one sub-group on developing an investment vehicle e) enabling environment and f) technology.

183. In addition, and related to the above though representing a wider range of livestock products, exploratory work is ongoing by UNDP to support the establishment of a responsible investment fund. Initial research and consultations indicate the potential for a USD 20 million 10-year closed-ended fund to catalyze capital and provide technical assistance towards sustainability in the livestock sector and climate-resilient livestock products. The fund would support key value chains, including: meat, dairy, abattoirs, feedstuffs and fodder, agro-processing, fibers (cashmere, wool, etc.), leather and hides, storage/warehousing, packaging, logistics/distribution, veterinary services, catering. Focus is on both domestic and export opportunities. Such a vehicle can prove pivotal in supporting herders to access markets for sustainably sourced, climate-resilient livestock products.

184. Critical to the success of both the platform and the fund, is traceability of climate-resilient livestock products, to that end, GCF will upscale the traceability blockchain technology, piloted by UNDP and the Sustainable Fibre Alliance (SFA)³⁴.

185. The overall focus of project is particularly timely, given ongoing developments in the fashion industry. The Fashion Pact was presented during the G7 in Biarritz, France (2019). The Pact lists a set of commitments, including: Supporting climate adaptation and resilience through sustainable sourcing of key raw materials, Regenerative approaches to agriculture that restore soil and grasslands and optimize biodiversity on farms, Eliminate the sourcing from intensive feed-lot based farming and supporting production systems that optimize the animals' time on natural pasture aligned with the adoption of animal welfare standards across the industry, Supporting material and process innovations that have no negative impact on key species and ecosystems, Ensuring that practices do not contribute to the loss or degradation of natural forests, and Supporting actions throughout supply chains that restore natural ecosystems and protect key species. 32 companies representing approximately 150 brands have already joined the Fashion Pact - indicating a growing potential for further private investment in sustainably sourced livestock products such wool, cashmere and leather, which are supported by the GCF project.

186. Further, the mitigation co-benefits of the project can contribute to the Fashion Industry Charter for Climate Action (COP 2018) – Prompted by the UNFCCC, it includes a target of 30% GHG emission reductions by 2030 and a commitment to analyze and set a decarbonization pathway for the fashion industry drawing on methodologies from the Science-Based Targets Initiative. The Charter includes over 70 signatories including Stella McCartney, Adidas, Gap, PVH, Kering, Burberry, Guess, and Inditex.

C.3 Capacity building and technology development/transfer (max. 250 words, approximately 0.5 page)

C.3.1 Does GCF funding finance capacity building activities? Yes No

C.3.2. Does GCF funding finance technology development/transfer? Yes No

187. Capacity building is an important part of the project. Capacity building tailored to different groups is captured in each of the Outputs. Under Output 1, training is provided to NEMA, NAMEM and MoFALI on analyzing climate information and applying it to planning (approx. USD 3.5 million). Under Output 2, technical support and guidance is provided to RUGs in developing RUAs and O&M of related investments (approx. USD 1 million). And under Output 3, training and support will be provided to HPOs to develop PPCP Agreements and related to provide training services in Production, Post Harvest Processing and Value Addition (approx. USD 800,000).

188. There are two significant investments in technology transfer. Under Output 1, the project will procure a high performance computer for analysis and forecasting (USD 1.5 million, incl installation and training of NAMEM engineers). NAMEM has confirmed an appropriate space and regular personnel to operate and maintain the computer, as well as

³⁴ The Sustainable Fibre Alliance (SFA) is a non-profit international organisation working with the extended cashmere supply chain, from herders to retailers, with a “to promote a global sustainability standard for cashmere production in order to preserve and restore grasslands, ensure animal welfare and secure livelihoods”.

USD 60,000-80,000 per year for related costs. Regarding lifetime of the technology, this would depend largely on diligence related to O&M. As an indication, NAMEM's current system has been in operation for 15 years. Under Output 3, the project will support the scaling up of traceability for sustainably sourced livestock products, including the use of innovative technologies such as blockchain (USD 600,000).

D. EXPECTED PERFORMANCE AGAINST INVESTMENT CRITERIA

This section refers to the performance of the project/programme against the investment criteria as set out in the GCF's [Initial Investment Framework](#).

D.1. Impact potential (max. 500 words, approximately 1 page)

189. The direct beneficiaries of the project will be 26,000 herder households (130,000 people) in the four target aimags. As Output 1 national policy, indirect beneficiaries include all 160,000 herder households (800,000 people). The project will directly benefit 4.5% of the Mongolian population and indirectly 26%.

190. 47% of the people in the four target aimags are herders by livelihood. Across Mongolia 50% of the herders live below the poverty line with high rates of indebtedness. Considering the four aimags selected for the project are some of the furthest from the capital, the poverty rates are higher than the national average by 4% in the western provinces and almost 10% in the eastern region. Some of these families are single parent, female headed households. A gender-balanced approach will be taken and inclusion of female-headed households will be encouraged in all activities.

191. As the project will directly benefit 26,000 herder householders, the project is expected to improve food security to some extent in all households concerned. Although on average herder families consume sufficient calories, severe weather events cause livestock mortality which results in food insecurity. Food security of households will be enhanced by increasing income, by reducing livestock mortality through land and water management investments and by providing climate forecast and developing capacities to prepare and respond.

192. The core of the project is to improve the resiliency of the livestock sector through ecosystem based adaptation principles. The Resources Use Agreements supported by the project will be agreements within and between herder groups and local government to manage rangeland resources in an ecologically sustained manner sustainable manner informed by the integrated river-basin management plans, downscaled into soum level development plans. The project will make a substantial contribution towards developing the sector from its current subsistence level with high volatility towards a resilient system that is able to withstand economic and climate shocks through conserved ecosystem services, enhanced social capital and increased economic and livelihood security.

193. Output 1 and 2 further focus on the strengthening of institutional and regulatory systems for climate-responsive planning and development. In Output 1 GCF funds will invest in the national meteorological agency to enhance their capacity to forecast and inform development planning. MET, MoFALI, NEMA and aimag and soum governments will gain practical training and install climate responsive planning processes when they revise their development plans based on the climate forecasts developed by the metrological agency with GCF support. Through project interventions, Rangeland Use Agreements for the sustainable management of pasture will be implemented with local governments and ALAGaC.

194. The net outcome of project interventions will be strengthened adaptive capacity and reduced exposure to climate risks. The enhanced climate forecasting capacity, improved planning process, the implementation of improved land and water management, enhanced infrastructure and improved market access and value chain development will all contribute to enhancing the adaptive capacity of herder households.

195. The government of Mongolia and several international development partners have invested in the building of the hydrological and meteorological monitoring network in Mongolia. As the Feasibility Study shows, currently an adequately functioning network provides data and information to NAMEM. The project will invest in the generation of seasonal and long-term climate forecasting information and provide practical hands-on training in climate informed decision-making. Based on the training received the project will implement climate resilient water and land management practices in four aimags.

D.2. Paradigm shift potential (max. 500 words, approximately 1 page)

Potential for scaling up and replication

196. Interventions to address watershed and land degradation, protect herder livelihoods and develop value chains have been successful, but done in isolation. The GCF project brings together successful approaches, and applies a climate lens to address the challenges and barriers that inhibit climate resilience for Mongolia's most vulnerable sector and communities. With MET as the Implementing Partner, project interventions will support climate-informed natural resources management and integrated water resources management. Similarly, though close collaboration with the National Mongolian Livestock Programme, the proposed project will support integration of climate change into broader livestock planning.

197. This is the first project in Mongolia that promotes an end-to-end approach from climate forecasting to climate informed planning to implementation of ecosystem-based adaptation for land and water, to value chain development and market access to policy reform. Hitherto projects have focused on components in isolation whereas this proposed project targets all key aspect required to transform the sector from its current state to climate resiliency. At the watershed and rangeland level, the projects build on previous projects but adds a climate change planning component and ecosystem based adaptation components. The Resource Use Agreements which in previous projects focused on mostly management approaches, in this project will be complemented by climate resilient infrastructure development as well.

198. Building on methodologies pilot tested by other projects, this project builds climate resilience of the sector through community mobilization and ownership. The project lifts key barriers to sustainable rangeland management by forming Resource User Groups and by facilitating Rangeland and Water Use Agreements which instill ownership and accountability. Adherence to these agreements are further incentivized through investments in critical infrastructure that further consolidates climate resilient and sustainable land water use. These can be considered to second-stage innovative approaches to developing climate resiliency in contexts such as these where proven innovation is applied at a larger scale.

199. Another paradigm shifting component of this project is the public-private-community partnerships approach proposed in Output 3. Through this approach, the private sector will assume a pivotal role in the development of a climate resilient livestock sector in Mongolia and in promoting adaptation amongst marginal livestock herders. Output 3 is built on these agreements facilitated by the project between private sector and herder cooperatives or Herder Producer Organizations. The project will support herders in moving away from being price takers for products falling in value, towards being entrepreneurs with quality livestock products, not only sourced in a manner consistent with the changing landscape, but also consistent with private sector demand for such products. This is the critical element towards transforming livestock herders in Mongolia from subsistence pastoralists to profitable producers. This transformation in turn provides these herders the coping capacity to continue to adapt to future climate change. And by linking to the exploratory work in establishing a responsible investment fund, supported by UNDP, the proposed project ensures a market for sustainable livestock products.

200. This proposed project consolidates, integrates and scales up methodologies piloted by the GoM and other development partners. Therefore, this project provides the critical step required for scaling up and replication of a suite of integrated activities required to transform climate resiliency in the livestock sector in Mongolia.

Potential for knowledge and learning

201. The project facilitates improved knowledge generation, creation and sharing for collective and iterative learning among herders, development partners, technical agencies and their field officers. It will generate substantive knowledge on climate-informed land and water management, and on collaborative and participative multi-stakeholder processes. By updating integrated river basin management plans, developing river basin climate risk and adaptation profiles and options, and soum level resilience-based watershed plans, the project will develop a number of knowledge products including guidelines for integrated water resources planning, and O&M manual for upkeep of infrastructure. These products complement training of HPOs and other community organizations to evaluate risks and design locally suited adaptation measures. Knowledge generation and learning will address technical and infrastructure issues; support the production of climate resilient livestock products and enhance capacities of local communities and government agencies to operate and maintain technologies and sustain practices beyond the project lifetime.

202. Knowledge products and awareness raising products will be developed for different audiences, to inform investment by private sector, as well as to influence demand for sustainably sourced, climate resilient livestock products. By coordinating closely with the responsible investment fund-related work supported by UNDP, the proposed project will ensure value chains and resulting livestock products are consistent with buyer demand. An impact evaluation will document changes to landscapes, water resources and herder household revenue resulting from project interventions. Results will be analyzed to inform project implementation, with successes, best practices and lessons learned shared for further replication and upscaling.

Contribution to the creation of an enabling environment

203. The aim of developing public-private-community partnerships is to promote climate friendly and climate resilient markets for Mongolian livestock products. However, these partnerships are not in isolation they link back to the Herder Producer Organizations which link back to Resource Use Agreements and Resource User Groups. These links are not passive as the kind of public-private-community partnerships promoted by the project will require the backward traceability and collective action by herder groups thereby providing an incentive for herders to remain engaged with

these groups and in these agreements. Once barriers to marketable livestock sector are removed through traceability, better animal health and quality enhancement, continued private sector engagement is likely.

204. In the four target aimags, the project will serve to lift some of the barriers preventing Mongolia from accessing markets for livestock products. The changes enacted by the project and the transfer of knowledge to government departments and other development partners will promote the effective and sustained participation of private and public sector actors in low-carbon and/or resilient development beyond the project.

Contribution to regulatory framework and policies

205. The project is well timed and transformational given the approaching end to the ongoing phase of the National Mongolian Livestock Programme in 2021. The Programme sought to improve herd structure, while reducing overall livestock numbers by 16% by 2021 from 2008 levels. Discussions and preparatory work have begun for the next phase of the livestock programme, which will have a greater focus on climate smart livestock management and sustainability, and similarly will seek to improve herder structure, while reducing herd size. This builds on work started under the Fourth Priority Area of the ongoing programme: Develop livestock production that is adaptable to climatic and ecological changes with strengthened risk management capacity. This project will support climate-informed development of the national programme, which would be a successor to the ongoing National Mongolian Livestock Programme.. This includes herd size and herd structure targets, which are not only within carrying capacity of the land and do not overstress water resources, but also informed by the projected impacts of climate change on natural resources,

206. Importantly, the project will also support government to address key policy and regulatory barriers hindering climate resilience of the livestock sector. As described in Section C.2, the following are the main drivers incentivizing herders to expand livestock ownership resulting in the doubling of livestock numbers over the last 25 years and reducing their adaptive capacity due to ecosystem degradation and other reasons:

- Government subsidies – public transfer payments and credit are tied to number of livestock owned
- Lack of individual or group land tenure – land is owned by the state therefore a public non-exclusive good.
- Lack of markets – with unrestricted access to pasture and with the lack of access to markets off-take is far below replacement rate.
- Economic model for livestock value chains dominated by payments based on volume

207. The project will directly address these maladaptive policies and incentives through Activity 1.3 to support policy transformation. The key policies to be addressed are the draft Law on Pastureland, collecting pasture use fee, risk insurance mechanism, as well as other laws and regulations that are either in force or are being considered which inadvertently incentivize large herd numbers, or de-incentivize adaptive herding practices and unsustainable land and water use.

Collaboration with ADB to maximize impact of complementary efforts

208. This project will implemented in close collaboration with ADB's Mongolia: Aimag and Soum Centers Green and Resilient Regional Development Investment Program (ASDIP). The ASDIP program has four outputs:

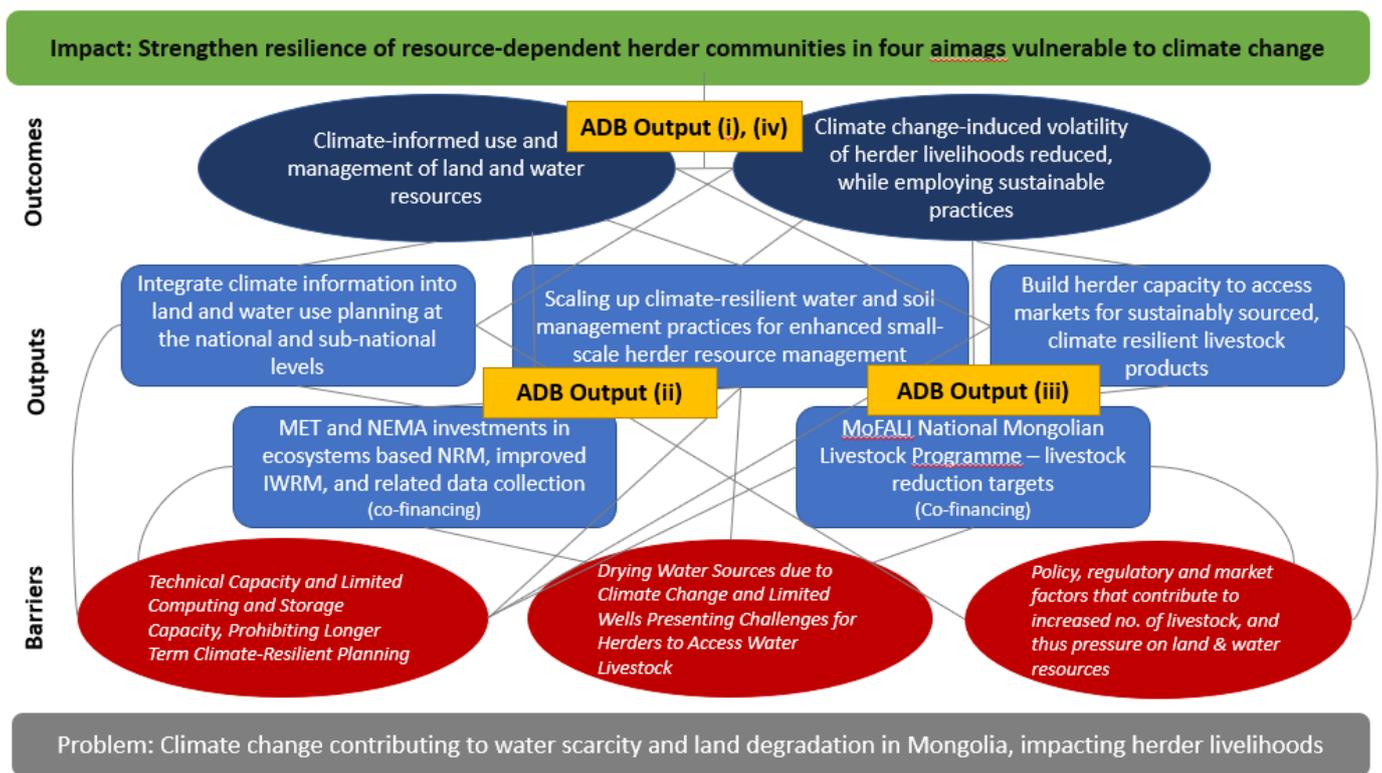
- (i) Climate-resilient, low carbon, and attractive Aimag and Soum Centers developed: Targeted Aimag and Soum centers become more resilient, offer better living condition, and support the development of green and inclusive agri-business value chain;
- (ii) Rangelands managed for climate resilience, high carbon sequestration, and sustainable herding: Rangeland health and resilience is improved, and support herders to produce healthier livestock and quality animal-based raw material, and have higher income;
- (iii) Low carbon, climate resilient and inclusive value chains created and strengthened through accessible finance: Agribusiness value chain is inclusive, support sustainable rangeland management, performant and access to financing and credit risk guarantee for agri-business companies and agri-cooperative is extended (financial intermediation loan [FIL] component); and
- (iv) Capacity building and policy development for green territorial development improved: Capacity building, institutional strengthening, policy improvement, and project implementation support. The program will be implemented for 10 years over three tranches.

209. Like the UNDP project, ASDIP Output (ii) also applies an integrated approach to better rangeland management and herder livelihoods in Mongolia, applying the same best practices. Through Outputs (i) and (iii), ASDIP takes a step further, bringing in green urban development and access to finance. By developing climate-resilient, low carbon, and attractive aimag and soum centers, ASDIP addresses a key challenge related to lack of facilities and services that prevents herders from staying near the aimags and instead migrating to Ulaanbaatar. Improved access to finance under ADB's Output (iii) will benefit herders, herder cooperatives, SMEs and in general the livestock agribusiness value chain – of relevance to herders and cooperatives supported by both projects as well as the value chain on which they

depend. ASDIP's Output (iii) complements both UNDP (e.g. supporting SMEs for sustainably sourced products) and the National Mongolian Livestock Programme, which is co-financing under UNDP project (e.g. ADB providing incentives to reduce livestock numbers, National Mongolian Livestock Programme has animal reduction targets). Further details of ASDIP (iii) are as follows:

- 1) Financing for small- and medium-sized enterprises (SMEs), including herders' agricultural cooperatives, and herders engaged in sustainable rangeland management and urban-rural linkages, and the reinvigoration of the livestock agribusiness value chain;
- 2) Financing for medium-sized to large enterprises and herders involved in sustainable rangeland management and urban-rural linkages, and the integration as well as economic diversification of the livestock agribusiness value chain;
- 3) A credit guaranty facility to provide credit risk mitigation for financial institutions participating in the project and to facilitate the acceptability of collateral substitutes to be developed as part of the project's agribusiness value chain financing schemes; and
- 4) Green innovation grants to provide business incentives designed to commercialize innovations leading to a greener, more inclusive, and competitive livestock agribusiness value chain.

210. Below is UNDP's Theory of Change diagram, with indication of where ADB's Outputs apply. The barriers identified by UNDP are relevant as well to ADB's Outputs (ii) and (iii).

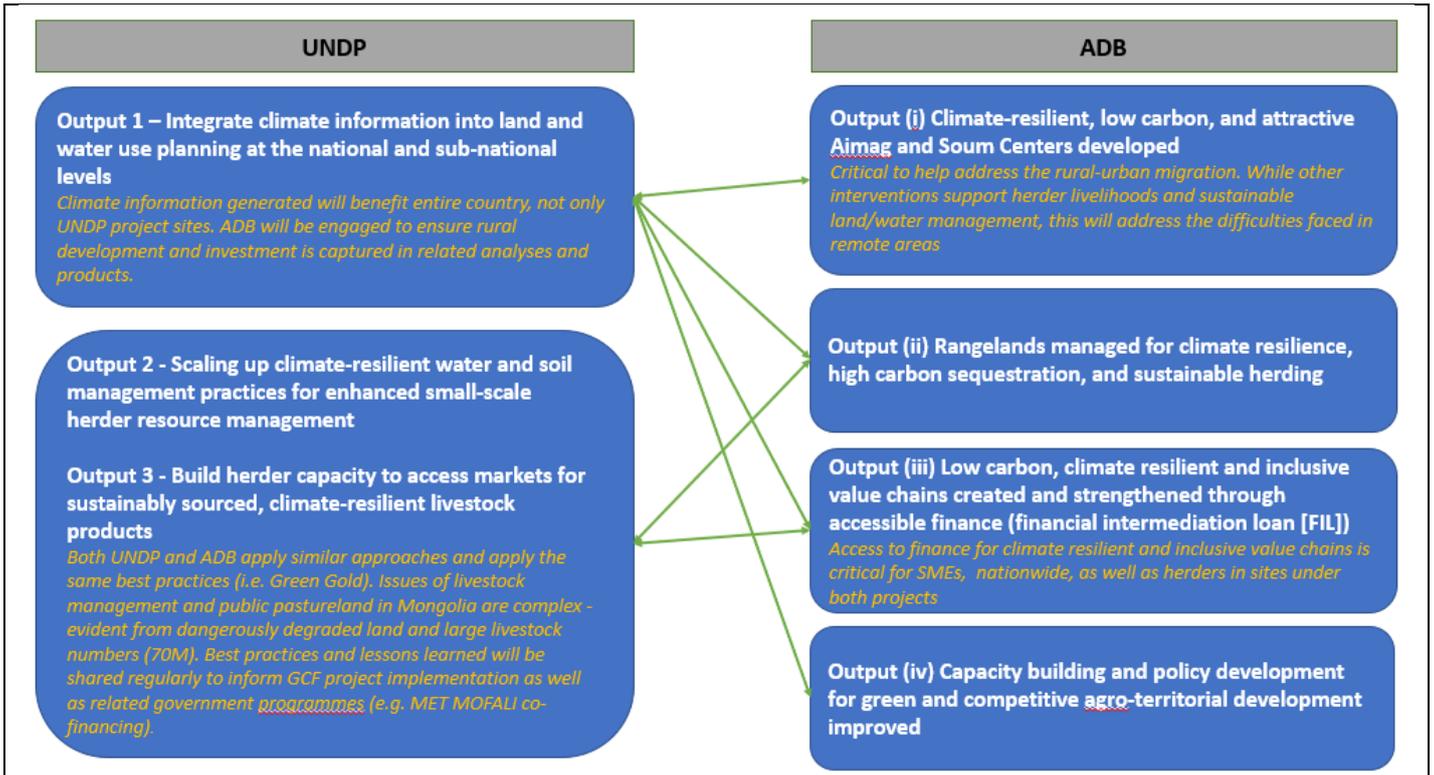


211. The climate information supported under Output 1 of the UNDP project can benefit all of ADB's activities. Specifically, UNDP will collaborate with ADB on the following sub-activities to ensure information considers rural development and value chain development needs:

- 1.1.3. Support development of guidelines for climate risk informed land, water and livestock planning to be adopted at the national and aimag level
- 1.1.4. Support to MoFALI to integrate climate change and risks and plan for long-term climate resilient development at the national and aimag level (dissemination and application following Development Planning Law)

212. Similarly, under Activity 1.3. Analytical products to support policy and regulatory transformation promoting sustainable land and water management and resilient herder livelihoods, UNDP will work with ADB to identify and develop tailored products which could inform green development.

213. These links have been broadly illustrated in the below diagram:



214. The complementary nature of the two projects, and the overlapping project duration periods, presents a timely opportunity to maximize impact through collaboration. To facilitate this, 1) UNDP and ADB will enter into an MOU to coordinate efforts and sequence project interventions, and 2) ADB is invited as an observer on UNDP's Project Board (see also, B.4. Implementation arrangements).

D.3. Sustainable development (max. 500 words, approximately 1 page)

215. Environmental Co-Benefits: The main value proposition of the project is to promote climate change adaptation through the sustainable management of land and water management. Anchored in an ecosystem based approach (EbA), the proposed project will drive the improvement of management approaches across water catchments supporting a significant portion of Mongolia's herding populations and globally important ecosystems. The interventions will result in significant short and long-term benefits from setting in place comprehensive EbA programming across some of the world's most remote landscapes.

216. Both Output 2 and 3 of the proposed project, informed by Output 1, will lower grazing pressure on vulnerable steppe and mountainous ecosystems bringing livestock numbers closer to carrying capacity thereby a) improving regeneration of fragile pasture land and reducing competition with wild ungulates, b) improving water quality for endemic fish species, and c) maintaining internationally important migratory bird habitats.

217. Without the proposed interventions, resource degradation will further continue to cause loss of ecosystem services, a decrease in vegetation density and available biomass, soil erosion through wind and associated dust storms that also affect neighboring countries. With the proposed project interventions, hydrological regimes will be stabilized (runoff, discharge, infiltration, storage, recharge, and associated silt and sediment loads etc.). Healthy, natural vegetation will be able to sustain biodiversity, improve pasture quality and biomass, erosion and desertification control, as well as better control of wildfire.

218. By promoting better pastureland management and reducing desertification, the proposed project will generate significant carbon sequestration gains. Contributing 40% of Mongolia's GHG emissions, methane is the second major type of GHG due to a high number of livestock (70.9 million as of 2019). Most of the country's methane (85%) is generated by enteric fermentation in digestive tracts of animals and discharged by the animals. Methane is 23 times

more potent than carbon dioxide as a GHG³⁵. As such, implementation of a sustainable livestock management measures will result in significant reduction of GHG in the country.

219. As per estimations made by applying IPCC guidelines, good land management practices would result in estimated carbon sequestration potential of 0.85 tCO₂ per hectare for a medium-degraded pasture for a typical soil type in Mongolia. Therefore, with the ~28.3 million ha of pastureland in four target aimags (Land use report, 2016), estimated annual carbon sequestration potential can be as high as ~24Mln tCO₂ per annum. Following a more conservative estimation, the sequestration potential is approximately 3.6 Mln tCO₂ per annum or 72 MtCO₂ for the 20 year project life.

220. Economic Co-Benefits: About 14% of Mongolia's GDP or about USD1 billion is generated by the livestock sector. Comparatively, with roughly the same number of animals, other countries generate significantly more economic output from the sector. The project will implement a comprehensive process to address animal health through vaccination programmes (co-financing) and improving pasture management, support traceability for sustainably sourced, climate resilient livestock products and build herder capacity to access related markets. This will result in significant economic co-benefits to the wider economy through multiplier effects of not only enhancing the economic wellbeing of the herder groups but also throughout the value chain and to the country. The lessons learned from this project, when replicated throughout Mongolia, will further expand economic co-benefits.

D.4. Needs of recipient (max. 500 words, approximately 1 page)

221. The overall poverty rate in Mongolia was 28.4% in 2018, with a higher rate of 30.8% in rural areas. The poverty rate in rural areas declined by 11.7 percentage points in 2014 from the 2012 levels, but resumed back by 10.1 percentage points in 2016 – indicating the fragility of those earlier gains and vulnerability of those near the poverty line to minor socio-economic difficulties and weather conditions³⁶. The 2016 Household Socio-Economic Survey shows that those who were just above the poverty line in 2014 have slipped back into poverty in 2015-2016³⁷.

222. Herder households make up the majority of the rural population. Livestock accounts for 90% of the agriculture sector and represents 85% of all 332 soum economies in the 21 provinces of the country. Herder households in the target aimags are particularly vulnerable. The target aimags of the proposed project are in the Western and Eastern regions, which have consistently been among the poorest in the country.

Region	Poverty Rate					
	2010	2011	2012	2014	2016	2018
Western	52.7	40.5	32.2	26.0	36.0	31.8
Khangai	51.9	49.1	38.5	25.3	33.6	30.8
Central	29.9	28.1	28.2	22.2	26.8	26.1
Eastern	42.3	40.0	33.4	31.4	43.9	37.4
Ulaanbaatar	31.2	25.8	19.9	16.4	24.8	25.9

Source: National Statistical Office (NSO) & World Bank (2019)

223. Prominent extreme disaster events affecting Mongolia are droughts and dzuds (episodes of extreme cold and heavy snow). Studies indicate drought as the most serious extreme disaster affecting the country in the last 50 years showing an increasing trend in the area affected by drought from 1951 to 2012³⁸. As for snow, a long duration of snow cover of a certain depth can result in a dzud disaster event in Mongolia due to the predominant pasture herder based livelihoods. With increasing climate variability, government officials and herder representatives indicate that the frequency of dzuds has increased³⁹.

224. Droughts in combination with the dzud lead to major losses of livestock, impacting herder livelihoods. For example, almost 30% of livestock perished as a consequence of the dzud of 2010, affecting livelihoods for more than 200,000 households, representing approximately 1,000,000 people in a country of 2.8 million. If climate change is associated with greater annual variability in climate conditions, the frequency of dzuds may increase, notwithstanding

³⁵ Preserving Mongolia's Pastures to Counter Climate Change. ADB article, 2014 <https://www.adb.org/features/preserving-mongolia-s-pastures-counter-climate-change>

³⁶ <http://www.worldbank.org/en/news/press-release/2017/10/17/2016-poverty-rate-in-mongolia-estimated-at-296-percent>

³⁷ <http://www.worldbank.org/en/news/press-release/2017/10/17/2016-poverty-rate-in-mongolia-estimated-at-296-percent>

³⁸ Wang, L., Yao, Z-J., Jiang, L., Wang, R., Wu, S-S., & Liu, Z-F. (2016). Changes in Climate Extremes and Catastrophic Events in the Mongolian Plateau from 1951 to 2012. Journal of Applied Meteorology and Climatology, 55(5), 1169-1182. DOI: 10.1175/JAMC-D-14-0282.1

³⁹ Discussions with Ministry of Agriculture officials and with representatives of the four aimags.

the overall increase in average temperatures. Higher temperatures and greater seasonal variation in precipitation may exacerbate the degradation of pastureland, on which herders rely.

225. Adaptation needs are expected to increase significantly as climate change impacts increase. A study conducted by the Asian Development Bank posits that the minimum and maximum costs of adaptation across climate scenarios span a range from \$50 million to \$560 million per year for Mongolia with the highest maximum relative cost of adaptation (8.5% of baseline expenditure) compared to other east Asian countries⁴⁰. The Mongolia NDC estimates that based on current adaptation undertakings and gaps, Mongolia will need approximately USD 3.4 billion in technology and capacity building to meet the adaptation shortfall by 2030. The required investments estimated for the livestock, water and disaster management sectors are USD 46 million, 2.4 billion and 65 million respectively. Comparatively the World Bank estimates the 2016 government budget deficit to reach 18% of GDP⁴¹.

226. Not only do local capital markets lack depth, but risk transfer and risk sharing markets are almost non-existent, particularly in rural areas. In effect the Government directly bears virtually the entire liability for covering the costs of climate change related extreme events. Considering Mongolia's climate change projections, and current national development trends, protecting development gains through risk transfer and sharing is an increasing priority. However, development of risk transfer markets has been significantly impeded by low data accessibility and quality and an uncertain base from which to start.

227. GCF funding will support technical capacity building for national and key provincial officials on climate change adaptation and on risk mapping and planning. Part of this work will also focus on raising the capacity of Government staff with regards to risk and probability assumptions in the context of climate change. This will include identifying the impacts and enhanced approaches for risks where recovery/rehabilitation is possible and highlighting impacts for which recovery and rehabilitation is not possible and alternative strategies are required.

D.5. Country ownership (max. 500 words, approximately 1 page)

228. In the NDC submitted by Mongolia priorities for adaptation are based on "a detailed analysis of the expected impacts, potential solutions and challenges, and of possible synergies between adaptation and mitigation activities". In its vision for adaptation, NDC highlights animal husbandry, water resources management and natural disaster management.

229. For livestock management, the NDC states the need to "maintain ecosystem balance through improving pasture management". It suggests doing so by; reducing rate of pasture degradation, regulating headcounts to match with pasture carrying capacities, regulating pasture use, increasing community participation in proper use of pastures, their monitoring and conservation, and by building early warning systems for drought and dzuds to prevent animal loss.

230. For water resources the NDC stresses the need "to ensure proper use of water resources, and to strengthen integrated water resource management in river basins" through IWRM and multi-stakeholder relations (sic), strengthening human resource capacity, implementing ecosystem based technologies and by supporting ecosystem services.

231. In the context of natural disaster management, the NDC emphasizes the need to strengthen early warning system for natural disasters by establishing early detection and prediction systems, disaster risk assessments at local and sub-national levels and by improving forecast quality through increasing computing and storage capacity.

232. As a party to the UNFCCC, Mongolian Parliament approved the National Action Program on Climate Change (NAPCC) in 2000 and updated it in 2011. The goals of the program are to ensure environmental sustainability, development of socio-economic sectors adapted to climate change, reduction of vulnerabilities and risks, and mitigation of GHG emissions as well as promoting economic effectiveness and efficiency and implementation of 'green growth' policies. The goals of this proposed project are fully aligned with NAPCC and strategic objective 2 entitled with "Ensure environmental sustainability and reduce socio-economic vulnerabilities and risks through strengthening the national climate change adaptive capacity".

233. NAPCC Strategic objective 2 includes the following broad categories of activities in the first phase: early warning, disaster response systems, integrated water and basin management plans, water efficiency and re-use of waste water, water harvesting, water resources assessment in the most vulnerable regions and coordinated development strategies

⁴⁰ Westphal, Michael I.; Hughes, Gordon A.; Brömmelhörster, Jörn, Economics of climate change in East Asia. Mandaluyong City, Philippines: Asian Development Bank, 2013.

⁴¹ Mongolia Economic Brief September 2016 (<http://www.worldbank.org/Mongolia>)

and policies, reduce land degradation and desertification, measures to reduce livestock vulnerability and risks, irrigated agriculture through the use of drought resistant crops, and water saving and soil protection technologies. In the second phase NAPCC will expand on phase 1 activities including: water harvesting structures, IWRM in major basins, measures against land degradation and desertification, policies for livestock management adapted to climate change, and early warning systems for natural disasters.

234. Mongolia's 2nd National Communication to UNFCCC highlights the livestock sector as the key sector requiring adaptation assistance. It recommends a number of adaptation measures including all measures proposed in this project. Some of the corresponding measures suggested in the submission include: building capacity of livestock managers, introduction of technology for the processing of livestock raw materials, support to household and community based enterprise, regulation of animal numbers, development of pasture appropriate management systems, imposing legislation on pasture leasing, utilization and ownership, ensuring sustainable pasture utilization through improving pasture water availability, and the setting up of pastureland irrigation system.

235. A Technology Needs Assessment for Climate Change in Mongolia conducted by the Ministry of Environment indicates the following in order of priority for the livestock Sector:

Technology	The main climate change adaptation benefits
Seasonal to inter-annual prediction and early warning system	Improving climate change prediction and research capacity Reducing economic losses caused by climate related disasters Strengthening capacity to plan and implement climate change adaptation measures Increased resilience to natural disasters
Planting of forage perennials resistant to drought and cold winter for fodder production	Improving vegetation cover and biodiversity Reducing pasture degradation
Selective breeding of livestock	Improving livestock quality and new breeds resilient to climate change and local context Controlled animal numbers and composition
Producing supplement feed for winter and spring	Efficient use of pasture plants Increased resilience of livestock to dzud and drought
Rain and snow water harvesting for herder groups	Efficient water resource usage Improving vegetation cover if water is used for forage planting Better resilience to drought and drier climate
Producing supplement forage with bacterial enzymes for livestock	Efficient use of pasture plants Increased resilience of livestock to dzud and drought Decreased methane release from ruminant animals
Sustainable Pasture Management	Efficient use of pasture Decreased pasture degradation Increased animals resilience
Livestock disease management	Better control livestock diseases specially vector- borne. Increase resilience of livestock to diseases

236. In Mongolia's Sustainable Development Vision 2030 highlights the need to "ensure appropriate number and herd structure in the total livestock, have no less than 60% of Mongolia's territory as free of animal disease, for trade and quarantine, confirmed by the World Organization for Animal Health, develop veterinary services that are compliant with animal health standards for the export of livestock and livestock products to the neighboring countries, and increase the head of pure breed cattle to 200,000 in intensive livestock farming".

237. There are a number of governing policies and programmes supporting development of a climate resilient livestock sector. Those that are currently implemented along with relevant interventions and targets can be summarized as the following:

State policy on food and agriculture sector 2015-2025

238. Overall objective is to develop self-sustaining and high production livestock subsector that is resilient to climate change. Specific interventions include incentivizing the use of long-distance and underutilized pastures, planting fodder plants, establishing water sources, as well as fencing of reserve pastures by herders and herder user groups. It also incorporates actions to increase the pastureland carrying capacity by promoting sustainable management and rehabilitation of pasture and applying pasture user agreements with local communities. Furthermore, the interventions include overall increased productivity of animals through enhanced animal breeding services, animal disease control, as well as increased coverage of vaccination and vaccine production. Specific targets include:

- Reduce overall number of livestock and adjust the number, type and composition of livestock based on assessment of pasture carrying capacity and status

- Composition of cattle from 6.7 to 10% and processed meat 16,800 tonnes to 200,000 tonnes compared to 2014.

State policy on herders 2009-2020

239. The policy aims at improving the prosperity of herder households by implementing several strategic priority areas:

- Create favorable legal, economic and business environment which enables decent living and working conditions for herders, prevention of poverty in herders through employment and social security;
- Improve livestock production and develop an adequate marketing network;
- Make changes in the lifestyle and livelihood of herders through supporting development of self-assisting and self-governing civil society structures, enhancement of herders' knowledge and skills.

National Mongolian Livestock Programme 2010-2021

240. It aims to develop a livestock sector that is able to adapt to climate change and social development trends and create an environment where the sector is economically viable and competitive in the market economy, to provide a safe and healthy food supply to the population, to deliver quality raw materials to processing industries, and to increase exports. There are five specific objectives to improve livestock sector governance, animal breeding and veterinary service standards, to develop climate and risk resilient livestock sector and create favorable marketing conditions. Within the objective to develop climate and risk resilient livestock sector, the interventions include:

- Improved pasture management through establishment of regulatory framework for pastureland management and introduction of pasture use fee, improved pasture use planning system, keeping optimal herd structure and size to pasture carrying capacity, as well as improved rodent and pest control;
- Increased hay and fodder production through both promoting natural hay making and good quality fodder plantations;
- Improved livestock water supply through establishment and rehabilitation of groundwater wells and rain and snow water harvesting;
- Create livestock risk management capacity by improved monitoring of changes, developing risk insurance system, developing innovative training methods and train herders on adaptation to climate and ecological changes including breeding of livestock for meat production

241. For the implementation of the programme, the Government pledges to allocate 3% of the state budget annually. Specific targets by the year 2021 include:

- Increase the number of large livestock camel 0.3%, horse 3.1%, cattle 8%, and sheep 2.70%. Reduce number of goat by 14.1%.
- Increase meat export volume to 50,000 tons.
- Be free from animal diseases, including brucellosis, glanders, anemia, leucosis and brucellosis and achieve a low risk status for contagious bovine pleuropneumonia, foot and mouth disease and sheep pox
- Establish 2,686 new wells

Mongolian Agenda for Sustainable Livestock (MASL)

242. The MASL action plan seeks to support the sustainable development of the Mongolian livestock sector as economically efficient while implementing sustainable pastureland management, enhancing food security and safety and social inclusiveness, and strengthening stakeholder partnerships and participation. Its objectives include:

- to restore, rehabilitate and utilize pastureland and water resources sustainably and responsibly, to adapt to climate change, and to mitigate climate change impacts
- to improve the efficiency and productivity of livestock production in various livestock product value chains, and to develop export-oriented livestock production
- to develop veterinary and animal breeding services, and to improve food security and safety
- to support rural development, to reduce poverty and income inequality, and to improve the social service delivery and quality
- to develop partnerships between stakeholders including professional associations, research organizations, non-governmental organizations, herder organizations, cooperatives and international organizations, and to support public-private partnerships

National sub-programme to support productivity of animal husbandry 2016-2018

243. The objective of the sub programme is to increase income of herders and farmers and add value to livestock products through promoting export-oriented livestock sector development and transferring innovative technologies in the sector. The indicators include:

- increase in agriculture sector contribution to a national economy

- decrease in infectious animal disease outbreak
- increase in animal productivity and
- increase in livestock sector exports

D.6. Efficiency and effectiveness (max. 500 words, approximately 1 page)

244. The effectiveness of proposed solutions has been successfully piloted by a number of projects at varying scale. This project builds on those best practices of cost-effectiveness and efficiency of delivery. Traditional cooperative approaches are being employed, which have also proven successful for management of shared natural resources.

245. The project brings together key ministries, MET and MoFALI, acknowledging the link between natural resources and herder livelihoods and the need for cross sectoral collaboration, to maximize the impact of combined resources and efforts to achieve the project objective. As the project is consistent with Government priorities; all activities are cost-shared with an overall ratio of approximately 2:1. Costs related to O&M have already committed by the local governments to ensure long term sustainability of the investments. Project costs, including the GCF grant, co-financing and O&M costs were considered in conducting the economic analysis during project design. Given the costs and estimated benefits (see Annex 3a), the net present value (NPV) of the project is USD 30 million upon using a 10% discount rate, with an internal rate of return (IRR) of 21%. Three sensitivity test cases were examined: (i) total cost decreased by 20%; and (ii) total benefits decreased by 20%; and (iii) total cost increased by 20% and total benefits simultaneously decreased by 20%. In all test cases, the project remains economically feasible with results ranging from 10% to 15%.

246. The project will also ensure cost-efficiency and effectiveness through complementarity with related efforts. From May 2018, the Government of Mongolia started implementing a GCF readiness grant project entitled *Building capacity to advance National Adaptation Plan Process in Mongolia* jointly with UNEP. To help advance the NAP process in the country, the readiness grant will aim at enhancing institutional and technical capacity of key actors, establishing a robust climate information system and developing sustainable NAP financing and implementation strategy with clear M&E framework. As the readiness grant interventions will inform the medium- and long-term adaptation priorities of the country, there is a good potential for the two initiatives to complement one another for improved effectiveness. The timing of the projects will allow the projects to mutually benefit from the generated knowledge.

247. One of such areas is a policy reviews process through the readiness grant (1.2.5) to enable cross sectoral integration of climate adaptation, to which UNDP project review of livestock sector policy enhancement will feed in. While the readiness grant will focus on national level planning and climate integration, the proposed UNDP project will address challenges at sub-national level as well. To address the need for enhancement of climate information system, the GoM/UNDP livestock sector adaptation project will help improve weather/climate projection software and computing facilities to enable NAMEM to develop long-term climate projection. NAMEM personnel capacities will be enhanced on climate modelling as well. The readiness grant activity 2.1.2 (upgrade/expand observation networks), 2.1.3 (train NAMEM staff) and 2.1.4 (update climate scenarios with new data) will be complementary.

248. Through the readiness grant, adaptation measures will be prioritized with detailed cost-benefit analysis (3.2.1) with consideration of sector and geographic/regional specifics, which will help validate UNDP project interventions at target sites. UNDP project interventions with private sector on reducing risks in livestock commodity value chains will be an important addition to the NAP financing plan and strategy to result from the readiness grant. There are potentials to join efforts on climate awareness raising, where UNDP interventions will target local Government officials and communities, as well as agro-hydrometeorology, livestock sector and emergency management professionals.

249. In addition, ADB's proposal to GCF entitled The Green Aimag and Soum Centers Regional Development Investment Program (ASDIP) is linking green urban development, resilient rangeland management and sustainable agrobusiness value chain support into an overall green and resilient agro-territorial development framework. It is expected to be a 10 year multi-tranche financing facility. Target sites for ADB's first tranche include Khovd province, which is also targeted by this UNDP project. At the same time, interventions on grazing land management and agricultural value chain within the framework of both projects will be implemented to ensure complementary to increase impacts. UNDP project will benefit from ADB's inter soum Green and Resilient Agro-Territorial Clusters in supporting livestock commodity value chains more effectively, whereas the ADB project could benefit from better forecasting and planning capacity enhanced through the UNDP project. In addition to Khovd, beneficiaries in other three target provinces of UNDP project are expected to be supported by ADB's tranche 2 and 3 investments, especially in agrobusiness value chain and credit risk guarantee facilities.

Best Practices

250. The project benefits from the lessons learned and best practices of previous and ongoing efforts.

251. The *Sustainable Land Management for Combating Desertification* project (SLM Project)⁴² implemented by MoFALI and MEGDT successfully piloted and scaled up sustainable land management practices based on a collaborative management approach from 2008 to 2012. This project was implemented in 13 soums of 4 aimags. The objective of the project was to strengthen the enabling environment for sustainable land management by building capacities in appropriate government institutions and user groups and demonstrating good practice in SLM through on-ground interventions that are integrated with national economic and social development policies. Core activities were in land/pasture management, water management, combating desertification measures (including sylvopasture), strengthening institutional capacity, community based natural resource management, and alternative income generation.

252. In collaboration with other development partners, the SLM project developed a guideline for the development of the Soum level annual pasture land management plan. This strengthened the capacity for collaborative management among the Soum government land officers and organized herder groups, a key element for sustainable pasture land management in Mongolia. The SLM project also supported the establishment of a Center for Desertification Research and introduced SLM as a degree course at the National University of Mongolia, thus improving national research capacity for SLM and combating desertification.

253. The project successfully piloted a series of practices for sustainable pasture use, (re)-introducing rotation and resting, fodder production, rehabilitation of water sources, protection from soil erosion, establishment of wind-breaks, intercropping, and cultivation of trees and bushes. The project's technical reports inform on species for fodder production windbreaks, soil protection feasible for different zones, and the project published a series of educational pamphlets for agricultural extension. These resources can be drawn on in sustainable land management activities under the proposed project.

254. Knowledge on herders' institutions for pasture management and income generation, and on apex organizations for processing and marketing, has been much expanded in recent years, with contributions by other projects supported by the UNDP, World Bank (*Sustainable Livelihoods Project*, now phase 3), SDC (Green Gold Project), and IFAD (*Project for Market and Pasture Management Development*); all of which share approaches of collective action by herders. The government's Herder Policy and the Law on Cooperatives likewise seek to promote collective action and community organization. The concept of the Law on Pastureland has been approved by the Government in May 2016 after pending almost a decade.

255. The *Ecosystem Based Adaptation Approach to Maintaining Water Security in Critical Water Catchments in Mongolia* project promoted user groups and community participation to implement local adaptation measures, and successfully introduced measures in water resources protection and efficient use. Target areas were the two main critical and unique landscapes - Turgan and Khahiraa river basins in Western Mongolia, and the Ulz river basin in the Eastern Steppes. The main objective of the project was to maintain the water provisioning services supplied by mountain and steppe ecosystems by internalizing climate change risks within land water resource management. The mid-term evaluation report⁴³ (2015) points out several highlights of the project with regard to its successful piloting of water management measures and its contribution to policy implementation:

- The project is one of few innovative projects taking a rigorous ecosystem approach to climate risks and is at the same time in full coherence with the climate change adaptation strategy of the country.
- Integrated strategies/management plans for target landscapes and river basins have been developed and are under implementation already in 3 aimags and 17 soums. Highlights of achievements are the endorsements of 3 PA proposals at aimag levels.
- The project has been instrumental and successful in integrating climate risk issues into RBAs, it has supported IWRM as a participatory approach in water management, and civil society monitoring of RBAs through RBCs.
- The project applies a multitude of adapted physical techniques which enhance climate resilience on community level. The highlight of the component is its full integration into the ecosystem approach, by using the location of water infrastructure as an incentive to move herders away from overgrazed area, in this way achieving a better water-pasture-livestock balance.

⁴² Funded by UNDP, the Government of the Netherlands, and the Swiss Development Agency

⁴³ UNDP/GEF Ecosystem Based Adaptation Approach to Maintaining Water Security in Critical Water Catchments in Mongolia Project – PIMS 4505, 17 Feb 2015

- Ecological, economic, social and political sustainability is high, potential risks have already been prevented through the project strategy or successfully mitigated.

256. Best practices developed by the EbA project, as well as the SLM project, are well documented, in Mongolian and English language, and can be used as guiding materials when designing on-the-ground measures under Output 2.

257. The Green Gold project, funded by SDC, and active 2013-2016, was implemented in the western region of Mongolia (Zavkhan, Uvs, Khovd, Bayankhongor and Bayan-Ulgii, Gob-altai, Arkhangai). The project aimed to contribute to improved livelihood of herders and households by ensuring the sustainable management of rangelands and securing better access to technological knowledge management and markets. Through the project implementation and interventions, CBO of herders (PUGs) were promoted for sustainable use of rangeland resources and for improved economic opportunities. As of 2014, 960 PUGs and 67 herders' marketing cooperatives have been formed in 96 soums in the western provinces, involving 53,000 households (30% of all herder households). Under the project implementation, 130 PUGs (23 soums) rehabilitated 5.6 million ha of degraded rangelands. A total of 6,200 ha of hay fields were fenced for improved yields and production. Eighty hectares have been cultivated for fodder productions. Annual sales for livestock production (meat, milk, hide, wool) have reached to MNT 1.6 billion.

E. LOGICAL FRAMEWORK

This section refers to the project/programme's logical framework in accordance with the GCF's [Performance Measurement Frameworks](#) under the [Results Management Framework](#) to which the project/programme contributes as a whole, including in respect of any co-financing.

E.1. Paradigm shift objectives

- Shift to low-emission sustainable development pathways
- Increased climate resilient sustainable development

E.2. Core indicator targets

E.2.1. Expected tonnes of carbon dioxide equivalent (t CO ₂ eq) to be reduced or avoided (mitigation and cross-cutting only)	Annual	N/A t CO ₂ eq ⁴⁴
	Lifetime	N/A t CO ₂ eq
E.2.2. Estimated cost per t CO ₂ eq, defined as total investment cost / expected lifetime emission reductions (mitigation and cross-cutting only)	(a) Total project financing	<u>79,301,276</u> USD
	(b) Requested GCF amount	<u>23,101,276</u> USD
	(c) Expected lifetime emission reductions	___ t CO ₂ eq
	(d) Estimated cost per t CO₂eq (d = a / c)	___ Choose an item. / t CO ₂ eq
	(e) Estimated GCF cost per t CO₂eq removed (e = b / c)	___ Choose an item. / t CO ₂ eq
E.2.3. Expected volume of finance to be leveraged by the proposed project/programme as a result of the Fund's financing, disaggregated by public and private sources (mitigation and cross-cutting only)	(f) Total finance leveraged	<u>56,200,000</u> USD
	(g) Public source co-financed	<u>56,200,000</u> USD
	(h) Private source finance leveraged	___ Choose an item.
	(i) Total Leverage ratio (i = f / b)	<u>2.433</u>
	(j) Public source co-financing ratio (j = g / b)	<u>2.433</u>
	(k) Private source leverage ratio (k = h / b)	___
E.2.4. Expected total number of direct and indirect beneficiaries, (disaggregated by sex)	Direct	26,000 households (130,000 people) 50% or 65,000 female
	Indirect	160,000 households (800,000 people) 50% or 400,000 female
E.2.5. Number of beneficiaries relative to total population (disaggregated by sex)	Direct	4.5% of total national population 47% of the population in target aimags 130,000 people, 50% or 65,000 female
	Indirect	26% of total national population 100% of herder households 800,000 people, 50% or 400,000 female

⁴⁴ As per suggestion by GCF Sec, estimate CO₂ sequestration from sustainable land management not included, to eliminate risk of double counting with ADB/GCFproject

E.3. Fund-level impacts						
Expected Results	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term	Final	
A1.0 Increased resilience and enhanced livelihoods of the most vulnerable people, communities and regions	A1.2 Number of males and females benefiting from the adoption of diversified, climate resilient livelihood options (including fisheries, agriculture, tourism, etc.)	Project reports, site visits, RCT survey, consultations MoFALI and MET progress reports against national programmes	0	65,000 people (32,500 male, 32,500 female) (direct)	130,000 people (65,000 male, 65,000 female) (direct)	Herders adopt adaptive practices, and attribution for changes in environmental conditions and access to markets is possible. Government commitment to climate-informed and climate-resilient planning; climate information is adequately integrated into livestock planning and needed reforms are approved.
				0 (indirect)	800,000 people (400,000 male, 400,000 female) (indirect)	
A4.0 Improved resilience of ecosystems and ecosystem services	A4.1 Coverage/scale of ecosystems protected and strengthened in response to climate variability and change	Impact evaluation, reports, site visits, RCT survey, consultations MET State of the Environment report (biennial)	0	7 watersheds and 18.22M ha	14 watersheds and 36.44M ha	Investments identified during proposal development are validated by RUAs

E.4. Fund-level outcomes						
Expected Outcomes	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term	Final	
A5.0 Strengthened institutional and regulatory systems for climate-responsive planning and development	A5.1 Institutional and regulatory systems that improve incentives for climate resilience and their effective implementation	Reports, stakeholder consultations MET and MoFALI policy transformation draft documents	0	3	3	Climate information will be integrated into planning and reforms will be approved, as per commitment expressed by MET and MoFALI

		Climate informed policy transformation scorecard ⁴⁵				
A6.0 Increased generation and use of climate information in decision-making	A6.1 Use of climate information products/services in decision-making in climate sensitive sectors	<p>Reports, stakeholder consultations, evidence of policy transformations</p> <p>MET State of the Environment Report (biennial)</p> <p>4th National Communication (MET)</p> <p>MET/MoFALI strategies, planning and policy transformation documents</p> <p>Climate informed planning scorecard⁴⁶</p>	0	4	1	<p>Climate information will be integrated into planning and reforms will be approved, as per commitment expressed by MET and MoFALI</p> <p>Government commitment to climate-informed and climate-resilient planning.</p>
A7.0 Strengthened adaptive capacity and reduced exposure to climate risks	A7.1 Use by vulnerable households, communities, businesses and public-sector services of Fund-supported tools instruments, strategies and activities to respond to climate change and variability	<p>Surveys, reports, RCT surveys, site visits</p> <p>Rangeland health scorecard⁴⁷ using data collected annually by MET from NAMEM rangeland monitoring</p>	0	0	Improvement of score for 30% of rangeland covered by project ⁴⁸	<p>Herders adopt adaptive practices, and attribution for changes in environmental conditions and access to markets is possible.</p>

⁴⁵ Climate informed policy transformation scorecard – 4 policy transformation document drafted, 3 policy transformation document reviewed by stakeholders and comments integrated to the extent possible, 2 stakeholders endorse policy transformation and documents presented for approval by Cabinet/Parliament, 1 policy transformations approved by Cabinet/Parliament (Note: endorsement and approval of policy transformations will be supported by the project, but are outside the control of the project. Therefore the targets are set at 3. Disincentives, however, must be addressed through policy transformations in order for interventions to succeed and related progress should be reviewed at the midterm)

⁴⁶ Climate informed planning scorecard – 4 climate information tailored to MET and MoFALI and related adaptation guidelines available, 3 evidence of climate information integrated into strategies and policies, 2 evidence of climate information integrated into approved planning with corresponding financing allocated, 1 adaptation investments ongoing

⁴⁷ Rangeland health scorecard – 4 land severely degraded, 3 land moderately degraded, 2 land slightly degraded, 1 land not degraded

⁴⁸ Note: It could take several years for degraded land to improve, therefore a conservative target within the project duration has been selected.

		sites (e.g. above ground green mass, underground soil carbon content, photo-monitoring)				
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E.5. Project/programme performance indicators

Expected Results	Indicator	Means of Verification (MoV)	Baseline	Target		Assumptions
				Mid-term	Final	
Output 1: Integrate climate information into land and water use planning at the national and sub-national levels	Number of tailored products and plans applying climate information	Reports, stakeholder consultations MET and MoFALI strategies, policy and planning documents	0	2 tailored climate products for natural resources management (MET) and the livestock sector (MoFALI) 1 analytical document to guide development of a national programme as a successor to the Mongolian Livestock Programme, detailing climate informed livestock herd size and herd structure targets	2 tailored climate products for natural resources management (MET) and the livestock sector (MoFALI) 1 analytical document to guide development of a national programme as a successor to the Mongolian Livestock Programme, detailing climate informed livestock herd size and herd	Climate information is sufficiently downscaled for application in sub-national planning Government commitment to climate-informed planning and planned policy transformations towards sustainability in the livestock sector

					structure targets	
			0	0	3 policy transformation documents informed by climate change impact on land and water resources ⁴⁹	
			0	2 aimag plans	4 aimag plans	
				34 soum plans	68 soum plans	
				6 climate risk and adaptation profiles for river/lake basins in project area	12 climate risk and adaptation profiles for river/lake basins in project area	
	Increased institutional capacity (MET, MoFALI) for climate-informed natural resources and livestock planning and management	Surveys, tracer studies	Survey to be conducted prior to any training	Average increase of scores by 30% from baseline	Average increase of scores by 60% from baseline	Climate information is sufficiently downscaled for application in sub-national planning Government commitment to climate-informed and climate-resilient planning

⁴⁹ The National Mongolian Livestock Program includes the following transformations “to develop a livestock sector that is adaptable to changing climatic and social conditions and create an environment where the sector is economically viable and competitive in the market economy” where Output 1 will support in integrating climate information 1) Create a legal framework for regulating pasture and protect at least 30% of land as state, aimag and soum level otor reserve area for use during times of hardship, 2) Link animal numbers and types of herd with pasture carrying capacity and limit the number of animals in areas where pasture capacity is already exceeded, and implemented related economic incentives to maintain this provision, and 3) Create a legal framework on pasture use fees collected from herders and people with livestock, based on regional characteristics and type of herd and use some portion of it for improving pasture condition.

Output 2: Scaling up climate-resilient water and soil management practices for enhanced small scale herder resource management	Number of structures built and/or rehabilitated	Reports, site visits, consultations MET and MoFALI reports Aimag reports	0	1000ha catchment reforestation 44 natural springs protected 143 wells rehabilitated or constructed 9 water harvesting structures 1,445ha of haymaking or pasture reserve areas	2500ha catchment reforestation 88 natural springs protected 285 wells rehabilitated or constructed 18 water harvesting structures 2,890 ha of haymaking or pasture reserve areas	Central and local government co-financing is available to support investments. Investments are consistent with RUAs.
	Herders apply adaptive practices to use of natural resources (e.g. rotational herding practices, RUAs)	Reports, site visits, RCT surveys, consultations MET and MoFALI reports against national programmes Provincial government reports Adaptive practices by herders scorecard ⁵⁰	0	4	1	Herders adopt adaptive practices, and attribution for changes in environmental conditions and access to markets is possible.

⁵⁰ Adaptive practices by herders scorecard – 4 majority of herders not engaged in cooperatives, 3 majority of herders engaged in cooperatives, 2 majority of herders sign on to RUAs, 1 majority of herders applying RUA measures and practices (e.g. protecting identified land and water resources, planning natural resources use in cooperation with other herders, applying rotational herding practices, etc.)

	RUAs include targets for climate informed livestock herd size and herd structure targets ⁵¹	RUA monitoring Annual MoFALI livestock census	0	4	1	Herders adopt adaptive practices, and attribution for changes in environmental conditions and access to markets is possible.
Output 3: Build herder capacity to access markets for sustainably sourced, climate-resilient livestock products	% of HPO herders able to secure contracts with buyers for sustainably sourced livestock products, thereby enhancing livelihoods through improved market access	Reports, site visits, RCT surveys consultations Evidence of contracts Aimag reports	0	0%	50%	Willingness of herders to join HPOs Herders adopt adaptive practices, and attribution for changes in environmental conditions and access to markets is possible.

E.6. Activities

Activity	Description	Sub-activities	Deliverables
1.1. Enhance technical capacity for long-term climate resilient development planning, and medium-term response planning capacity	Under this activity, the project will invest in developing the computing and human resources capacity at NAMEM to accurately forecast medium term and long-term weather and longer-term climate change impacts. The project will train personnel at the central level and in the four aimag to use this information in disaster management and long-term development planning.	<p>1.1.1. Validation of specifications for NAMEM technical capacity and computing equipment</p> <p>1.1.2. Strengthen the technical and human resources capacity within NAMEM to produce seasonal to long term climate models</p> <p>1.1.3. Support development of guidelines and tools (incl water availability, operational pasture yield/fodder and dzud impact models) for impact based forecasting (IBF), climate risk informed land, water and livestock planning to be adopted at the national and aimag level</p> <p>1.1.4. Support to MoFALI and MET to integrate climate change and risks and plan for long-term climate resilient development at the national, aimag level (dissemination</p>	<p>Acquisition and installation of weather/climate forecasting/prediction software and computing facilities to enable NAMEM to develop long-term models and deliver forecasts.</p> <p>Development of training material; training of human resources capacity at NAMEM</p> <p>Guidelines for IBF, climate risk informed land, water and livestock planning</p> <p>Training on climate change impacts, risk assessments and cross-sectoral planning</p> <p>Technical expertise for integration and application of climate information</p> <p>Guidelines and procedures for seasonal planning and coordination of national and</p>

⁵¹ Scorecard – 4 -Herders have received sensitization/training pressure on natural resources dues to climate change and livestock, 3 - RUAs include climate informed livestock herd size and herd structure targets, 2 – support provided to herders to incentive progress towards targets (Outputs 1, 3), 1 – measurable progress made towards livestock herd size and herd structure targets

		<p>and application following Development Planning Law)</p> <p>1.1.5. Support to NEMA planning, applying projected seasonal extreme weather events</p> <p>1.1.6. Support application of seasonal forecasts to national and aimag level systems and planning/budgeting to respond to extreme events (e.g. drought, dzud), incl forecast based forecasting</p> <p>1.1.7. Strengthen technical capacity in the State Emergency Commission (under NEMA) in emergency planning, incl guidelines and procedures for seasonal planning, and coordination of national and international responses and related finance</p>	<p>international responses to extreme events</p>
<p>1.2. Integration of climate change and climate-informed carrying capacity into aimag and soum level development plan (incl. Integrated River Basin Management Plans (IRBMP))</p>	<p>Integrated River Basin Management Plans are either underway or completed for 12 river/lake basins pertinent to this project. The planning process starts with these IRBMPs, develops River Basin climate risk and adaptation profiles and options, and then downscales that to Soum level development plans and Resource User Agreements at the herder level.</p>	<p>1.2.1. Develop River Basin climate risk and adaptation profiles and options</p> <p>1.2.2. Development of soum level resilience-based land and water use and management plans</p>	<p>Technical expertise to support downscaling data and integration into sub-national plans</p> <p>Technical expertise to support assessment and development of climate risk and adaptation profiles for the IRBMP for the 12 river/lake basins in project area</p> <p>Training to local government in climate change impact, vulnerability and risk assessments and planning.</p> <p>Technical expertise to support development of climate-informed soum level land and water use management plans</p>
<p>1.3. Analytical products to support policy and regulatory transformation promoting sustainable land and water management and resilient herder livelihoods</p>	<p>Under this activity, the project will provide policy advice and technical support to key staff at relevant Ministries and Parliament to improve the legal framework and develop climate resilient policies.</p>	<p>1.3.1. Review of current livestock policy, investments and related public/private programmes which could inadvertently contribute to land degradation by incentivizing maintenance of large herds (e.g. dzud relief programmes, insurance schemes, etc.)</p> <p>1.3.2. Informed by results of Activity 1.1, conduct scenario analyses to inform resilient land and water management and livestock sector, and</p>	<p>Stakeholder consultations</p> <p>Technical expertise</p> <p>Knowledge/analytical products to support policy transformations</p> <p>Policy transformation draft documents</p> <p>Workshops/stakeholder consultations to support cross-sectoral planning</p>

		<p>related (e.g. finance sector) policies</p> <p>1.3.3. Drafting of policy transformations to support sustainable use of natural resources and climate-resilience in the livestock sector and submission for approval by appropriate ministerial party</p> <p>1.3.4. Sensitization on climate change impacts on natural resources and the livestock sector for decision-makers to enable the necessary reforms</p>	
<p>2.1. Enhance cooperation among herders on sustainable use and stewardship of shared land and water resources (formalized through Resource User Agreements)</p>	<p>Community based Resource User Groups (RUGs) will be the key point of focus for the implementation of activities under this Output. The project activities on the ground will be planned and implemented based on Resource Use Agreements developed by RUGs which will include the following components; Rangeland Use Agreement, Watershed use and management agreements, and a Community Infrastructure development and O&M agreements.</p> <p>The project will facilitate, help register the RUGs with local authorities, define their operating procedure and legitimize their user rights and responsibilities as required. The RUGs will lead the development and management of land and water resources as per the Resource Use Agreements.</p>	<p>2.1.1. Formalize and/or strengthen Resources User Groups.</p> <p>2.1.2. Development, consolidation and registration of resilience-based Resource Use Agreements (RUA) by RUGs (including Watershed Agreements)</p>	<p>Stakeholder/community consultations</p> <p>Technical expertise to support RUA process</p> <p>RUAs (including Watershed Agreements)</p>
<p>2.2. Reforestation of critical catchment areas to protect water resources and ecosystem services</p>	<p>Climate change is having a drying effect on Mongolia, placing catchment areas at risk. To protect these areas, the project will support reforestation of degraded areas. Indigenous species will be prioritized as they have been proven to be more resilient to conditions in Mongolia. Training will be provided to herder on the role of catchment areas in the ecosystems, the risks presented by livestock and</p>	<p>2.2.1. Validate identified investments through RUAs</p> <p>2.2.2. Implementation of Rangeland User Agreements</p> <ul style="list-style-type: none"> 2500ha catchment reforestation <p>2.2.3. Development of guidance materials and delivery of training to herders on effective and optimal O&M for catchment areas</p>	<p>Stakeholder consultations</p> <p>Technical expertise, Contractual services for implementation of investment</p> <p>Reforestation of 2500ha</p> <p>Guidance materials for effective and optimal O&M for catchment areas</p> <p>Workshops/Training to RUGs for investment and O&M</p>

	roles and measures for maintenance. These will be formalized through the RUAs.		
2.3. Establish haymaking and pasture reserve areas, and emergency fodder storage facilities to reduce volatility to livelihoods related to climate change induced extreme events	Limited haymaking and pasture reserve areas coupled with increasingly harsh winters, are affecting animal health and winter survival rates. The project will promote both structural and ecosystem based measures to promote fodder and water security including use and exclusion agreements and infrastructure measures and in measures to increase the capacity and resilience of herders to cope with climate change impacts and manage pastoral risks.	<p>2.3.1. Validate identified investments through RUAs⁵²</p> <p>2.3.2. Implementation of Rangeland User Agreements</p> <ul style="list-style-type: none"> 3,720ha of haymaking or pasture reserve areas 48 emergency fodder storage facilities <p>2.3.3. Development of guidance materials and delivery of training to herders on effective management of pasture reserves</p>	<p>Stakeholder consultations</p> <p>Investment and technical expertise for implementation of investment</p> <ul style="list-style-type: none"> 3,720ha of haymaking or pasture reserve areas 48 emergency fodder storage facilities <p>Technical expertise to develop guidance materials for pasture management</p> <p>Guidance materials for effective management of pasture reserves</p> <p>Workshops/Training to RUGs for investment and O&M</p>
2.4. Improve water access through protection of natural springs, construction of new water wells, rehabilitation of existing wells and water harvesting measures	A key challenge in reducing pressure on overstressed land and water resources is the lack of options for water resources – forcing herders around the same available sources. Informed by the data under Output 1, the project will construct 125 new wells, rehabilitate 165 existing wells and protect 88 natural springs. Water harvesting measures, such as community water harvesting ponds, will also be supporting as well as rehabilitation of 3 irrigation schemes.	<p>2.4.1. Ensure appropriate, climate-informed siting for investments, based on Output 1</p> <p>2.4.2. Implementation of resiliency-based Watershed Agreements through Public Private Community Partnerships</p> <ul style="list-style-type: none"> 88 natural springs protected 285 wells rehabilitated or constructed 18 water harvesting structures <p>2.4.3 Restoration of 3 ancient irrigation schemes applying ecosystems based adaptation measures and traditional knowledge</p>	<p>Stakeholder consultations</p> <p>Documentation supporting site selection</p> <p>Technical expertise, Contractual services for implementation of investment</p> <p>Investments:</p> <ul style="list-style-type: none"> 88 natural springs protected 285 wells rehabilitated or constructed 18 water harvesting structures 3 ancient irrigation schemes
3.1. Identify public-private-community partnerships for sustainably sourced, climate resilient livestock products	GCF resources will be used to provide technical assistance to herder groups strengthen their capacities meet private sector needs related to sustainably sourced climate resilient livestock products, and to enter into partnerships with private sector.	<p>3.1.1. Consultations with private sector to assess the type/level of information needed to further engagement and investment in climate-resilient livestock products</p> <p>3.1.2. Promotion and conduct of livestock investment fairs to identify public-private-community partnership (PPCP) opportunities</p>	<p>Stakeholder consultations</p> <p>Communications materials</p> <p>Workshops/fairs</p> <p>Technical expertise</p> <p>PPCP agreements</p>

⁵² As haymaking and pasture reserves are included in RUAs, this sub-activity is linked to 2.2.1

		3.1.3. Based on identified opportunities, facilitation and finalization of PPCP agreements	
3.2. Establishment and training of Herder Producer Organizations (or cooperatives)	Based on the needs of the PPCPs agreed above, the project will facilitate the setting up of Herder Producer Organizations (HPOs). Support will include general business and market specific training in production, post-harvest processing, post-harvest value addition and on-site storage specific to the commodity value chain.	<p>3.2.1. Readiness assessment to gauge existing decision-making and community governance mechanisms, as a pre-condition for a fair and equal involvement of all interested members of the community to participate in the HPOs</p> <p>3.2.2. Market specific training in production, post-harvest processing, post-harvest value addition and on-site storage</p> <p>3.2.3. Small upfront investments to support business needs (e.g. equipment to assess microns for wool and cashmere)</p> <p>3.2.4 Impact evaluation of project interventions on herder households</p>	<p>Readiness assessment</p> <p>Technical expertise</p> <p>Workshops/Training</p> <p>Small investments to support herder livelihoods</p> <p>Impact evaluation/surveys to assess impact of project on herder livelihoods</p>
3.3. Improve traceability for sustainably sourced, climate-resilient livestock products	Support National Mongolian Livestock Programme to improve traceability for sustainably sourced, climate-resilient livestock products.	<p>3.3.1 Surveying and analysis of traceability of sustainably sourced climate resilient livestock products</p> <p>3.3.2 Review/Drafting standards for climate-resilience products certification process</p> <p>3.3.3 Drafting agreements in PPCP to support traceable products development (linked to Activity 3.1.3.)</p> <p>3.3.4 Develop a demo traceable livestock product (informed by 3.3.1)</p> <p>3.3.5 Analyze and document traceability system results, disseminated for knowledge sharing</p>	<p>Technical expertise (traceability, blockchain application)</p> <p>Stakeholder/Private sector consultations</p>
3.4. Generation and dissemination of knowledge products to support private-sector engagement and herder enfranchisement in climate-resilient and sustainable production in Mongolia	The project will support the knowledge and information needs of innovative market-driven financing mechanisms for climate change adaptation to catalyze impact financing, and commercial funding from financial markets.	<p>3.4.1. Generate knowledge products detailing best practices for innovative financing mechanisms (e.g. sustainable sourcing platforms, impact investment fund)</p> <p>3.4.2. Promotion of project achievements to raise awareness of private sector</p>	<p>Knowledge products</p> <p>Stakeholder/Private sector consultations</p> <p>Communications materials (incl website, print material, TV/radio, social media, virtual reality video)</p>

		and/or potential investors and consumer/public awareness about need for sustainable practice	
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E.7. Monitoring, reporting and evaluation arrangements (max. 500 words, approximately 1 page)

258. Project-level monitoring and evaluation will be undertaken in compliance with the [UNDP POPP](#), the [UNDP Evaluation Policy](#).

Oversight and monitoring responsibilities:

259. The primary responsibility for day-to-day project monitoring and implementation rests with the Project Manager. The Project Manager will develop annual work plans to ensure the efficient implementation of the project. The Project Manager will inform the Project Board and the UNDP Country Office of any delays or difficulties during implementation, including the implementation of the M&E plan, so that the appropriate support and corrective measures can be adopted. The Project Manager will also ensure that all project staff maintain a high level of transparency, responsibility and accountability in monitoring and reporting project results.

260. The UNDP Country Office will support the Project Manager as needed, including through annual supervision missions. The UNDP Country Office is responsible for complying with UNDP project-level M&E requirements as outlined in the [UNDP POPP](#). Additional M&E and implementation quality assurance and troubleshooting support will be provided by the UNDP Regional Technical Advisor as needed. The project target groups and stakeholders including the NDA Focal Point will be involved as much as possible in project-level M&E.

261. A project inception workshop will be held after the UNDP project document has been signed by all relevant parties to: (a) re-orient project stakeholders to the project strategy and discuss any changes in the overall context that influence project implementation; (b) discuss the roles and responsibilities of the project team, including reporting and communication lines and conflict resolution mechanisms; (c) review the results framework and discuss reporting, monitoring and evaluation roles and responsibilities and finalize the M&E plan; (d) review financial reporting procedures and mandatory requirements, and agree on the arrangements for the annual audit; (e) plan and schedule Project Board meetings and finalize the first year annual work plan. The Project Manager will prepare the inception report no later than one month after the inception workshop. The final inception report will be cleared by the UNDP Country Office and the UNDP Regional Technical Adviser, and will be approved by the Project Board.

262. The Project Manager, the UNDP Country Office, and the UNDP Regional Technical Advisor will provide objective input to the annual Annual Performance Report (APR) for each year of project implementation. The Project Manager will ensure that the indicators included in the project results framework are monitored annually well in advance of the APR submission deadline and will objectively report progress in the APR. The annual APR will be shared with the project board and other stakeholders. The UNDP Country Office will coordinate the input of the NDA Focal Point and other stakeholders to the APR. The quality rating of the previous year's APR will be used to inform the preparation of the next APR. The final project APR along with the terminal evaluation report and corresponding management response will serve as the final project report package.

263. An independent mid-term review (MTR) (i.e. Interim Evaluation in GCF terminology) process will be undertaken and the findings and responses outlined in the management response will be incorporated as recommendations for enhanced implementation during the final half of the project's duration. The terms of reference, the review process and the final MTR report will follow the standard templates and guidance available on the [UNDP Evaluation Resource Center](#). The final MTR report will be cleared by the UNDP Country Office and the UNDP Regional Technical Advisor, and will be approved by the Project Board. The final MTR report will be available in English.

Additional GCF evaluation requirements:

264. An independent terminal evaluation (TE) (i.e. Final Evaluation in GCF terminology) will take place no later than three months prior to operational closure of the project. The terms of reference, the review process and the final TE report will follow the standard templates and guidance available on the [UNDP Evaluation Resource Center](#). The final TE report will be cleared by the UNDP Country Office and the UNDP Regional Technical Advisor, and will be approved by the Project Board. The TE report will be available in English.

265. The UNDP Country Office will include the planned project terminal evaluation in the UNDP Country Office evaluation plan, and will upload the final terminal evaluation report in English and the management response to the public UNDP Evaluation Resource Centre (ERC). Once uploaded to the ERC, the UNDP Independent Evaluation Office

will undertake a quality assessment and validate the findings and ratings in the TE report, and rate the quality of the TE report.

266. The UNDP Country Office will retain all M&E records for this project for up to seven years after project financial closure in order to support ex-post evaluations.

267. A detailed M&E budget, monitoring plan and evaluation plan will be included in the UNDP project document.

268. UNDP will perform monitoring and reporting throughout the reporting period in accordance with the AMA and Funded Activity Agreement (FAA). UNDP has country presence and capacity to perform such functions. In the event of any additional post-implementation obligations over and above the AMA, UNDP will discuss and agree these with the GCF Secretariat in the final year of the project and will prepare a post-implementation monitoring plan and budget for approval by the GCF Board as necessary.

Additional Information:

269. An impact evaluation (within the project duration) will be designed and conducted under Output 3, to assess project interventions. Results will be documented and used to inform implementation, as well as further programming. The evaluation will also contribute to the evidence base related to interventions to address climate challenges on land and water resources and climate-sensitive herder households.

F. RISK ASSESSMENT AND MANAGEMENT

F.1. Risk factors and mitigations measures (max. 3 pages)

As the proposed project builds on the successes of previous and ongoing programmes, it benefits from related best practices and lessons learned. Its design, therefore, reduces exposure to design and implementation related risks. In addition, UNDP's relationship with government partner agencies is well established, with financial and programme monitoring systems in place to provide on-going technical and other oversight. As such, risks for the project are considered mainly low or medium. In addition, the proposed project has been formulated based on consultations at national and aimag level, and the project design has been reviewed by stakeholders at all levels, including a sample of community representatives. That notwithstanding, a number of potential risks have been identified and have been detailed below along with mitigation measures.

Selected Risk Factor 1

Category	Probability	Impact
Technical and operational	Medium	Medium

Description

Long term sustainability of interventions to protect/rehabilitate land and river basin areas, O&M of technological investment. The probability and impact have been set at medium given the importance of O&M for sustainability of investments.

Mitigation Measure(s)

The project design phase included thorough consultation, investments are therefore in line with needs of stakeholders. Commitments have been made for both co-financing and maintenance of investments highlighting ownership and ensuring sustainability of investments (e.g. physical structures, computing equipment, etc.). Further, the project will build on traditional practices of user groups, building partnerships and fostering collaboration for shared benefits of land and water resources. While the project will support establishment of new user groups where needed, in most cases the project will support already existing groups. Training will be provided to ensure value of natural resources and ecosystems benefits are understood.

Selected Risk Factor 2

Category	Probability	Impact
Technical and operational	Low	Low

Description

Loss of soil material and sedimentation to the surface and/or groundwater systems from site due to earthwork activities

Mitigation Measure(s)

An Erosion, Drainage and Sediment Control Plan will be developed prior to any activities, and closely monitored.

Rainfall and melt water runoff can have a significant impact on the ability to manage environmental impacts, particularly in terms of managing drainage, erosion and sedimentation. Therefore, activities which involve significant disturbance of soil or operating with drainage lines and waterways should be undertaken with the likely weather conditions in mind. It is also important to ensure that all required erosion and sediment control mechanisms are in place before works commence.

Selected Risk Factor 3

Category	Probability	Impact
Technical and operational	Medium	Medium

Description

Project interventions do not have intended impacts, because behavior that is not conducive to the project objective continues. The probability and impact have been set at medium, as the risk is related to herder behavior, and overgrazing by livestock is a serious challenge in Mongolia.

Mitigation Measure(s)

Support will be provided through Output 3 to support climate-resilient and environmentally-responsible value chains and strengthening access to related markets. Data and training will be provided to herders that will help inform choices related livestock management. The Activity 1.3 will support policy review and development of transformative policies disincentivizing large herds. Further, this project will be implemented in close collaboration with ADB, whose project includes financial incentives and support

services conditionality which make the reduction in animal numbers attractive for herders. Related activities can be linked with the RUGs goal to keep appropriate herd structure and number to reduce pressure on grazing land.		
Selected Risk Factor 4		
Category	Probability	Impact
Other	Medium	Medium
Description		
Livestock numbers continue to grow, further pressuring land and water resources. The probability and impact have been set to medium given upward trend of livestock numbers, despite animal reduction efforts.		
Mitigation Measure(s)		
<p>The Government of Mongolia acknowledges the challenge of growing livestock numbers to sustainable land and water management going forward, particularly considering the drying trend climate change is having on the country and related impacts on the natural resources upon which herders rely. The National Mongolian Livestock Programme Phase I included targets to establish protected areas as well as to significantly reduce the total livestock in the country. Activities include investments in animal health and fodder production which will help animals survive the increasingly harsh winters (thereby making the need to maintain large herders no longer necessary) and vaccination programmes to enable export of livestock products. Priority 1 of the Programme is to “ensure the sustainable development of the livestock sector and create a legal environment that will promote economic turnover. The proposed GCF project will be implemented closely with the National Mongolian Livestock Programme, with support provided to climate-resiliency focused activities for herders, and includes the generation of analytical products to support reform for policies/programmes which inadvertently contribute to large livestock numbers (i.e. subsidies, commercial credits). In addition, the ADB ASDIP programme will provide incentives to herder to reduce livestock numbers. ADB’s project can benefit herders in both projects.</p> <p>The Programme has fallen short of its first phase targets, however the Government of Mongolia has invested significantly in the Programme, and herder livelihoods and the livestock sector are priority sustainable development areas for the Government of Mongolia. Related co-financing has been identified for the proposed GCF project in the amount of USD33.2million.</p> <p>Support to critical policy transformations, needed to support the behavior change needed by herders, have been planned under the project in the first half. Review of the project progress in this regard will be monitored closely.</p>		
Selected Risk Factor 5		
Category	Probability	Impact
Technical and operational	Low	Low
Description		
Staff turnover or lack of technical capacity within implementing partners and responsible parties		
Mitigation Measure(s)		
Implementation arrangements have been discussed and agreed with government, informed by capacity assessments. Where necessary, UNDP is able to provide support related to direct implementation.		

G. GCF POLICIES AND STANDARDS

G.1. Environmental and social risk assessment (max. 750 words, approximately 1.5 pages)

270. A Social and Environmental Screening assessment was undertaken to identify and address any potential social and environmental risks that could arise from project activities. The proposed project has been screened against the UNDP's Social and Environmental Standards Procedure and deemed a Moderate Risk (World Bank/International Finance Corporation Category B) project. As such, an Environmental and Social Management Framework (EMSF) has been prepared, and has is included as part of Annex 6.

Environmental considerations

271. The project is likely to have some short-term, small-scale environmental impacts during implementation, but will ultimately have considerable, long-term environmental benefits (See Section E.3.1).

272. Holistic planning in the form of soum-level resilience based watershed management plans will enable consideration of multiple activities over extended periods of time and therefore minimize adverse cumulative impacts. The project is not expected to have any long-term or substantive adverse environmental impacts relative to the rehabilitation of existing water infrastructure or the construction of water supply facilities. In fact, the conservation of water resources in the natural environment emphasized by project activities is expected to lead to significant environmental co-benefits associated with improved agricultural-pastoral practices and land use under climate change conditions. Any adverse environmental impacts are expected to short-term and limited to the construction of hydraulic works. Activities include both structural and ecosystem based measures to promote water security and may include: fencing of springs; small dams/ponds (water reservoirs) and water harvesting structures; planting of fodder crops; establishing windbreaks; soil protection (from erosion); rehabilitation of water resources; establishment of deep wells; rehabilitation/establishment of shallow wells. The formation of user groups and producer groups, along with implementation of agreements, will result in better use and management of resources, this in turn will limit the risk of over exploitation.

273. The project makes provision for a complaint's register along with a two-tiered Grievance Redress Mechanism consistent with the UNDP's Stakeholder Response Mechanism: Overview and Guidance (2014) and World Bank Group Safeguards Policies. The Grievance Redress Mechanism has further been designed in consideration of the specific local context and draws on existing processes and procedures for the resolution of complaints and grievances in Mongolia. The Grievance Redress Mechanism established goals and objectives along with eligibility requirements to make a complaint and/or grievance. It has been designed that all parties will act in good faith throughout the process and more importantly, that is will be arbitrary in nature in trying to achieve mutually acceptable resolutions for all parties. The Grievance Redress Mechanism also provides for the covering of costs for legitimate complaints or grievances so as individuals and/or groups are not disadvantaged by bring complaints to the attention of MET. Furthermore, environmental complaints by communities and people affected by the project can be submitted to UNDP's Social and Environmental Compliance Unit (SECU). SECU will respond to claims that UNDP is not in compliance with applicable environmental and social policies. Complaints can be submitted by e-mail to project.concerns@undp.org or the UNDP website. Project-affected stakeholders can also request the UNDP Country Office for access to appropriate grievance resolution procedures for hearing and addressing project-related social and environmental complaints and disputes. Environmental and social grievances will be monitored and reported in the Annual Project Report.

Social considerations

274. The project targets the very vulnerable and poor, for whom there is little scope to pay for the capital costs associated with the interventions. Activities, such as watershed management plans, rangeland use agreements and policy reform, will be undertaken in a participatory manner so that community concerns and needs can be heard and taken into account. This engagement will increase ownership in outcomes.

275. Taken together, the interventions will help to reduce volatility (and thus loss from climate shocks), diversify household income, reduce pressure on rangelands resources, and mitigate the potential for future conflicts over dwindling resources. This will contribute to improving the socioeconomic conditions of vulnerable households through reducing livelihood pressures. By its simultaneous focus on improving rural household livelihoods, lowering climate risks, and implementing appropriate location-specific, adaptation measures, the project brings together the crucial elements needed for improving social circumstances in the targeted areas.

G.2. Gender assessment and action plan (max. 500 words, approximately 1 page)

276. The project is designed to integrate gender sensitive planning and implementation, particularly for female herders and female-headed households. A gender analysis and action plan was prepared with specific recommendations that are expected to reduce household vulnerability to climate change while ensuring a key role for women in the implementation process. These include:

- Collection of sex-disaggregated data,
- Enabling gender-sensitive decision making, access and control over resources (particularly for vulnerable people)
- Gender analysis of loan system in Mongolia to identify any indirect discrimination against minority groups,
- Increasing women's participation and leadership in community activities.

277. Capacity-building: The project's local training programs will help to ensure balanced political participation and decision-making of women and men. In addition, the project will seek to ensure that women are well represented within RUGs, State-level committees and task forces as well as within the local project management team. This will contribute to the integration of gender-considerations in all parts of the project management, including in the monitoring and evaluation.

278. Please refer to the Gender Assessment and Action Plan for further details (Annex 8).

G.3. Financial management and procurement (max. 500 words, approximately 1 page)

279. The financial management and procurement of this project will be subject to UNDP financial rules and regulations available [here](#). Further guidance is outlined in the financial resources management section of the UNDP Programme and Operations Policies and Procedures available [here](#). UNDP has comprehensive procurement policies in place as outlined in the 'Contracts and Procurement' section of UNDP's Programme and Operations Policies and Procedures (POPP). The policies outline formal procurement standards and guidelines across each phase of the procurement process, and they apply to all procurements in UNDP. See [here](#).

280. The project will be implemented following the NIM guidelines available [here](#). UNDP will ascertain the national capacities of the implementing partner by undertaking an evaluation of capacity following the Framework for Cash Transfers to Implementing Partners (part of the Harmonized Approach to Cash Transfers - [HACT](#)). All projects will be audited following the UNDP financial rules and regulations noted above and applicable audit guidelines and policies.

281. The NIM Guidelines are a formal part of UNDP's policies and procedures, as set out in the UNDP Programme and Operations Policies and Procedures (POPP). The NIM Guidelines were corporately developed and adopted by UNDP, and are fully compliant with UNDP's procurement and financial management rules and regulations.

282. The national executing entity, MET, also referred to as the national 'Implementing Partner' in UNDP terminology, is required to implement the project in compliance with UNDP rules and regulations, policies and procedures (including the NIM Guidelines). In legal terms, this is ensured through the national Government's signature of the SBAA, together with a UNDP project document which will be signed by the Implementing Partner to govern the use of the funds. Both of these documents require compliance. Prior to signature of the project document, all national Implementing Partners need to have undergone a Harmonized Approach to Cash Transfer (HACT) assessment by UNDP to assess capacities to implement the project. During implementation, UNDP will provide oversight and quality assurance in accordance with its policies and procedures, and any specific requirements in the Accreditation Master Agreement (AMA) and project confirmation to be agreed with the GCF. This may include, but not limited to, monitoring missions, spot checks, facilitation and participation in project board meetings, quarterly progress and annual implementation reviews, and audits at project level on the resources received from UNDP.

283. The Harmonized Approach to Cash Transfer (HACT) framework consists of four processes: (1) macro assessments; (2) micro assessments; (3) cash transfers and disbursements; and (4) assurance activities. Assurance activities include planning, periodic on-site reviews (spot checks), programmatic monitoring, scheduled audits and special audits. During micro-assessment, there can be weaknesses identified for which actions are required to addresses the gaps. When a spot check finds that the gaps are not addressed it will mean that the level of assurance activities will have to remain higher and modalities of engaging with that implementing partner will have to be reviewed if necessary. All details are available [here](#).

284. The project will be audited in accordance with UNDP policies and procedures on audits, informed by and together with any specific requirements agreed in the AMA. According to the current audit policies, UNDP will be appointing the auditors. In UNDP scheduled audits are performed during the project cycle as per UNDP assurance/audit plans, on the basis of UNDP's guidelines. A scheduled audit is used to determine whether the funds were used for the appropriate

purpose and in accordance with the work plan. A scheduled audit can consist of a financial audit or an internal control audit.

285. All GCF resources will be provided to the implementing partner, less any agreed costs recovery amount. Under UNDP's NIM, UNDP advances case funds on a quarterly basis to the Implementing Partner (Executing Entity) for the implementation of agreed and approved project/programme activities, in accordance with UNDP Standard Policies and the NIM Guidelines. The Implementing Partner reports back expenditures via a financial report on quarterly basis to UNDP. Any additional requirements will be as in accordance with the AMA and when it is agreed.

A draft procurement plan (which will be further discussed and revised prior to UNDP Project Document signature) is provided in Annex 10.

G.4. Disclosure of funding proposal

No confidential information: The accredited entity confirms that the funding proposal, including its annexes, may be disclosed in full by the GCF, as no information is being provided in confidence.

With confidential information: The accredited entity declares that the funding proposal, including its annexes, may not be disclosed in full by the GCF, as certain information is being provided in confidence. Accordingly, the accredited entity is providing to the Secretariat the following two copies of the funding proposal, including all annexes:

- full copy for internal use of the GCF in which the confidential portions are marked accordingly, together with an explanatory note regarding the said portions and the corresponding reason for confidentiality under the accredited entity's disclosure policy, and
- redacted copy for disclosure on the GCF website.

The funding proposal can only be processed upon receipt of the two copies above, if containing confidential information.

H. ANNEXES

H.1. Mandatory annexes

- Annex 1 NDA no-objection letter(s)
- Annex 2 Feasibility study
- Annex 3a Economic analysis
- Annex 3b Economic analysis (Excel)
- Annex 3c Financial analysis
- Annex 4 Detailed budget plan
- Annex 5 Implementation timetable including key project/programme milestones
- Annex 6a Social and Environmental Screening (SESP)
- Annex 6b Environmental and Social Management Framework (ESMF)
- Annex 6c Environmental and Social Safeguards (ESS) report
- Annex 7a Stakeholder consultations report
- Annex 7b Stakeholder engagement plan
- Annex 8 Gender assessment and action plan
- Annex 9 Legal due diligence (regulation, taxation and insurance)
- Annex 10 Procurement and HR plans
- Annex 11 Monitoring and evaluation plan
- Annex 12 AE fee request
- Annex 13a Co-financing commitment letters
- Annex 13b O&M letters
- Annex 14 Term sheet

H.2. Other annexes as applicable

- Annex 15 Evidence of internal approval
- Annex 16 Maps indicating the location of proposed interventions
- Annex 17 Multi-country project/programme information N/A
- Annex 18a Appraisal report
- Annex 18b Baseline project evaluation reports
- Annex 19 Procedures for controlling procurement by third parties or executing entities undertaking projects financed by the entity N/A
- Annex 20 HACT assessment reports
- Annex 21 Operations and maintenance plan
- Responses to GCF comments on Funding Proposal
- Responses to iTAP comments
- Responses to iTAP assessments

** Please note that a funding proposal will be considered complete only upon receipt of all the applicable supporting documents.*

No-objection letter issued by the national designated authority(ies) or focal point(s)



Annex 1 – NDA no-objection letter
GREEN CLIMATE FUND FUNDING PROPOSAL

H

NDA No – Objection Letter



**MINISTRY OF ENVIRONMENT,
AND TOURISM**

ENVIRONMENT AND CLIMATE FUND

7th floor, 22 building, Amar street, 8th micro-district,
Sukhbaatar district, Ulaanbaatar, Mongolia
Tel: (976-11) 310753, Fax: (976-11) 310743
E-mail: contact@ncf.mn, <http://www.ncf.mn>

Date 2017.10.11 No 155

To: The Green Climate Fund ("GCF")

Ulaanbaatar, October 11th 2017

Re: Funding proposal for the GCF by Mongolia/United Nations Development Programme (UNDP) regarding "Improving Adaptive Capacity and Risk Management of Rural Communities in Mongolia"

Dear Madam, Sir,

We refer to the project, "Improving Adaptive Capacity and Risk Management of Rural Communities in Mongolia" in Mongolia as included in the funding proposal submitted by United Nations Development Programme (UNDP) to us on October 05, 2017.

The undersigned is the duly authorized representative of the Ministry of Environment and Tourism, Mr. Batjargal Zamba, the National focal point of Mongolia.

Pursuant to GCF decision B.08/10, the content of which we acknowledge to have reviewed, we hereby communicate our no-objection to the project as included in the funding proposal.

By communicating our no-objection, it is implied that:

- (a) The government of Mongolia has no-objection to the project as included in the funding proposal;
- (b) The project as included in the funding proposal is in conformity with Mongolia's national priorities, strategies and plans;
- (c) In accordance with the GCF's environmental and social safeguards, the project as included in the funding proposal is in conformity with relevant national laws and regulations.

We also confirm that our national process for ascertaining no-objection to the project as included in the funding proposal has been duly followed.

We also confirm that our no-objection applies to all activities to be implemented within the scope of the project.

We acknowledge that this letter will be made publicly available on the GCF website.

Kind regards,

Dr. Batjargal Zamba

National Focal Point of Mongolia for the GCF

Environmental and social safeguards report form pursuant to para. 17 of the IDP

Basic project or programme information	
Project or programme title	Improving Adaptive Capacity and Risk Management of Rural Communities in Mongolia
Existence of subproject(s) to be identified after GCF Board approval	No
Sector (public or private)	Public
Accredited entity	United Nations Development Programme (UNDP)
Environmental and social safeguards (ESS) category	Category B
Location - specific location(s) of project or target country or location(s) of programme	Khovd, Zavkhan, Dornod and Sukhbaatar provinces (aimags) of Mongolia
Environmental and Social Impact Assessment (ESIA) (if applicable)	
Date of disclosure on accredited entity's website	Friday, May 22, 2020
Language(s) of disclosure	English and Mongolian
Explanation on language	Mongolian is the only official national language in Mongolia.
Link to disclosure	English: https://www.undp.org/content/dam/mongolia/Publications/FP-UNDP-120320-5873-Annex%20b%20ESMF.pdf Mongolian: https://www.undp.org/content/dam/mongolia/Publications/FP-UNDP-120320-5873-Annex%20b%20ESMF_mon.pdf
Other link(s)	UNDP Mongolia website: https://www.mn.undp.org/content/mongolia/en/home/library/improving-adaptive-capacity-and-risk-management-of-rural-communi.html Ministry of Environment and Tourism website:

	https://www.mne.mn/?s=undp Mongolian Environment Civil Council website and Facebook page: http://mecc.mn/?p=14906&fbclid=IwAR2OVRbSEQYlxYWdfBl6RL126d4MNOqiEcvHcPlmttxNCbDMTOjAZnR1y3c https://www.facebook.com/mecc.mn/?ref=br_rs
Remarks	An ESIA consistent with the requirements for a Category B project is contained in the Environmental and Social Management Framework (Annex 6a of the FP).
Environmental and Social Management Plan (ESMP) (if applicable)	
Date of disclosure on accredited entity's website	Friday, May 22, 2020
Language(s) of disclosure	English and Mongolian
Explanation on language	Mongolian is the only official national language in Mongolia.
Link to disclosure	English: https://www.undp.org/content/dam/mongolia/Publications/FP-UNDP-120320-5873-Annex%206b%20ESMF.pdf Mongolian: https://www.mn.undp.org/content/dam/mongolia/Publications/FP-UNDP-120320-5873-Annex%206b%20ESMF_mon.pdf
Other link(s)	UNDP Mongolia website: https://www.mn.undp.org/content/mongolia/en/home/library/improving-adaptive-capacity-and-risk-management-of-rural-communi.html Ministry of Environment and Tourism website: https://www.mne.mn/?s=undp Mongolian Environment Civil Council website and Facebook page: http://mecc.mn/?p=14906&fbclid=IwAR2OVRbSEQYlxYWdfBl6RL126d4MNOqiEcvHcPlmttxNCbDMTOjAZnR1y3c https://www.facebook.com/mecc.mn/?ref=br_rs
Remarks	An ESMP consistent with the requirements for a Category B project is contained in the Environmental and Social Management Framework (Annex 6a of the FP).
Environmental and Social Management (ESMS) (if applicable)	
Date of disclosure on accredited entity's website	N/A
Language(s) of disclosure	N/A
Explanation on language	N/A
Link to disclosure	N/A
Other link(s)	N/A
Remarks	N/A
Any other relevant ESS reports, e.g. Resettlement Action Plan (RAP), Resettlement Policy Framework (RPF), Indigenous Peoples Plan (IPP), IPP Framework (if applicable)	

Description of report/disclosure on accredited entity's website	Social and Environmental Safeguards Procedure (SESP)/ Friday, May 22, 2020
Language(s) of disclosure	English and Mongolian
Explanation on language	Mongolian is the only official national language in Mongolia.
Link to disclosure	English: https://www.undp.org/content/dam/mongolia/docs/FP-UNDP-120320-5873-Annex%20a%20SESP.pdf Mongolian: https://www.undp.org/content/dam/mongolia/Publications/FP-UNDP-120320-5873-Annex%20a%20SESP_mon translated%20by%20Sengelmaa Chief%20Simultaneous%20Interpreter 976-99776690.pdf
Other link(s)	UNDP Mongolia website: https://www.mn.undp.org/content/mongolia/en/home/library/improving-adaptive-capacity-and-risk-management-of-rural-communi.html Ministry of Environment and Tourism (MET) website: https://www.mne.mn/?s=undp Mongolian Environment Civil Council website and Facebook page: http://mecc.mn/?p=14906&fbclid=IwAR20VRbSEQYlxYWdfBl6RL126d4MNOqjEcvHcPlmttxNCbDMTOjAZnR1y3c https://www.facebook.com/mecc.mn/?ref=br_rs
Remarks	The SESP is a UNDP document that is used for identifying social and environmental risks and mitigation measures. It does not replace or conflict with GCF ESS requirements and policies.
Disclosure in locations convenient to affected peoples (stakeholders)	
Date	Friday, May 22, 2020
Place	Ministry of Environment and Tourism Government building II United Nations Street 5/2 Chingeltei District Ulaanbaatar 15160 Mongolia
Date of Board meeting in which the FP is intended to be considered	
Date of accredited entity's Board meeting	N/A
Date of GCF's Board meeting	Tuesday, June 23, 2020

Note: This form was prepared by the accredited entity stated above.

Secretariat's assessment of FP141

Proposal name:	Improving Adaptive Capacity and Risk Management of Rural communities in Mongolia
Accredited entity:	United Nations Development Programme (UNDP)
Country/(ies):	Mongolia
Project/programme size:	Medium

I. Overall assessment of the Secretariat

1. The funding proposal is presented to the Board for consideration with the following remarks.

Strengths	Points of caution
Overgrazing is a pervasive problem across Mongolia and the primary cause of watershed and grassland degradation. Interventions to address watershed and land degradation, protect herder livelihoods and develop value chains have been successful but done in isolation and the objective has been so far been elusive. The project brings together the successful approaches and applies a climate lens to address the challenges and barriers that inhibit climate resilience for Mongolia's most vulnerable sector and communities.	The accredited entity needs to work closely during implementation to further ensure the compatibility, coherence and synergies with the other on-going efforts on the ground.
The Government of Mongolia contributes to a considerable amount of co-financing regardless of its economic slowdown and budgetary constraints.	

2. The Board may wish to consider approving this funding proposal with the terms and conditions listed in the respective term sheet and addendum XXIII, titled "List of proposed conditions and recommendations".

II. Summary of the Secretariat's assessment

2.1 Project background

3. The impacts of a drastically warming climate are already being felt in Mongolia, where temperature has increased by 2.1 °C over the past 70 years. Average precipitation is declining, and extreme weather events are more frequent, posing challenges to its vast pastureland and livestock production that are already fragile after decades of unsustainable herding practices. Accelerating degradation of pastureland due to climate change keeps herders trapped in a vicious cycle: with less pasture to graze their animals, they lose their stock and income. And in turn, many herders compensate for the losses by increasing herd size, putting even more

pressure on the already vulnerable land. A recent study shows that 70 per cent of Mongolia's national rangelands, which makes up more than 80 percent of its territory, has degraded and plant composition has changed.

4. This project seeks to strengthen the resilience of resource-dependent herder communities in four aimags vulnerable to climate change by bringing together climate-informed natural resources management and sustainable livestock practices. It will create proper foundations for a parallel project led by Asian Development Bank that aims to close the gap between grant financing and market financing, thereby further ensuring sustainability and impact beyond this project intervention.

5. The total project cost is USD 79 million, all in the form of grants. GCF financing amounts to USD 23 million, and considerable resources (USD 56 million) have been secured from three ministries of the Government of Mongolia: the Ministry of Environment and Tourism (MET) (USD 20 million), the National Emergency Management Agency (NEMA) (USD 3 million) and MOFALI (USD 33.2 million).

6. The environmental and social safeguards classification of the project is category B, as informed by the screening performed by UNDP.

2.2 Component-by-component analysis

Component 1: Integrate climate information into land- and water-use planning at the national and subnational levels (total cost: USD 16.3 million; GCF cost: USD 5.1 million, or 31 per cent)

7. This component supports the integration of climate information into Mongolia's land and water sector governance and planning. It will focus on developing the technical capacity to forecast medium-to-long term climate change and its impact on water and land resources, thereby integrating it into its climate-resilient planning. In addition to strengthening the government and planning at the national level, the generated information will be also incorporated into the development of climate risk and adaptation profiles of river basins, which could further guide aimags and soums in drawing up soum-level development plans and resource use agreements (RUAs). These plans and RUAs (to be implemented under output 3; see below for more information) serve as a road map and basis to guide herder household behaviour by defining and agreeing on grazing boundaries of common rangelands and adopting community-based rules to enforce grazing plans and schedules that are sustainable and climate-resilient.

8. The AE provided a detailed analysis of its national hydromet system, and the existing computing and storage capacity is assessed as sufficient for using the data for current applications (i.e. daily to weekly weather forecasts). However, investment is needed to improve the accuracy of monthly and seasonal forecasts and generate the climate models needed to inform longer-term climate-informed planning. GCF proceeds under this output would be used specifically to fill this gap and will invest to upgrade the computing and storage capacity to allow for more accurate projections, thus better informing planning and adaptation measures. The GCF contribution in this component is critical and will benefit all relevant sectors nationwide, beyond the water and land management sectors that are the focus of this project.

9. Moreover, GCF will devote its resources to enabling the generated information to reach last-mile beneficiaries by supporting impact-based forecasting efforts to allow for forecast-based financing and its upscaling.

Component 2: Scaling up climate-resilient water and soil management practices for enhanced small-scale herder resource management (Total: USD 37.4 million; GCF cost: USD 11.2 million, or 30 per cent)

10. This output is focused on investments needed to protect land and water resources and the cooperation mechanisms necessary for the sustainable management of shared resources, using traditional community-level agreements informed by best practices.
11. Historically, accountability for the livestock wells was not well defined, especially as livestock was privatized, state cooperatives were dismantled and herder households became private businesses. This lack of accountability and operations and maintenance (O&M) has caused a drop in functioning wells, which leads to increasing pressure on rivers, streams and ponds (and related ecosystems), combined with the drying of water sources due to climate change. This project will invest in infrastructure measures such as community water harvesting ponds and tanks as well as catchment reforestation at river headwaters. The project will partially support the upfront costs of restoring the wells, to be shared with co-financiers. The ownership of the rural wells for animal watering purposes is to be made clear and will belong to the government, with the O&M role formally assigned to herders and herder groups residing around those wells. The local government authorities have already determined that the costs for the O&M of these physical structures are to be supported through this project.
12. The project will also invest in land management measures, such as fences and fodder cultivation, which aim to reduce volatility to livelihoods related to climate change-induced extreme events. Rangeland use agreements for the sustainable management of pasture will enforce seasonal rotational grazing and resting schedules, long-term agreements for the maintenance of rangeland health and plans to adjust and reduce the stocking rate to rangeland carrying capacity agreement between resource user groups (RUGs) and soum governments.
13. Building on best practices, this output will foster the sustainable use of land and water resources by herder communities, while making critical investments to protect catchment areas and overstressed land.

Component 3: Build herder capacity to access markets for sustainably sourced, climate-resilient livestock products (total cost: USD 21.5 million; GCF cost: USD 5.7 million, or 26.5 per cent)

14. Addressing overpopulation of livestock requires interventions that support behaviour change among herders. The interventions should enable herders to move away from practices that are not compatible with the changing landscape and increasingly volatile due to climate change. In particular, measures will be put in place that increase the value per animal so as to compensate for the reduction in the number of livestock. This output will be implemented in close collaboration with the National Mongolian Livestock Programme. It will identify public-private community partnerships for sustainably sourced climate-resilient livestock products by organizing investment fairs that link herders and herders' groups with buyers and meat and fibre processors.
15. GCF resources will be devoted to industry-wide initiatives for financing awareness-raising and capacity-building related to sustainably sourced climate-resilient products.

Component 4: Project management (total cost: USD 4.1 million; GCF cost: USD 1.1 million, or 26.8 per cent)

16. Total project management costs (PMCs) amount to USD 4.1 million, to be financed by GCF and the Government of Mongolia. The total PMCs and the split between GCF and co-financiers comply with the GCF Policy on Fees for Accredited Entities.

III. Assessment of performance against investment criteria

3.1 Impact potential

Scale: Medium

17. The funding proposal has high impact potential with a clear climate rationale. The project is expected to increase the adaptive capacity of almost one million beneficiaries (130,000 direct and 800,000 indirect) by strengthening national resource management and generating climate information and forecasting. The core of the project is to improve the resilience of the livestock sector using ecosystem-based adaptation principles and interventions that will reduce exposure to climate risks. The project will invest in the generation of seasonal and long-term climate forecasting information that benefits the whole country and maximizes the benefits of end users through impact-based forecasting and forecast-based financing.

3.2 Paradigm shift potential

Scale: Medium-high

18. The project promotes climate-informed institutional planning, natural resources management and integrated water resources management. It will directly address key barriers that hinder the climate resilience of the livestock sector. The changes enacted by the project and the transfer of knowledge will promote the effective and sustained participation of private and public sector actors in low-carbon and/or resilient development beyond the project term. The project creates conditions for future private sector/ public-private partnership investment by promoting climate friendly and climate-resilient markets for Mongolian livestock products that link back to the herder producer organizations, RUAs and resource user groups. Continued private sector engagement will likely result in better animal health and enhanced quality. The funding proposal has medium-high paradigm shift potential.

3.3 Sustainable development potential

Scale: High

19. The project has a high sustainable development potential due to its key focus on the sustainable management of land and water. This will result in significant economic co-benefits to the wider economy of the herder groups and throughout the value chain, and to the country as a whole. The project has the long-term effect of fulfilling a pre-condition for a strengthened agricultural business value chain and restored rangeland.

3.4 Needs of the recipient

Scale: Medium-high

20. The project addresses the resilience of animal husbandry and rangeland management, which are key sectors and vulnerable to climate change and more frequent extreme weather events in combination with the dzud. The project targets some of the poorest and most vulnerable parts of the country, including vulnerable populations. These vulnerable groups are in rural areas, and herder households make up the majority of the rural population, including the target aimags, which are among the poorest in the country. GCF funding will support technical capacity-building on climate change adaptation and risk mapping and planning for national and key provincial officials. The funding proposal has medium-high scoring for needs of the recipient.

3.5 Country ownership

Scale: High

21. The funding proposal has high country ownership, as it is fully aligned with the Government of Mongolia's policy objectives and included in the country programme. There is considerable co-financing and commitment; of the USD 79.301 million in project costs, 71 per cent of the necessary budget resources comes from co-financing from the Government of Mongolia. Mongolia's Second National Communication to the United Nations Framework Convention on Climate Change highlights the livestock sector as the key sector requiring

adaptation assistance and the country's need to maintain ecosystem balance and strengthen integrated water resource management.

3.6 Efficiency and effectiveness

Scale: Medium

22. The project promotes complementarity with related efforts and best practices. There is no revenue-generating potential. The proposed project is cost-effective, generating an economic internal rate of return of 20.8 per cent over 20 years, well above the UNDP 10 per cent social discount rate. Most of the benefits come from reduced losses from dzuds as a result of the improved management of better climate information and water and soil management practices. The outputs of the project are either public goods or improvements to the management of common-pool resources, which are appropriate for grant funding. The projects leverage considerable country contributions through the 71 per cent co-financing. The funding proposal has medium efficiency and effectiveness.

IV. Assessment of consistency with GCF safeguards and policies

4.1 Environmental and social safeguards

23. **Environmental and social risk category.** The accredited entity (AE) has screened the project using its social and environmental standards procedure and assessed the project as having moderate risk equivalent to category B. The Secretariat confirms the classification, and it is within the risk level at which the AE has been accredited. The project's activities, such as the rehabilitation of existing water infrastructure or the construction of water supply facilities, are expected to have potential limited adverse environmental and/or social risks and impacts, which are generally site-specific and largely reversible, and can readily be addressed through mitigation measures. Moreover, the project is expected to deliver long-term environmental benefits through the development of water management plans and the implementation of water resource conservation techniques that lead to better agricultural-pastoral practices of the beneficiaries.

24. **Safeguards instruments and disclosure.** The AE has prepared an environmental and social management framework (ESMF) for the project and has disclosed it in both English and the local language. The AE has assessed the potential risks and impacts of the project and has included performance criteria, management measures, responsible parties, budgets for implementation as well as monitoring and reporting processes and procedures in the ESMF. The ESMF also includes key environmental and social indicators on climate, ecology, ground and surface water, erosion and sediments, waste management, air quality and noise. It further contains social impact management measures and guidelines for the management of emergency situations. The screening procedure includes checks against the national laws for required instruments and the scoping of issues for activities using the social and environmental standards procedure of the AE. Environmental and social management plans will be developed based on risks identified and will be expanded to include any other specific documents that need to be prepared.

25. **Environmental and social risks, and impacts and management.** The project will be implemented in accordance with national laws and regulations, and it does not envisage any resettlement of people, such as loss of homes or similar infrastructure. The project will also utilize either government-owned land or land where consent is provided by the landowner(s) for infrastructure measures. The project will also construct structures such as dams and weirs that are considered small and low-risk, and shall include provisions for appropriate erosion and sediment control in all stages of the project.

26. To address potential issues in relation to impacts on indigenous peoples, the AE conducted a review that included consultations. Referencing the GCF Indigenous Peoples Policy, the review found that the four target provinces are the areas where a majority of ethnic minorities in Mongolia live. Based on a consultative process, particularly the activities around the formalization of pasture herder groups and the development of pasture management plans, ethnic minorities will continue to be consulted and included in the project. The AE notes that project interventions will ensure that all herder households (100 per cent) in four target provinces benefit, irrespective of gender, social and economic status or ethnicity, and ensure balanced and equitable benefits among the beneficiaries and provinces.
27. Some of the risks and potential social impacts of the project include the risk that some herders may not abide by agreements reached, which could result in conflict over the use of resources. With this, the project intends to develop RUAs with the community-based RUGs to ensure that existing land-use agreements will be comprehensive enough to include all seasonal pastures and that herders' rights and responsibilities will be clearly indicated and understood. There is also potential for conflict over water resources. Nonetheless, the development of watershed management plans and watershed agreements that stipulate the responsibilities for the use, protection and maintenance of the new and renovated infrastructure that are easily understood by potential beneficiaries mitigate this risk.
28. Construction-related occupational safety risks in the installation of infrastructure (such as the fencing of hayfields for winter pasture conservation and fodder preparation and the construction of winter shelters for livestock and fodder storage structures) will be implemented, taking into consideration appropriate construction methods and avoiding culturally inappropriate actions. Other activities, such as the fencing of springs, small weirs and water harvesting structures; establishment of windbreaks; soil protection (from erosion); rehabilitation of water resources; construction of deep wells; and rehabilitation/establishment of shallow wells will be implemented in accordance with standard occupational and workers' safety protocols. On all these activities, broad consultation with target users and relevant stakeholders to reach beneficial agreements is planned.
29. The project has also listed activities as part of an exclusion list that the project will not support. This includes those that will involve significant conversion or degradation of natural habitats and/or may cause measurable adverse impacts to critical natural habitats; will involve physical or economic displacement of people; could result in damage or loss to cultural heritage; do not meet minimum design standards with poor design or construction quality, particularly if located in vulnerable areas; and could involve forced labour/harmful child labour in production or activities .
30. **Institutional arrangements and capacity-building.** On the ground, MET has the overall responsibility of ensuring that the project implements the ESMF provisions together with the project management unit (PMU). During construction, the contractors' activities will be supervised and managed by a site supervisor and a project manager, respectively, with MET having responsibility for environment and social issues. Various components also include capacity-building activities aimed at enhancing the human resources capabilities of those who would be implementing activities under the project.
31. **Stakeholder engagement.** The AE has conducted consultations throughout the proposal development stage with various government officials and aimag-level representatives and communities and other development partners. It also reported that consultations were carried out with local government representatives from various sectors such as policy, agriculture, livestock and crop farming, environment and tourism, land and water resources management, hydrometeorology and emergency management. Representatives from non-governmental organizations, civil society, academia and the private sector and beneficiaries from the target provinces have also been consulted through various formats including roundtables, workshops and bilateral meetings. It has likewise prepared a stakeholder

engagement plan, which provides an indicative list of stakeholders that need to be engaged during project inception and the course of project implementation.

32. **Grievance redress mechanism.** The AE will apply its two-tiered grievance redress mechanism consistent with its stakeholder response mechanisms: Overview and Guidance (2014) and World Bank Group Safeguards Policies, which are designed to consider the local context. At the project level, those with grievances on social and environmental issues can raise them through various channels and formats (e.g. verbal, by phone, complaints box, written) to the AE, MET, MOFALI, the construction contractor or the field staff represented by the Safeguards and Gender Officer in the PMU, who is also the designated grievance redress mechanism officer.

4.2 Gender policy

33. The AE has provided a gender assessment and gender action plan, and therefore complies with the requirements of the GCF Gender Policy.

34. In the gender assessment, the AE illustrated the commitment of Mongolia to achieving gender equality and women's empowerment. Women have equal rights to inheritance, land use and ownership of livestock and property under the constitution. Various policies and frameworks highlight the importance of the empowerment of women with the designation of gender focal points at various government levels. However, not all strategies, policies and frameworks acknowledge and promote the empowerment of women, with some even being found to be gender-blind. Even when there are gender focal points, the capacity to mainstream gender across the various sectors and policies and strategies is limited. There is a paucity of sex-disaggregated data to inform policies and strategies to address the needs and priorities in the various sectors. However, available data indicates that girls are better educated, as it is thought that girls are not apt to herding and it is assumed that herding can secure a regular income for boys. Despite their achievements in education, women's representation in decision-making and lucrative jobs is much lower than men's.

35. The gender assessment, which was carried out based on desk reviews, indicates that gender inequality is also an issue in the localities where the project will operate. The overall gender inequality in the country means that women and men are affected differently by climate-induced disasters. This is further heightened by the prevailing gender-based division of labour and unequal workloads levied on women as opposed to men, particularly related to reproductive roles. However, this situation sometimes provides unexpected changes in the roles men play. For example, when the women in the household have perished or become severely disabled due to disasters, men assume some of the reproductive roles. Young men seem to be more exposed to immediate disaster, and women are more susceptible to disasters that have long-term effects. Disasters affecting livestock impact women and men differently, with the latter having to leave their home in search of jobs, leaving the aged and women behind. Men usually do most of the work outside and away from the home, such as selecting pastures, haymaking, herding animals, and participating in meetings and business-related activities. Women perform both animal husbandry and household work, which also includes activities such as rearing livestock, milking and processing, wool and cashmere shearing, and cleaning of animal shelters. They also engage and use natural resources through their decision-making and implementation have been undervalued. There are gender disparities in the labour market, which are seen in mostly unpaid jobs performed by women, women's limited engagement in entrepreneurial activities, women's limited presence in higher level managerial positions and lower wages for women. Despite their constitutional rights, women's land tenure and property rights are weak; ownership of property is in the name of the head of household (usually men), and men seem to be the dominant decision-makers with regard to loans and expenditures. An estimated 90 per cent of agricultural land and livestock are registered under the name of the

man as head of household. Men also seem to have better access to information related to technology and development. The assessment also finds that there is a prevalence of violence against women despite specific data. The violence is rooted in the existence of patriarchal attitudes, alcohol dependence, men's unemployment, the wife's economic dependence on her husband, and the attitude of tolerating violence to name a few.

36. In fulfilling the requirement of the GCF Gender Policy, the AE has provided a gender action plan that includes activities to address the identified challenges to attaining gender equality and contribute to women's empowerment with corresponding indicators, targets, timelines, budget and a gender expert. The activities identified will ensure access to financing, ensure gender-balanced participation in developing an integrated agricultural development business model, y. c) when supporting HPOs to prepare business proposals, review the findings of opportunity and risk analyses carried out under activity 3.1.1 to establish a baseline to utilize and maximize the strengths of female-run business on business proposals; d) facilitate access to the Government of Mongolia's special purpose fund for supporting small and medium-sized enterprises, where small businesses can obtain loans with low interest to expand their businesses. It also includes activities geared towards collecting sex/age-disaggregated data for any surveys or assessments, including the needs assessment. The inception-phase studies will help identify the most effective and appropriate measures in addressing gender inequalities in the localities. The gender action plan also includes activities for reviewing documents to ensure the mainstreaming of gender issues in documents such as Opportunity and Risk Analysis on PPCP-CRAD; Value Chain Analysis; Climate Change Impact, Vulnerability, and Risk Assessment; Climate, Risk, and Adaptation Profiles. The project will also set quotas to ensure equitable representation of women in decision-making positions in the RUGs, thereby creating an enabling environment for women to express their views and promote their leadership. The project intends to conduct continuous dialogue with women and men on the benefits of women's empowerment to help bridge the gender gap and contribute to meaningful gender equality.

4.3 Risks

4.3.1. Overall programme assessment (medium risk)

37. The funding proposal requests a GCF grant of USD 23.1 million, accounting for 29 per cent of the total financing. The total project cost is USD 79.3 million, with co-financing by way of grants from MET, NEMA and MoFALI. The AE provides no co-financing.

38. The proposed project seeks to strengthen the resilience of resource-dependent herder communities in four aimags vulnerable to climate change. The objective of the project will be achieved through a combination of (i) enhanced climate-informed planning for land and water use localized to the aimag level; (ii) ecosystem-based adaptation measures; and (iii) capacity-building for herders to pursue climate-resilient livelihoods. The project will be implemented over a period of 7 years with an expected lifespan of 20 years.

4.3.2. Accredited entity/executing entity capability to execute the current programme (medium risk)

39. UNDP, the AE, has an extensive track record in the implementation of projects. The AE has experience working with the executing entity (EE) and with projects in Mongolia on sustainable land management practices.

40. The EE, MET, has experience in coordinating and implementing climate change-related projects with UNDP Mongolia (e.g. "Sustainable Land Management for Combating Desertification in Mongolia" and "Ecosystem-based adaptation measures for maintaining water

security in critical water catchments of Mongolia”). MET is mandated to ensure the fulfilment of the country’s obligations under the Convention on Biological Diversity, the United Nations Convention to Combat Desertification and the United Nations Framework Convention on Climate Change, and is one of the four mainstream policymaking ministries of the country.

4.3.3. Project-specific risks (medium risk)

41. Execution of policies and plans: A significant portion of funds is allocated to knowledge generation, policy review and development, the generation of plans and the provision of equipment to support decision-making. The lack of execution of such policies and/or decision-making based on the new capabilities (e.g. as result of shifting priorities or changing circumstances) would reduce on-the-ground impact for beneficiaries. A lack of availability of parallel financing, both public and private, could also reduce impact. Comfort is derived from the commitment of the EE, the close collaboration of the AE with the implementing entities and the focus on the involvement of local communities.

42. Sustainability of outcomes: The lifespan of 20 years will depend on the quality of the equipment maintenance; the continued application of the knowledge and equipment transferred under output 1; as well as the continued O&M of work undertaken under output 2. Comfort is derived from the alignment of co-financing with the EE, the focus on community participation and the inclusion of O&M provisions with contributions from both the community and the local government. It is recommended that the duration of the O&M provisions be aligned with the expected lifespan of the project (20 years).

43. Behaviour factors and increased livestock: The AE has identified continued overgrazing as a result of the lack of behavioural change among herders and the continued increase of livestock as risks for project success. Current programmes to reduce livestock growth have had limited results. To achieve behavioural change, training will be provided to herders that will help inform their choices related livestock management. In addition, activity 1.3 will support policy review and development for disincentivizing large herds. Parallel financing of the ADB ASDIP project would provide incentives to herders to reduce livestock.

4.3.4. GCF portfolio concentration risk (low risk)

44. In case of approval, the impact of this proposal on the GCF portfolio concentration in terms of result area and single proposal is not material.

4.3.5. Compliance risk rating (medium)

45. The proposed activities as described in the project do not suggest any unusual high risk for money laundering or terrorist financing. Nevertheless, as in any project, appropriate monitoring and internal controls shall be applied to identify, monitor and mitigate such risks. In this instance, the AE has described its internal policies, procedures and approach to assessing, monitoring and mitigating risks in the project and among its partners. Based on the additional information provided by the AE and taking into account the general circumstances and scope of the project, compliance risk is assessed as “medium”.

4.3.6. Recommendation

46. It is recommended that the Board consider the above factors in its decision.

Summary risk assessment	
Overall programme	Medium
Accredited entity/executing entity capability	Medium

Project-specific execution	Medium
GCF portfolio concentration	Low
Compliance	Medium

4.4 Fiduciary

47. UNDP will be the AE for the “Improving Adaptive Capacity and Risk Management of Rural Communities in Mongolia” project. The GCF grant will be implemented following the UNDP National Implementing Modality, according to the Standard Basis Assistance Agreement between UNDP and the Government of Mongolia (signed in 1976). The project will be administered by the UNDP and be passed on to the Government of Mongolia through the Ministry of Finance as per the agreed work plan with the EEs. In its role as an AE, UNDP will oversee project administration, monitor and oversee project implementation and ensure project compliance with UNDP safeguards and relevant policies through its headquarters, regional centre and country offices.

48. The national EE for this project is MET, which is accountable to UNDP for managing the project, including the monitoring and evaluation of project interventions, achievement of project outcomes, and the effective use of project resources. MET will lead the implementation for outputs 1 and 2 and will name MOFALI, the National Agency for Meteorology and Environmental Monitoring (NAMEM) and NEMA as key implementing entities. UNDP will provide support services in both technical and operations support for output 3, whereby UNDP will assume the responsibility for mobilizing and effectively applying the required inputs and partnerships to reach its expected deliverables.

49. A project management unit will be established to implement the project as per the work plan approved by the project Board. MET and MOFALI will each appoint a national project director who will be tasked with overseeing the implementation of outputs 1 and 2, respectively. They will ensure coordination and mobilize project implementation support from their respective ministries and partner organizations and manage the intersectoral coordination required in project implementation. In addition, the project will have key staff tasked with the following: safeguards and gender, communications, monitoring and evaluation, training, finance, procurement and administrative support. When fully staffed, the total number of key staff and support staff in the project management unit will be approximately 20.

50. An independent financial management assessment of MET was conducted in 2018 by Moore Stephens LLP Chartered (London) in accordance with the relevant UNDP guidelines. The financial management risk rating for MET is “moderate”.

51. The procurement risk assessment rating is “moderate” for MET, as all procurements are governed by the Procurement Law of Mongolia. The project’s financial management and procurement will be subject to UNDP financial rules and regulations. The project will provide the necessary training on UNDP procurement procedures to enhance the procurement capacity of the agencies concerned.

52. The project will be audited in accordance with UNDP policies and procedures on audits, informed by and together with any specific requirements agreed in the accreditation master agreement. UNDP will select the auditors according to the current audit policies. Scheduled audits are also performed in UNDP during the project cycle as per UNDP assurance/audit plans, on the basis of UNDP guidelines.

4.5 Results monitoring and reporting

4.5.1. Logical framework

53. The logical framework has been designed with relevant details, including reporting on core indicators for adaptation and the respective impact, outcome and output indicators for the result area and the project targets as per the GCF results management framework/performance measurement framework.

54. There are three clear results outputs and they are in turn given appropriate monitoring indicators. The results areas are: (1) integrate climate information into land and water use planning at the national and subnational levels; (2) scale up climate-resilient water and soil management practices for enhanced small-scale herder resource management; and (3) build herder capacity to access markets for sustainably sourced, climate-resilient livestock products.

55. GCF-level outcomes and impacts are specified in line with the GCF pre-set result area guidelines. They are given quantitative as well as qualitative indicators. As for the qualitative indicators, a change process is explained with anticipated, gradual levels of progress towards the final target.

56. Anticipated outcomes are:

- (a) A 5.0 Strengthened institutional and regulatory systems for climate-responsive planning and development. This outcome is indicated by A.5.1 Institutional and regulatory systems that improve incentives for low-emission planning and development and their effective implementation. It is foreseen that by the end of year seven, documentation for policy transformations will be reviewed by the stakeholders and comments integrated to the extent possible;
- (b) A 6.0 Increased generation and use of climate information in decision-making. This outcome is indicated by A 6.1 Use of climate information products/services in decision-making in climate-sensitive sectors. It is foreseen that by the end of year seven, adaptation investments will be ongoing;
- (c) A7.0 Strengthened adaptive capacity and reduced exposure to climate risks. This outcome is indicated by A 7.1 Use by vulnerable households, communities, businesses and public-sector services of GCF-supported tools/instruments, strategies and activities to respond to climate change and variability. An improvement in the score for 30 per cent of rangeland covered by the project is foreseen by the end of year seven.

57. Anticipated impacts are:

- (a) A1.0 Increased resilience and enhanced livelihoods of the most vulnerable people, communities and regions. This impact is indicated by A1.2 Number of women and men benefiting from the adoption of diversified, climate-resilient livelihood options (including fisheries, agriculture, tourism, etc.). It is estimated that 130,000 people will benefit directly from this project by the end of year seven; and
- (b) A4.0 Improved resilience of ecosystems and ecosystem services. This impact is indicated by A 4.1 Coverage/scale of ecosystems protected and strengthened in response to climate variability and change. It is estimated that by end of year seven, the project will have improved 14 watersheds and restored 36.44 million hectares of rangeland.

58. Lastly, the core indicators are estimated on the basis of foreseen impacts and over the 20-year project lifetime. Core indicators are:

- (a) E. 2.3. Expected volume of finance to be leveraged by the proposed project/programme as a result of GCF financing, disaggregated by public and private sources. Expected total leverage ratio is 2.433, all public resources.
- (b) E. 2.4. Expected total number of direct and indirect beneficiaries (disaggregated by sex). It is estimated that by the end of year seven (end of project implementation), a total of

26,000 households (130,000 persons, of which 65,000 are women) will be direct beneficiaries. In terms of indirect beneficiaries, 160,000 households (800,000 people, of which 400,000 women) will benefit; and

- (c) E. 2.5. Number of beneficiaries relative to total population (disaggregated by sex). It is estimated that by the end of year seven (end of project implementation), women (accounting for 2.25 per cent of the total population) and men (accounting for 2.25 per cent of the total population) will be direct beneficiaries of this project. As for indirect beneficiaries, all herder households, including all women and men in these households, plus women accounting for 13 per cent of the total population and men accounting for 13 per cent of the total population, will indirectly benefit from the GCF grant.

4.5.2. Implementation timetable

59. The funding proposal implementation timetable has been completed appropriately. It shows all activities and key milestones associated with each phase of the project, and they are consistent with the 'logical framework'.

4.5.3. Monitoring, reporting and evaluation arrangements

60. The arrangements for monitoring, evaluation and reporting (Section E.7) are adequate. A detailed monitoring and evaluation budget, monitoring plan and evaluation plan has been included.

4.6 Legal assessment

61. The Accreditation Master Agreement was signed with the Accredited Entity on 5 August 2016, and it became effective on 23 November 2016.

62. The Accredited Entity has provided a legal opinion/certificate confirming that it has obtained all internal approvals and it has the capacity and authority to implement the project.

63. The proposed programme will be implemented in Mongolia, a country in which the GCF's privileges and immunities are not yet in force. The agreement on privileges and immunities was signed by GCF and Mongolia on 22 November 2019, and is currently pending ratification by the Parliament of Mongolia.

64. The Heads of the Independent Redress Mechanism (IRM) and Independent Integrity Unit (IIU) have both expressed that it would not be legally feasible to undertake their redress activities and/or investigations, as appropriate, in countries where the GCF is not provided with relevant privileges and immunities. Therefore, it is recommended that disbursements by the GCF are made only after the GCF has obtained satisfactory protection against litigation and expropriation in the country, or the agreement referred to above has been ratified.

65. In order to mitigate risk, it is recommended that any approval by the Board is made subject to the following conditions:

- (a) Signature of the funded activity agreement in a form and substance satisfactory to the Secretariat within 180 days from the date of Board approval; and
- (b) Completion of legal due diligence to the satisfaction of the Secretariat.

Independent Technical Advisory Panel's assessment of FP141

Proposal name:	Improving Adaptive Capacity and Risk Management of Rural communities in Mongolia
Accredited entity:	United Nations Development Programme (UNDP)
Country/(ies):	Mongolia
Project/programme size:	Medium

I. Assessment of the independent Technical Advisory Panel

1.1 Impact potential *Scale: Medium*

1. Mongolia is a landlocked country in East Asia with diverse topographical features and ecosystems. It possesses vast rangelands within its territory of 1.56 million km², where about 3 million people live. With a population density of 1.9 people/km², it is one of the most sparsely populated countries in the world. Its vast landmass consists of grassy steppe, desert and mountain ranges stretching from the north to the west. About 30 per cent of the population are nomadic or semi-nomadic, engaging in herding in the rangelands.

2. Mongolia faces harsh winter conditions within its annual cycle. There is significant temporal and spatial climate variability, compounded by topographical diversity. The continental climate exhibits four distinct seasons. The mean annual temperature ranges between -8 °C and 8 °C. In summer, the average temperature ranges between 10 °C and 26 °C, while that in winter ranges from -15 °C to -30 °C. The annual average precipitation varies between 50 mm to 400 mm, of which about 85 per cent falls during the extended warm season between April and September. The Kharkhiraa Turgen mountain region receives an average of 225–250 mm of precipitation per year, while low-lying lands receive an average of 125–150 mm.

3. Available sources¹ claim that the average surface air temperature has been increasing since the mid-1900s. However, a detailed examination of a time series of average annual temperature data for the period 1961–1990 suggests that the actual rising trend for temperature began in about 1987–1988 and has more or less continued ever since. The feasibility study report indicates that the air temperature increased by 2.07 °C between 1940 and 2013. Moreover, the warmest 10 years out of the last 74 years have been experienced since 1997, signifying the teleconnection with gradual atmospheric loading of greenhouse gases.

4. The long-term precipitation trend shows a decadal-scale variability in annual average total precipitation. The most recent declining cycle was from 1995 to 2010, with two exception years. Total annual precipitation has started to increase again since the last decadal-scale reduction. By completely disregarding the cyclic variability of precipitation, a regression analysis over the last 76 years exhibits a 7 per cent decrease in precipitation. Total annual precipitation (average 219.8 mm) is heavily influenced by rainfall in the warm season (average 156.1 mm). The regression analysis on time-series data for winter precipitation over Mongolia (average 6 mm) suggests that winter precipitation increased between 1941 and 2011. As winter

¹ For example, Batima *et al.*, 2005. Observed climate change in Mongolia, AIACC Working Paper No. 12, Assessments of Impacts and Adaptations of Climate Change (AIACC), Ulaanbaatar, pp. 26.

precipitation is only 8 per cent of the total available precipitation in Mongolia, the overall increase in winter precipitation amount is low. Therefore, over the whole of Mongolia, one may infer that there has been a reduction in precipitation in warmer months, while there has been a modest increase in winter precipitation. The total precipitation of June, July and August constitutes some 70 per cent of the total annual precipitation of the country.

5. The proposal targets four aimags (provinces): Khovd and Zavkhan in the west of the country, and Dornod and Sükhbaatar in the east. Analyses of the microstructure of the annual precipitation cycle using long-term meteorological (observational) data sets reveal decreasing trends in maximum 1-day and maximum 5-day precipitation episodes. However, such results are not statistically significant.
6. Analyses involving consecutive wet days do not result in a decisive inference. Both increasing and decreasing trends are observed in both the clusters of aimags in the western and eastern regions. Decreasing trends in consecutive dry days are found for all four aimags.
7. Efforts have been made to analyse the long-term observational data on precipitation in order to reveal dryness in the weather patterns. The standardized precipitation and evaporation index has been analysed for 3, 6 and 12 months. In all three analytical considerations, the index has been found to be declining, except in Dornod. The Thornthwaite equation has been employed to examine evapotranspiration for all four aimags using the same long-term data sets. It finds that evapotranspiration has been increasing in the extended warm season in all four aimags.
8. The feasibility study claims that, with increasing evaporation over a landscape, there is increased loss of moisture, which leads to drought conditions. Increased drought leads to manifold changes in resource availability in affected aimags. Droughts put pressure on available water resources. Such events also cause reduced forage production in the rangelands, which in turn affects the nutrition of grazing animals. The latter in turn affects productivity from animal husbandry. Moreover, less forage production generally leads to considerably reduced opportunities to store fodder for winter and/or much-constrained opportunities to produce high-value animal feed such as silage. Therefore, it is claimed that climate change has been adversely affecting household-level economic outputs from animal husbandry in the rangelands.
9. However, the secondary effect has been claimed to have serious consequences. While there is less forage in the rangelands, the herders and pastoral communities find it difficult to store excess fodder for use during the harsh winters, which are aggravated by stormy and windy sub-zero winter conditions called dzuds². During such events, animals cannot go out and continue to forage in the rangelands, which is why they become completely dependent on stored fodder and processed animal feed such as silage. However, as climate change is claimed to be contributing to an increasing number of dzuds, owing to a lack of fodder available in the four aimags, there has been a significant loss of livestock in recent years. It is claimed that, with the frequent losses of livestock due to dzud events exacerbated by climate change, the herders have been coping by increasing the number of animals in their herds. This has resulted in overgrazing of the rangelands. Moreover, with the changing precipitation patterns, there is less water available for the increasing number of animals. Therefore, it is claimed that climate change has been causing both overgrazing and loss of livestock production, leading to poverty among the herders.
10. A combination of trends of reduced warm-season precipitation and subsequent increase in potential evapotranspiration in all four target aimags has contributed to the net loss of

² "Dzud is the Mongolian term for a winter weather disaster in which deep snow, severe cold, or other conditions render forage unavailable or inaccessible and lead to high livestock mortality. Dzud occurs regularly in Mongolia, and plays an important role in regulating livestock populations. However, dzud, especially when combined with other environmental or socio-economic stresses and changes, can have a significant impact on household well-being as well as local and national economies." Excerpts from Fernandez-Gimenez et al., 2012; *Global Environmental Change*, 22(4): 836-851, 2012.

surface moisture. Analyses involving long-term observation data sets provide initial scientific reasoning for addressing the issue of ecosystem-scale drought under climate change.

11. However, the deterioration in grazing conditions and water resources in the rangelands of Mongolia has not been caused by climate change alone. It is recognized that overgrazing due to a large livestock population, perhaps beyond the carrying capacity of the rangelands, is another issue that has also been causing degradation of the rangeland ecosystem. With the deregulation of herding since the dissociation with the former Soviet cooperative regime in the early 1990s, herders started to gradually increase the size of their herds. The Government of Mongolia formulated the National Mongolian Livestock Program 2010–2021 (NMLP) with some specific objectives: (i) increase income from the livestock sector by increasing export volumes; (ii) increase employment in the livestock sector; (iii) increase the number of large animals in order to boost productivity; and (iv) decrease the number of smaller animals such as goats, the latter being particularly destructive³ in terms of ecosystem health. The NMLP set specific targets for redistributing the numbers of animals by type so that the issue of overgrazing could be managed. However, while the herders increased the herd size much beyond the target set by the NMLP by 2019, they did so without reducing the herd size of goats and sheep envisaged in the programme. As a consequence, by 2019, the estimated daily water demand had risen by 64 per cent compared to that for the base year (2008), and rangeland productivity had declined.

12. The trend analysis regarding the dzud index in the four aimags shows that the increase in dzud intensity started in 1999–2000, irrespective of the specific aimag. It is claimed in the funding proposal that herders started to increase herd populations as a response to dzuds. In reality, the historical increase in herd sizes and subsequent deterioration of rangeland ecosystems due to overgrazing started in the early 1990s. The issue of dzuds has compounded the problem of overgrazing, while the implementation of the NMLP without any strong regulatory measures has further encouraged the herders to increase their herd sizes, thereby putting more pressure on rangeland resources.

13. It is also claimed that lake volumes have been declining due to increased landscape-level drought conditions under climate change. Although the data presented are not convincing, one may find a steady decline in water volume in those lakes that are generally replenished by glacier melts under increasing temperature, which may be an indication of a net loss of water volume in glacier-fed lakes. If the drought scenario had not worsened over time, one would have expected an increase in water volume in glacier-fed lakes. Therefore, this appears as a proxy to understand effects of climate change-related hazards, which have adversely affected water resources in the target aimags.

14. The consultations conducted during the design phase of the project indicated anecdotal evidence that water availability has been declining and that dzuds have killed many animals. This simple anecdotal evidence vaguely establishes linkages with a changing climate. However, it is the accumulation of increasing numbers of animals in the herds that has contributed to both overgrazing and a simultaneous reduction in available water in the water infrastructures that usually store water for animal husbandry as well as for supporting modest agroforestry activities. This has been compounded by adverse impacts of climate change. Many of the existing water infrastructures are dilapidated, mainly due to a lack of periodic operation and maintenance (O&M). The latter is a product of the lack of public financing for O&M and also the non-availability of community participation in financing O&M costs. Many such water infrastructures are found to be non-functional.⁴

15. The winter seasonal analysis suggests that there has been increased snowfall, but less cold due to a higher winter temperature rise than the average annual temperature rise across

³ Goats uproot the plants on which they forage in open rangelands, thereby reducing the overall productivity of fodder.

⁴ For which, finance is sought, including for O&M, under this project.

the four target aimags. The anecdotal evidence suggests that dzud events have become increasingly hostile for the animals, and also for the herders endeavouring to maintain animal husbandry in the rangelands of Mongolia.

16. The funding proposal presents model-driven climate projections⁵ involving the regional climate model (i.e. RegCM4-HadGEM2) for Representative Concentration Pathway (RCP) 4.5 scenario for the 2016–2035 time frame. The time frame for the analysis represents a timeline that matches with the project timeline. Increases in both temperature and precipitation are projected. The projected increase in temperature is of the order of 2.0–2.1°C, while the increase in precipitation is likely to vary between 1.1 per cent in summer and 12.3 per cent in winter for the 2016–2035 time frame. This leads to some considerations. First, the increase in summer precipitation is nominal. Second, the large variation projected for winter precipitation is actually over a very low base of 6–8 mm, which is not at all appreciable. It is the distribution of summer precipitation and simultaneous occurrence of high evapotranspiration that can cause further damage to ecosystem health as well as a reduction in availability of water in the target aimags.

17. The trend for mean evapotranspiration for the timeframe of April–October presented in the funding proposal using the model results of RegCM4-HadGEM2 for the period 2016–2035 is justified owing to a (climate change-related) declining precipitation in three aimags (with Khovd being the exception). The dzud index is found to increase in all four target aimags.

18. The outputs of the regional climate model are further used for projecting the impact of changes in terms of four parameters: (i) soil organic carbon; (ii) soil organic nitrogen; (iii) above-ground biomass (AGB); and (iv) below-ground biomass. These parameters have linkages with rangeland health and forage/fodder production in the rangelands. Slight declines in both soil organic carbon and nitrogen are likely in future (i.e. 2035 scenario) for all four ecosystems. This indicates that the overall tendency of biogeochemical balance is likely to be negative in the rangelands under climate change. A more important factor is the change in AGB. This is because AGB partially determines the availability of fodder⁶ in the rangelands. The model results show that, under RCP 4.5, AGB will increase by 2035. However, the funding proposal also claims that there has been a significant variance in the composition of available AGB throughout the rangelands, which explains why the apparent increase in AGB does not mean that fodder production has actually increased or will tend to increase in future. Rather, the availability of moisture will perhaps become a determining factor in the production of fodder as part of AGB in the target areas. It is the fodder that is important for the grazing livestock in the four target aimags.

19. The project envisages three outputs: (i) the integration of climate information into land- and water-use planning at the national and subnational levels; (ii) the scaling up of climate-resilient water and soil management practices for enhanced small-scale herder resources management; and (iii) the building of herders' capacity to access markets for sustainably sourced, climate-resilient livestock products. This can be a development project at any given time, with or without the climate change-related considerations. However, the evidence base suggests that climate change will make things worse for animal husbandry, which is based on available rangeland resources. This warrants immediate action to address some of the constraints posed by climate change, especially in the target areas.

20. According to the funding proposal, the project is supposed to benefit 130,000 people directly, representing 26,000 herder households in the four target aimags. It is claimed that 50 per cent of the total beneficiaries will be women. The intended total direct beneficiaries constitute 4.5 per cent of the total national population. The corresponding indirect beneficiaries

⁵ The modelling methodology and the application of different modeling parameters have followed international best practices.

⁶ Such relationships are only partially valid in the rangelands due to the presence of an overwhelming number of goats, which may have a far more significant impact on the productivity of rangeland AGB.

will be 800,000, of which 50 per cent will be women, and the estimated number accounts for 26 per cent of the national population.

21. The proposal is claimed to be a cross-cutting project, with far greater emphasis on the GCF results area that is related to adaptation involving ecosystems and ecosystem services (62 per cent). If approved, the project will be implemented in seven years from inception for a total budget of USD 79.301 million. The funding proposal requests that GCF contribute USD 23.101 million, all in grant financing.

22. In view of the above analysis, the independent Technical Advisory Panel (iTAP) is of the opinion that the impact potential of the project is medium.

1.2 Paradigm shift potential

Scale: Medium

23. There are two key climate change-related issues that significantly affect livestock productivity in the Mongolian rangelands: (i) seasonal occurrence of droughts (or lack of water); and (ii) a lack of fodder and shelter – the essential inputs for livestock to survive dzud events. However, sustainable rangeland productivity largely depends on other non-climatic factors such as herd size and structure.

24. To address both key issues, the project considers approaches to: (i) provide for support towards increasing water availability, so that rangeland drought may be ameliorated; (ii) consider measures that would enable various water users to operate peacefully, share the resources, and utilize water in a planned manner; and (iii) take early steps to grow fodder, store it, and make it available for the livestock so that they can be sustained through the dzud events, without being exposed to sub-zero, harsh⁷ winters in search of forage. According to the funding proposal, two phenomena are simultaneously operating to cause degradation of the rangelands: (i) climate change and its induced effects on droughts and dzud events; and (ii) overgrazing due to numbers of livestock animals beyond the carrying capacity of the rangeland. The proposal claims that the estimated contribution in causing the observed degradation of rangelands in the target aims is almost equal for both the phenomena.

25. Water storage is key to withstanding a drought event. However, in the target areas, the water storage infrastructures have deteriorated over the years despite the implementation of a number of projects. The predominant cause of the deterioration of water infrastructures is the inability to generate funds either to bear the cost of recurrent O&M or to raise capital costs to replace dilapidated infrastructures. The inability to generate funds locally is compounded by the non-availability of credit support at the grass roots and a lack of mobilization of finance from the Government of Mongolia following the dissociation from the former Soviet regime in the early 1990s.

26. Therefore, the project places emphasis on the arranging of finance to reconstruct (and refurbish, where possible) the water infrastructures⁸ so that the currently dilapidated structures are made functional, thereby making water available during the drought-affected months leading up to the winter months. Apparently, external support (such as from GCF) is needed to arrange finance for the water infrastructures. For the sustaining of the structures, emphasis is placed on organizing the rangeland producers groups, called Rangeland User Groups (RUGs). The RUGs are expected to engage in the management of the structures and other resources following a participatory planning phase, and to share the common resources, including the rangeland and water resources, under an institutionally supported governance

⁷ Despite moderate increase in winter temperature, the sub-zero temperatures in open rangeland and occasional blizzard create conditions that are not conducive for open foraging by the livestock.

⁸ The NMLP has a clear mandate to implement this agenda, ensuring sustained financial support for the agenda.

system. It is anticipated that the RUGs will contribute to a fund⁹ that will ensure O&M costs are covered. The local government institutions are expected to contribute to a locally operated O&M fund to address the issue.

27. The solutions to the core issues are not innovative as such. The reconstruction and rehabilitation of inoperable water structures do not pose engineering challenges and are subject to finance being arranged. Therefore, replication of the agenda is dependent on arranging finance, something that the Government of Mongolia is said to be unable to commit to. Therefore, the scalability is somewhat restricted due to a lack of finance unless external/international bodies commit to further financing to ensure countrywide replication of the solution. The apparent lack of innovation in delivery of the project is to be addressed by considering the approach to nurture a local-level management structure that involves the development of RUGs and their participation in managing local resources through a planned approach, in cooperation with the local-level government institutions. It is anticipated that, if these nascent arrangements become successful in managing local water infrastructures and implementing local (water allocation) plans to the extent that the adverse effects of climate change are duly addressed, they will also contribute to the national call for restructuring the herd size and positively contribute to the overall reduction in overgrazing by reducing the number of livestock in the target areas. It is also anticipated that the linkages that are likely to be established to gain from livestock product value chains will build confidence among the poor herders and empower them financially, and that they will realize the value of reducing herd size in maintaining the productivity and environmental health of the rangeland ecosystem.

28. The Government of Mongolia also intends to address the issue of overgrazing, which is one of the reasons for implementing the NMLP.¹⁰ However, the performance of the implementation of the NMLP has been discouraging. Instead of decreasing the overall number of animals and decreasing exploitation of rangeland resources (such as land itself and water), the updated state of implementation of the NMLP up to 2019 provides a dismal picture:

	Larger-sized animals (%) ^a			Smaller-sized animals (%)	
	Camels	Horses	Cattle	Sheep	Goats
Target in NMLP	+15.0	+35.0	+100.0	-10.4	-41.5
Change between 2008 and 2019	+82.0	+91.0	+89.0	+76.0	+47.0

^a Percentage change with respect to 2008 levels: a + sign indicates an increase, while a – sign indicates a decrease.

29. The results of the implementation of the NMLP up to 2019 are self-explanatory. The plan failed to encourage herders to reduce the number of smaller animals. Instead, the relative numbers of all types of animals significantly increased between 2008 and 2019, which led to an

⁹ This approach appears too simplistic. No attempt has been made to assess the willingness to pay and the ability to pay against any hypothetical increase in family income involving the target households. The verbal assurances provided by the participants are taken for granted, disregarding the fact that the voluntary contributions from the users were not able to match O&M cost requirements in the past, which contributed to a gradual degradation of the critically important water infrastructures.

¹⁰ The NMLP has been implemented by the Government of Mongolia since 2010. The Government has pledged to allocate 3 per cent of the state budget annually to implement the programme, which indicates the seriousness of the Government to implement it. By 2021, the NMLP calls for increasing the number of large livestock according to the following targets: camels (by 0.3 per cent), horses (by 3.1 per cent), cattle (by 8 per cent) and sheep (by 2.7 per cent). Only for smaller-sized goats is the target a reduction (by 14.1 per cent) with respect to the baseline in 2010. The NMLP also calls for an increase in annual meat export volume to 50,000 tonnes. The targets are better understood if one takes a look into planned increase of larger livestock types between 2019 and 2021, as planned: number of camels to be increased from 472,000 to 595,000; number of horses to be increased from 4.215 million to 5.377 million and number of cattle to be increased from 4.753 million to 7.2 million.

estimated 64 per cent increase in adverse impact on land, with a simultaneous 64 per cent increase in daily water demand with respect to 2008 (i.e. pre-NMLP) levels. It is claimed that the Government of Mongolia is contemplating devising a revised NMLP for its new phase, with another target for the reduction in herd size.¹¹ It is expected that the project in question will provide support to organize policy dialogues towards framing the targets for each animal type. However, without a strong regulatory regime and demonstrated capacity of the institutions involved in enforcing such a regime, one cannot anticipate that the revised NMLP will force a reversal of the degradation of the ecosystem resources critical for the sustenance of the livestock. Even the potential gains likely to be achieved by the project through the approach mentioned above may not be adequate to engender a shift in the current paradigm of rangeland management.

30. It is expected that the climate information system will inform the rangeland users regarding the seasonal implications of climate change with a lead time. However, the effectiveness of weather information with a considerable lead time has been proved for agricultural planning but not for the planning for rangeland use. Crop-related decisions can be made with a considerable lead time, and varietal and/or cropping pattern changes are possible in anticipation of lesser rainfall. However, upon issuance of the same forecast, herders cannot control their water demand by abruptly changing herd size. As the technical efficacy of climate model-driven forecasts is generally limited in terms of “forecast period” and lead time, the reliance on the provisioning of such forecasts to ensure a production paradigm shift may be overestimated.

31. The paradigm-shift potential apparently lies in community mobilization and ownership. The participatory planning process under the aegis of local-level institutions (at the soum [district] and aimag level) will lead to an agreed regime for the sharing of local resources such as water (to be stored in the reconstructed/refurbished water infrastructures) and rangeland, which might even reduce conflict on the use of such critical productive resources among neighbours. The participatory planning effort will cover a number of river basins.

32. It is anticipated that the herders’ interests will be protected by facilitating herder producers organizations, which will engage with the private sector. Through this engagement, it is expected that herders will move away from being price takers for products falling in value, and rather emerge as entrepreneurs with quality livestock products, the latter being sourced in a manner consistent with the landscape and also with demand from the private sector. If the instruments to achieve this are to help the formation of such herder producers organizations, and to link with the private sector, the proposed solution appears only to operate at the outer layer of the problem.

33. The project consists of elements to enhance the knowledge of herders, development partners, technical agencies and their field offices. It is expected that the related training and other activities will generate knowledge on climate-informed land and water management, and on participatory multi-stakeholder management processes. The project is likely to develop a few knowledge products, including soum-level watershed plans to contribute to resilience-building. Such knowledge generation and sharing is likely to enhance replication potential, particularly if the knowledge generated is utilized to achieve resilient rangeland management.

34. The aim of fostering public–private–community partnerships is novel, but unrealistic. In reality, such partnerships are hardly ever sustained beyond a project. Business relationships are nurtured on dynamically negotiated common-interest grounds. The project aims to introduce disincentives regarding public transfer payments and accessing credit support by herders who tend to expand livestock ownership. By helping to introduce policies regarding such disincentives, the project will tend to contribute to a planned rangeland regime. The project also

¹¹ In sheep-equivalent term, where the actual number of larger animal types will increase with a drastic reduction in the number of smaller animal types.

aims at facilitating policy development towards institutionalizing resource-use agreements by stakeholders so that planned rangeland management can be established. Such policies are expected to restrain unlimited herding, with a likelihood of contributing to reducing degradation of the rangelands. It is uncertain how the non-beneficiary herders will behave, especially when they will not receive any direct incentive from the project.

35. The scaling up of the scope and impact of the intended project, without equally increasing the total costs of implementation, is low. The majority of the financing is allocated for managing the watershed, including the water infrastructures, which cannot be replicated elsewhere without additional financing. The other elements may contribute to the weather information, training and policy aspects. Analysis shows that over 75 per cent of the budget involving GCF grant support is earmarked for consultancies and contractual activities. This indicates that additional financing will be necessary for any future replication and scaling up. Therefore, the replication potential appears low.

36. In theory, the project will contribute to a paradigm shift that will lead to resilience. On the basis of many expectations, the theory of change presents a rosy picture. The assumptions used for the design of responses are often oversimplified. In reality, the project will not on its own lead to an alternate paradigm with much reduced risk, considering both climate change-related risks and those associated with any potential failure to reduce rampant exploitation of rangeland resources.

37. In view of the above discussions, the independent TAP is of the opinion that the paradigm-shift potential is barely medium.

1.3 Sustainable development potential

Scale: Medium

38. The project aims to contribute directly to the following Sustainable Development Goals (SDGs):

- (a) SDG 1 (End poverty in all forms everywhere) – By reducing losses of animals that are triggered by declines in seasonal water availability, enhancing fodder availability and promoting animal health through vaccination and other support, farm-level income is expected to increase, while the overall economic gains at the national level will help address the prevailing poverty situation in Mongolia;
- (b) SDG 6 (Ensure availability and sustainable management of water and sanitation for all) – By ensuring a planned approach to manage available water resources, enhancing availability at both landscape and community levels, keeping in mind environmental integrity and resource sustainability;
- (c) SDG 12 (Ensure sustainable consumption and production patterns) – By means of promoting sustainable production of animal products through the optimization of rangeland productivity. However, the potential contribution can also be counteracted if the Government implements the said revised NMLP without any strong regulatory measure to limit herd size; and
- (d) SDG 13 (Take urgent action to combat climate change and its impacts) – By means of addressing climate change-related concerns in soum-level sustainable rangeland planning and its implementation in the target region.

39. The project also aims to contribute to the following SDGs:

- (a) SDG 2 (End hunger, achieve food security and improved nutrition and promote sustainable agriculture) – By means of enhancing farm outputs, agropastoral households will have greater opportunities to attain food security; and

- (b) SDG 5 (Achieve gender equality and empower all women and girls) – By creating arrangements so that women in the project areas receive special attention, particularly in accessing gender-friendly services in rangeland management.

40. **Economic co-benefits:** It is expected that, by enhancing livestock production, the project will enable herders to reduce livestock losses caused by seasonal droughts and dzud events. In this process, not only will the herders of the target aimags gain financially, but the Government of Mongolia is also expected to generate increased revenues. The latter is already enshrined as a specific objective in the current NMLP (2010–2021). By provisioning of adequate water for the animals and by vaccination, it is expected that the health of these animals will be better managed even under harsh environmental conditions. The possibility of improved fodder production and storage will lead to greater availability of fodder throughout the year, including availability in the sub-zero winters, which will further help livestock production. The linkage with value chains of livestock products will enable herders to enhance their financial gains. All these will contribute to greater farm output and to the national economy. However, if the Government is keen on implementing the NMLP without introduction of effective regulatory measures (as in the first phase of the NMLP), then the effects are likely to result in much greater demand on the available water and fodder from the rangelands. The overall adverse effect might even lead to a reduction in the possibility of sustainable herding in the area. The sustainability of the project's gain will largely depend on matching actions considered by the Government of Mongolia. Such actions are beyond the activities envisaged for the project.

41. **Social co-benefits:** If the planned herding on the basis of available resources at the soum level can be enforced with new policies and regulations, the social tension regarding competition for the water reservoirs will be ameliorated. However, it is to be seen how the project brings in and accommodates the interests of the nomadic pastorals, because they are not stationary groups. Their access to critically important resources such as water from common reservoirs needs to be ensured and legally protected.

42. **Environmental co-benefits:** The project places high hopes on sustainable management of land and water, at least at the soum level. Assuming that this will happen as expected, the environmental co-benefits will be shared among the stakeholders. However, having a national programme to increase numbers of larger animals, and with the presence of non-beneficiaries in the target areas, there is scope for potential leakage in achieving the said environmental co-benefits. The soum-level plan will not be able to contribute to sustainable management of the resources if the NMLP is implemented by the Government of Mongolia without considering strong regulatory measures that allow restructuring of the herd composition at the soum and aimag levels, but that also enforce limits in terms of sheer numbers of animals by type.

43. By adding to available water infrastructures and/or by refurbishing the dilapidated ones, the overall reservoir capacity will increase, which in turn will increase water availability. The planned water allocation regime is likely to emanate from river basin-wide planning. Close community-level monitoring will enable people to enjoy pollution/contamination-free water, and particularly for their animals. By promoting rangeland agroforestry, not only can a potential for sequestering 0.85 tonnes of carbon dioxide per hectare of pasture-land be achieved, but the greater vegetation density will lead to enhanced biodiversity of the area. The mitigation potential through agroforestry needs to be brought under a monitoring, reporting and verification (MRV) regime, as promoted under the Paris Agreement. The same MRV process should ensure that, if the project is approved, the accredited entity (AE) should report the carbon sequestration through its annual progress reports.

44. The project indicates a theoretical gain in terms of sustainable livestock management, which supposedly will contribute to reduced emissions from enteric fermentation. Improved forage, silage management, moderation of animal diet, and many other aspects of animal husbandry can potentially contribute to reduced enteric fermentation, thereby reducing methane emissions from livestock. However, managing enteric fermentation for rangeland (i.e.

open-foraging) livestock is fundamentally different from that for advanced, farm-based livestock management, and, therefore, it is difficult to tweak enteric fermentation in the former case. Implementation of such techniques regarding advanced animal husbandry is even more challenging where it involves nomadic herders. In such a case, the environmental co-benefits will be eroded from the expected levels, and the eventual overall emissions might even overwhelm the potential emission gains from agroforestry.

45. **Gender co-benefits:** The project is said to be gender-sensitive. It promises that efforts will be made to integrate gender-sensitive plans and to implement such plans. The project will accommodate women-headed households in the planning process. The project is likely to collect sex-disaggregated data, enable gender-sensitive decision-making, promote access and control over resources by women, present gender analysis of the loan system to create access to such loans that currently disfavour women, and also increase women's participation in community activities.

46. The independent TAP is of the opinion that the sustainable development potential of the project is medium.

1.4 Needs of the recipient

Scale: Medium to high

47. Mongolia experiences poverty involving 28.4 per cent of its population. However, the poverty rate in rural Mongolia is 10.1 per cent and expected to decline further. It is reported that a major environmental hazard may have implications for poverty rates by adversely affecting livelihoods of the population group just above the poverty line. Livestock accounts for about 90 per cent of the agriculture sector; it represents 85 per cent of the economies of a total of 332 soums across the 21 aimags of the country. As herders are the dominant population group in the rural areas, the need for interventions to enhance their livelihoods is important. Moreover, the Government of Mongolia relies on animal herding for earning foreign exchange and also for employment in processing products of livestock origins. Mongolia is a developing economy, but it is not a least developed country, Small Island Developing State, or African country. However, there is a need for international financing to address issues that are related to rangeland-based production systems.

48. On a national scale, landscape-level drought is reported as causing increased mortality of livestock and much reduced production from the livestock sector. The combination of drought and dzud events can be quite detrimental, especially if no adaptation measures are considered. While the extent of adaptation needs will be comparatively low in the 2020s and 2030s, this will increase significantly in the 2060s or later, as demonstrated by projections using climate models.

49. Despite the fact that there are women-headed agropastoral households in the target areas, there are no data to suggest that these households are engaged in the animal herding production process, or whether they face any disproportionate (or greater) vulnerability compared to non-women-headed households. However, one may imagine greater difficulties in arranging shelter for animals during dzud events and also in arranging fodder for the livestock so that they can survive the sub-zero winter. The target areas, as per the project documents, include nomadic pastoral groups, where herding is traditionally managed by men. Despite such factors, the project claims that about 50 per cent of the beneficiaries will be women, which might be difficult to attain.

50. It is claimed that, by 2030, the countrywide investment requirement for the livestock, water and disaster management sectors is estimated at USD 46 million, USD 2.4 billion and USD 65 million, respectively. The World Bank estimated a budget deficit of the Government of the order of 18 per cent of gross domestic product in 2016. The proposal attaches the highest priority to investments from the public financing window. There is hardly any private sector

financing to address the prevailing issues, even including product-sourcing (i.e. traceability) and certification, despite the fact that the organized private sector is engaged in the existing value chain. Moreover, there is no investment plan for improving the value chain for the greater sustaining of the producers. In the absence of appreciable private sector financing, it falls to the public exchequer to invest in allied sectors, which is why GCF support is requested.

51. An alternative source of financing could be from individual households in the production system. However, not only is their access to financing rather constrained due to interest rates and a lack of understanding for community-wide collective financing for the creation of common goods (such as water infrastructures), there are virtually no risk-transfer mechanisms to receive financial support in the event of the occurrence of an environmental hazard. In order to increase farm-based income, herder households started increasing the number of livestock in the 1990s (which also marked the privatization of animal herding over government-owned rangelands), without considering the carrying capacity of the rangelands and also without understanding the potential changes in climate system.¹² Now, they have limited financial means to fight against the vagaries of nature, against the backdrop of constantly deteriorating rangeland quality caused by overgrazing.

52. In terms of GCF financing the project, the project is not among the most attractive proposals that could be offered GCF financing, also in terms of maximum concessionality. The barriers of the production system in the four target aimags have been identified; however, the allocation of finance through the GCF-specific budget has not been targeted at specific barriers. Rather, the bulk of it is to go to pay for consultancies and various consulting contracts. In contrast, budget allocations are made by mobilizing co-financing amounts to address various specific barriers. Therefore, one may question the actual needs of the recipient to receive fully concessional finance from GCF.

53. The capital investments and subsequent training on climate information generation will help relevant institution(s) to enhance their capacities. The project will facilitate the formation of resource users' groups and resource users' associations, which might attain organized bargaining power if their capacities are well developed and if the prevailing regulatory regime allows such organizations to exert influence in decision-making processes.

54. Based on the above analyses, the independent TAP is of the opinion that the needs of the recipient are medium to high.

1.5 Country ownership

Scale: Medium to high

55. Mongolia has a pseudo climate change strategy in the form of the National Action Programme on Climate Change (NAPCC), which was updated in 2011 and approved by the Mongolian Parliament. The goals of the NAPCC are to ensure environmental sustainability, development of socioeconomic sectors adapted to climate change, reduction in vulnerabilities and risks, and mitigation of greenhouse gases. The promotion of economic effectiveness and efficiency and the implementation of green growth policies are also integrated in the NAPCC. Moreover, the nationally determined contribution (NDC) to the Paris Agreement is another important strategic document that sets priorities for adaptation. It also establishes synergies between adaptation and mitigation. The NDC highlights issues such as animal husbandry, water resources management, and disaster management.

56. An analysis of the objectives of the project finds alignment with the two strategic documents in relation to climate change. The NDC stresses the need "to ensure proper use of water resources, and to strengthen integrated water resource management in river basins." It

¹² The available data suggest that the actual climate-related decline in water resources started quite recently, perhaps after 1999, when evapo-transpiration is found to be increasing significantly at the landscape level in the target aimags.

emphasizes ensuring “proper use of water resources” within the integrated water resources management framework. In addition to the NAPCC and NDC, Mongolia has prepared its second national communication, which covers issues regarding adaptation to hazards such as dzuds, integrated water resources management, building the capacity of livestock managers, support to household and community-based enterprises, regulation of animal numbers, development of pasture, imposing legislation on pasture leasing, and ensuring sustainable pasture utilization through improving pasture water availability. Many of these issues are central to the delivery of the specific objectives of the project. This reflects the strong policy alignment of the project.

57. However, one of the project’s specific objectives regarding reduction in herd size is found to conflict with the livestock sector-specific policies that entail implementation of the NMLP, where emphasis is on increasing the number of larger animals with a reduction in the number of goats, with the aim of increasing animal productivity and employment in the livestock sector. The NMLP states that the Government is looking for increased export volumes and earnings from the livestock and allied subsectors, and ensuring much increased employment generation in the sector. The national subprogramme to support the productivity of animal husbandry (2016–2018) reiterates the goal of increasing livestock sector exports. Moreover, the results of the implementation of the NMLP up to 2019 indicate that the “business as usual” performance of the livestock sector under the NMLP and existing institutional capacity might result in a conflicting position with the specific objective set by the project. There exists an element of risk that the issues of sustainable management of livestock in rangelands might become untenable.

58. The United Nations Development Programme is a development partner of the Government of Mongolia. It has a track record of financing adaptation-related projects in Mongolia. The funding proposal refers to another project submitted to GCF for approval, where the AE is the Asian Development Bank, and overlapping with one of the aimags under consideration in this project (i.e. Khovd in western Mongolia). For the project, the Ministry of Environment and Tourism (MET) has been chosen as the executing entity. It is to be noted that the national designated authority for accessing GCF finance represents the Nature Conservation Fund of Mongolia, which works under the aegis of MET. A number of projects on climate change issues in Mongolia have been implemented in the recent past under the aegis of MET. Therefore, the institutional arrangement for the implementation of the project can be regarded as appropriate.

59. It is reported that the design phase of the project has gone through an extensive consultation process since 2016. Such consultation sessions have involved participation by communities at the aimag and soum levels, aimag officials, representatives of development partners of the Government of Mongolia, pasture herder groups, civil society organizations, non-government organizations, and academia. Such extensive consultations have been complemented by smaller group consultations involving government stakeholders, including representatives of several ministries and local governments. A round-table was convened involving private sector representatives that included meat processors, producers and exporters. In general, the project formulation process has gone through an extensive consultation process.

60. It is reported that the national designated authority has been adequately informed regarding the development of the project. The project comes to GCF with a no-objection letter to meet the legal requirement.

61. In view of the above analysis, the independent TAP rates the country ownership as medium to high.

1.6 Efficiency and effectiveness

Scale: Medium

62. The project will be implemented over seven years at a total cost of USD 79.301 million. This makes it a medium-sized project. GCF support of USD 23.101 million is requested as a grant. There is a significant co-financing arrangement for the project, where the co-financing ratio is 1:2.43. The co-financing amount is healthy with respect to other GCF-financed projects. Although the recipient country is not a least developed country, Small Island Developing State, or African country, the AE requests GCF support with full concessionality.
63. One of the positive aspects of the financing plan lies in the realization that the proposed GCF finance will not crowd out private financing in the sector and subsectors under the purview of the project. In Mongolia, the export of livestock products is a profitable venture, and some of the private sector operators have been in the business for a long time. However, the private sector has not yet started financing to stimulate the value chain. Most of the deliveries under the project are for the creation of public goods (especially under components 1 and 2), which warrant public sector financing.
64. There appears to be a disconnect between the explanations on identifying key investment barriers (which justify GCF financing) and specific mobilization of GCF support. The analysis of the budget spread involving the GCF financing is to be mobilized predominantly for personnel, consultancy and consultancy subcontracting for various services. This does not seem the best use of GCF resources. It is found that over 75 per cent of the GCF financing is to be allocated for said services. Alternatively, the majority of the GCF-financed services could have been allocated specifically for activities revolving around restoration of water infrastructures, planning, capacity-building, etc. The AE mentioned in its communication that the co-financing from the Government counterparts would not go through the financial management of the project. All these appear to be weaknesses regarding the financial adequacy and budgetary management of the project.
65. The project's cost-benefit analysis considers a discount rate of 10 per cent, which is broadly within the range for developing economies. A 20-years time-horizon is set for the accrual of benefits. The cost estimation involves total project costs including GCF support and the co-financing and O&M costs, the latter being a commitment of the local government bodies. The economic analysis finds a positive net present value of USD 30 million, and an internal rate of return (IRR) of 21 per cent. The economic outcome of the project appears to be on a solid footing.
66. The figures used for the benefit analysis are overwhelmed by the costs saved in terms of animal lives lost during the worst hazards and diseases that have occurred in the recent past. The estimates are biased towards the benefits accruable from animal lives saved with the project. An annual expected loss of about 0.772 million livestock valued at USD 60 million (for 2018) is considered, which uses the loss figure for the worst adverse climatic effect observed to date. This figure appears an overestimation due to an extrapolation of worst case observed as being an annual hazardous event. A more rational estimation would have found an IRR significantly lower than the estimated figure of 21 per cent. A sensitivity analysis has also been done, which considers an increase of some 20 per cent in project costs and a simultaneous decline in benefits of 20 per cent. The result, with the above limitations in terms of estimation, reveals that the net present value is close to zero (i.e. USD 0.16 million), while the IRR comes down to 10 per cent.
67. The proposed solutions have reportedly been piloted successfully in other projects. The project will build on these best practices. The core of the solution lies with improvements in water-holding capacities that are located close to the communities. The project will attempt to invest in technologies that are already proven and where the communities are comfortable with those water sources. However, the total allocation for such technological aspects is relatively low compared to the mobilization of personnel, consultants and consulting services. The latter reality remains a concern for the overall adequacy of the effectiveness of resource mobilization.

68. The overall effectiveness and efficiency of the project are found to be medium.

II. Overall remarks from the independent Technical Advisory Panel

69. The independent TAP recommends that the Board approve the project.

70. The independent TAP also recommends that the AE establish results-based monitoring with a strong baseline, especially in relation to the dynamics of agroforestry, and bring this aspect (including the carbon sequestration potential) under an MRV regime.

Response from the accredited entity to the independent Technical Advisory Panel's assessment (FP 141)

Proposal name:	Improving Adaptive Capacity and Risk Management of Rural Communities in Mongolia
Accredited entity:	United Nations Development Programme (UNDP)
Country/(ies):	Mongolia
Project/programme size:	Medium

Impact potential

The *Medium* rating is noted.

The climate rationale for the project is based on observed and projected increases in the frequency and severity of dzud events. These events are the result of the combination of summer drought, followed by harsh winters, which leads to increased livestock losses (91% of non-natural livestock mortality) during winter. The climate changes that contribute to increasing dzud intensity and frequency, particularly increases in summer drought, also lead to other secondary effects:

- Reductions in the number and area of lakes on the plateau as a whole which reduce access to water resources for livestock;
- Reduced vegetation and fodder throughout the summer and winter.

These increases in drought and consequent reductions in water and vegetation reduce the condition (insufficient weight gain) of livestock by the end of summer, which increases the risk of mortality during the following winter. If the winter is harsh (either low temperatures or high snowfalls, or low temperatures with ice sheets or almost no snow and no fodder), then mortality is even higher. We are pleased that ITAP recognizes that overgrazing is compounded by dzuds and that dzuds themselves are increasing in intensity due to climate change.

Paradigm shift potential

The *Medium* rating is noted.

Indeed, the National Mongolian Livestock Programme (ending 2021) has struggled to meet its targets. However, the increase in livestock numbers underscores the urgency of the interventions needed - to bring livestock down to sustainable levels with the carrying capacity of the land and without stressing water sources. The Government of Mongolia recognizes this and is seeking support, including towards the development of the new programme. To that end, the project is well-timed to support a paradigm shift in a priority sector, impacted by climate change.

As detailed in the MoFALI support letter dated 27 July 2020, "A national programme, a successor to the Mongolian Livestock Programme, is currently under deliberations and it is critical that the next phase's targets are informed by the impacts of climate change to avoid further degrading land resources and water stress, as well as activities to reduce the number of animals while maintaining herders' incomes. We expect to benefit from the studies commission and the policy advisory support of the Output 1 of *Improving the Adaptive*

Capacity of Rural Communities in Mongolia project. We anticipate that the investments of the UNDP as well as the ADB supported project will thereby contribute positively to the necessary paradigm shift towards sustainable herding, adaptive natural resource management and climate-resilient development in Mongolia.”

Regarding O&M of water infrastructure, it should be noted that local government authorities have provided letters of commitment to maintain the structures. Please see Annex 13b.

Sustainable development potential

The *Medium* rating is noted.

It should also be noted that per the Government of Mongolia seeks to reduce livestock sector emissions by 23.4% against the current baseline. This target was stressed in its NDC and is included in policy target discussions of the new programme, a successor to the National Mongolian Livestock Programme. MoFALI activities and the livestock programme are important co-financing for this project.

Needs of the recipient

The *Medium to high* rating is noted.

Indeed, herder households are particularly vulnerable to climate impacts given their reliance on natural resources. Making up 30% of the population, but with a disproportionate poverty rate, support to herder households is an adaptation priority for Mongolia.

Country ownership

The *Medium to high* rating is noted.

Sustainable livestock management is indeed an adaptation priority for the Government of Mongolia, while also in line with the country’s economic development targets. A new national programme, a successor to the National Mongolian Livestock Programme, is currently under discussion. Just as the National Mongolian Livestock Programme (ending in 2021) included an overall livestock reduction target, the new programme will also seek to reduce the overall livestock number to 51.2 million by 2033 - to maintain optimal carrying capacity of grazing land. In addition, the programme will seek to establish a land use payment system to limit the number of livestock and balance grazing pressure. These ambitions were stressed in the letter of commitment from MoFALI, dated 27 July 2020. The GCF project will support development of the programme, including climate informed herd structure targets to ensure targets are in line with the impact of climate on land and water resources.

Efficiency and effectiveness

The *Medium* rating is noted.

The project will indeed sub-contract for some activities, these include investments. Under Output 2, where the majority of “contractual services” are budgeted, this includes: USD 2.5M for the implementation of EBA measure such as i) rehabilitation of pasture reserves; ii) Catchment reforestation; and iii) provision of emergency fodder storage facilities across the 4 aimags. USD 3.7M for establishment of haymaking/pasture reserves; and USD 2M for

assessments USD 200K and over USD 1.8M for the implementation of resiliency-based watershed measures such as i) construction of new boring and hand wells; ii) rehabilitation of existing boring and hand wells; iii) Catchment protection for natural springs iii) provision of water harvesting structures across the 4 aimags and (iv) restoration and rehabilitation of 3 ancient schemes based on best practices and traditional knowledge. Further information is provided in Annex 4 Budget.

It is correct that co-financing from the Government counterparts would not go through the financial management of the project, and we feel this is consistent with country ownership.

Overall remarks from the independent Technical Advisory Panel:

The iTAP recommendation for the Board to approve the project is noted.

The recommendation to establish results based monitoring is also noted. A baseline assessment will be conducted in Year 1 of the project, and the logframe includes an indicator and targets on improvements to rangeland. This can be used as a basis to estimate carbon sequestration, potentially by analyzing soil organic carbon content, making use of NAMEM's existing grazing land monitoring network.



Gender Assessment and Action Plan

Improving Adaptive Capacity and Risk Management of Rural Communities in Mongolia

I. Introduction

This gender assessment aims to provide an overview of gender concerns in Mongolia, with a specific focus on thematic areas relevant to the *“Improving Adaptive Capacity to Climate Change and Risk Management of Rural Communities in Mongolia”* proposal. The assessment is based upon the review of available primary and secondary data and studies conducted by the Government of Mongolia, UNDP and other partners and information collected during the project development phase during 2016-2017. This data informed the Gender Action Plan (GAP), which recommends practical and feasible gender-sensitive and specific interventions for incorporation into the project design and monitoring framework.

During the project development, the consultations included equal participation of women representing different stakeholders such as central and local Governments and local community. While undertaking gender analysis during the project formulation, Mongolia’s National Commission on Gender equality and other expert groups have been consulted.

II. Climate Change Related Gender Issues in Agriculture of Mongolia

Climate change impacts are not gender-neutral. Climate change impacts as well as coping opportunities, capacities and mechanisms for men and women are strongly dictated by the prevailing socio-cultural norms, gender stereotypes and poverty level, including control over productive assets and resources. Climate change puts enormous pressure on Mongolia’s ecosystems causing desertification, water scarcity and pasture degradation. It negatively affects rural livelihoods and exacerbates environmental and social losses, including gender inequality. Climate change adaptation efforts present an opportunity to reverse existing patterns of gender-based socio-economic disadvantages, especially in agriculture sector.

The inseparable interrelations between climate change and gender equality are emphasized by international/national judicial/non-judicial frameworks. The United Nations Framework Convention on Climate Change (UNFCCC)¹, the Sustainable Development goals (SDGs)² and the Convention on the Elimination of all Forms of Discrimination against Women (CEDAW)³ highlight gender equality as a

¹ In regard to UNFCCC, at COP 18 in Doha, Parties agreed Decision 23/CP.18. on concrete steps to promote gender balance and improve the participation of women in the climate negotiations and in the representation of Parties in the bodies of the Convention and the Kyoto Protocol, which marks an important step forward in advancing gender-sensitive climate policy by ensuring that women’s voices are represented in the global discussion on climate change.

² The Sustainable Development goals (SDGs) emphasize the importance of mainstreaming gender equality for the realization of human rights, and sustainable development. In particular, Goal 5 of the SDGs focuses specifically on gender equality, and Sustainable Development Goal 13 urges States to take immediate action to combat climate change and its impacts.

³ According to CEDAW/C/MNG/CO/8-9, the impact of climate change and weather-related disasters, as well as negative environmental consequences of industries, in particular the mining sector, which disproportionately affect rural women in the State party (32.c). Study the impact of the economic and social strategy of rural development on women’s human rights and collect specific disaggregated data on rural women (33.c). Include a gender perspective in national policies and action plans on climate change, disaster response and risk reduction, as well as on negative environmental and socio-economic consequences of industries...(33.d).

necessary component for climate change response. Moreover, Mongolia experiences a gradual national movement towards gender-sensitive climate change response guided by the Law of Mongolia on Promotion of Gender Equality (LPGE)⁴, the National Action Programme on Climate Change (NAPCC)⁵, the Environmental Sector Gender Strategy 2014-2030⁶, Green Development Policy and Mongolia Sustainable Development Vision 2030⁷.

Endowed with rich natural resources, the country's economy is mostly based on mineral commodities, which accounted for 20.5% of GDP and 73% of industrial value added in 2016. On the other hand, extractive industries employ only 3.3% of the workforce, whereas agriculture employs 30.4%⁸ with the female employment rate in agriculture, forestry, fishing and hunting sector reaching 42.07%⁹ (2nd quarter of 2017). At the same time, 1,129,365 sq. km (72.7%)¹⁰ of land is used for agricultural purpose. That is why, it is critical to recognize women as agents of change in climate change adaptation approaches to ecosystem's management and agriculture sector practices.

III. Gender Issues in Response to Natural Disasters in Mongolia

Natural disasters in Mongolia

Due to the negative influence of climate change, the frequency and severity of disasters is increasing in Mongolia. The country is disproportionately impacted by natural disasters including harsh winter disasters, namely *dzud*, drought, snow, dust storms, flash floods and both cold and heat waves. Such natural disasters take a heavy toll on livestock and thereby rural livelihoods. The statistics show that on average 2,700 different hazardous events occur each year causing human casualties, damage to the natural environment and built infrastructure and assets that negatively impact both economic and social sustainable development.¹¹ Within the period of 2005-2013, the number of annual natural hazard events reached 3,200 and human induced incidents reached 171 across 601 soums and districts, causing loss of more than 200 human lives and damage of 95.6 billion Mongolian tugriks to environment and economy.¹²

⁴ LPGE includes principle of gender mainstreaming that development policies shall be made gender-sensitive through incorporation of gender concepts in laws, government policies, programs and projects.

⁵ NAPCC which was approved by the Government in 2000, highlights to "ensure justice, transparency, human rights and gender equality are upheld in the implementation of the program."

⁶ This strategy gives gender-sensitive strategic guidelines in regard to climate change through priority areas of objective 1.2, which is "to facilitate introducing new content into the Bachelor Degree program curriculum for students studying (on forestry and water) at colleges and universities on the subjects of social development, gender discourse, social impacts of climate change and natural resources utilization, etc." and objective 3.1., which is "to encourage participatory data-collection and information packaging work carried out jointly with the local community people on the climate change, desertification and disaster prevention by emphasizing gender roles of women and men that based on their needs and jointly plan the dissemination schedule."

⁷ Mongolia Sustainable Development Vision 2030 states that one of the principles for achieving the sustainable social development is to ensure gender equality in social development, and create a pleasant environment for equal participation in social welfare.

⁸ Statistics Yearbook 2016, NSO

⁹ Ibid.

¹⁰ http://data.worldbank.org/indicator/AG.LND.AGRI.ZS?locations=MN_year_2014

¹¹ The National Programme on Strengthening Disaster Protection Capacity, 2011

¹² Appendix to the Resolution #303 of the Government of Mongolia, 2015

Gendered impact of disasters

Different disaster-related impacts on men and women are related to different roles they play in their households. According to the ‘Gender Analysis of Disaster Vulnerability in the Targeted Locations and Development of a Project Gender Mainstreaming Strategy (2009)’ for the UNDP project, ‘Strengthening the Disaster Mitigation and Management System in Mongolia’, young men are more exposed to immediate disaster and women are more susceptible to disaster with long-term effects. Men can be portrayed in the post-disaster situation being less affected in terms of labour division and work load. Women’s role and work load considerably increase in their households when their family members are affected by any forms of disaster.

Climate change-induced disaster reinforces the gender roles, and at the same time, presents an opportunity to change the gender relationship. For example, men happen to find themselves in the position of having to take lead in commonly identified “female tasks” when the women in the household have perished or become severely disabled due to disasters. Many women’s workloads in terms of caring for children, the infirm, the elderly and those with functional limitations or disabilities, rise at exactly the same time when the traditional support networks have been damaged. For instance, it is common that men are not provided with timely medical assistance, while they are prone to frost, burn and injuries. This makes many of the wounded men temporarily and permanently lose their work abilities. Such a situation could jeopardize family wellbeing by increasing women’s work load as primary caregivers.

Disaster-driven poverty such as loss of animals of rural nomads has impacted local men and women differently in terms of their capacities to migrate to better places in search of employment and livelihood improvement. A number of married men left the post-disaster region seeking for a new job and a better place to stay. As a result, the rural population became more “aged and feminized”. Women were left in town without their spouses and became breadwinners. Women tend to get jobs in service sector in aimag and soum centers, however the “age factor” seriously discriminates them from getting employed, thus marking middle aged women as the marginalized in labour market.

Lack of gender sensitivity in aimag-level disaster risk management (DRM) plans

The National Emergency Management Agency (NEMA) is the main agent responsible for all natural disasters in Mongolia. The State Disaster Protection Services regulation was approved by the Vice Prime Minister, and its decree number is 52/May 06, 2013 Ulaanbaatar. The organizational chart of NEMA shows that there is no specialized gender focal point.

The following DRM-related national programmes and aimag-level plans were reviewed with a gender lens: the Implementation Plan of the State Policy and Programme on Disaster Protection; the National Programme on Strengthening Disaster Protection Capacity; the National Programme on Community Participatory Disaster Risk Reduction (DRR); the Implementation Plan of National Programme for Community Participatory DRR; DRM Plans of Zavhan, Khovd, Dornod, and Sukhbaatar Aimag.

Neither of the aforementioned documents reinforce the significance of collecting sex-disaggregated data nor include quotes that promote and ensure women’s participation and leadership in decision-making process. However, except the National Programme on Strengthening Disaster Protection

Capacity and DRM Plans of Sukhbaatar aimag, the rest of the documents address special interventions for vulnerable groups of people including people with disabilities, children, elderly people, women and people with low income. DRM Plans of the Khovd and Sukhbaatar aimag demonstrate some availability of sex-disaggregated data.

IV. Gender Indicators in Mongolia

The Gender Inequality Index (GII) reflects gender-based inequalities in three dimensions: reproductive health, empowerment and economic activity. Reproductive health is measured by maternal mortality and adolescent birth rates; empowerment is measured by the share of parliamentary positions held by women and attainment in secondary and higher education by each gender, and economic activity is measured by the labour market participation of women and men. The GII can be interpreted as the loss of human development due to inequality between women and men's achievements in the three dimensions. Mongolia has a GII value of 0.278, ranking 53 out of 159 countries in the 2015 index.¹³

The Gender Development Index (GDI) based on the sex-disaggregated Human Development Index (HDI) defines as a ratio of female to male HDI. The GDI measures gender inequalities in three basic dimensions of human development: health (measured by women and men's life expectancy at birth); education (measured by expected years of schooling for children and mean years for men and women aged 25 years and older); and command over economic resources (measured by estimated Gross National Income (GNI) per capita for women and men). The female HDI value for Mongolia is 0.744 in contrast with 0.725 for males, resulting in a GDI value of 1.026 among 160 countries in 2015.¹⁴

The Global Gender Gap Index (GGGI) of the World Economic Forum examines the gap between men and women in four categories: economic participation and opportunity, educational attainment, health and survival and political empowerment.¹⁵ Mongolia ranked 53 out of 144 countries in 2017 with the score of 0.713¹⁶:

Description	Score	Rank
Economic participation and opportunity	0.766	20
Educational attainment	0.993	65
Health and survival	0.980	1
Political empowerment	0.102	107
Gender Gap Index 2017	0.713	53

* Inequality = 0.00; Equality = 1.00. Source: The Global Gender Gap Report 2017

The Organization for Economic Cooperation and Development (OECD) developed the Social Institutions and Gender Index (SIGI), a composite index that scores countries (i.e., 0 to 1) on 14 indicators grouped into five sub-indices: discriminatory family code, restricted physical integrity, son bias, restricted resources and assets, and restricted civil liberties to measure the discrimination against women in social institutions across 160 countries. The 2014 SIGI value for Mongolia is 0.0345 suggesting that SIGI category is very low.¹⁷

¹³ http://hdr.undp.org/sites/all/themes/hdr_theme/country-notes/es/MNG.pdf

¹⁴ Ibid.

¹⁵ World Economic Forum. The Global Gender Gap Report 2014 Country Profiles. http://www3.weforum.org/docs/GGGR14/GGGR_CountryProfiles.pdf

¹⁶ http://www3.weforum.org/docs/WEF_GGGR_2017.pdf

¹⁷ OECD. Social Institutions and Gender Index 2014. Country Profiles <http://www.genderindex.org/country/mongolia>

Health

Maternal mortality ratio (MMR), which was 38%¹⁸ in 2016, showed a sharp decline, from 121.5 maternal deaths per 100,000 live births in 2001 to 30.0 in 2014.¹⁹ However, the MMR has doubled between 2015 and 2016, indicating Mongolia's fragility in achieving better health outcomes. At the same time, the increase in the adolescent birth rate is affecting the Gender Inequality Index (GII) negatively. From 21 births per 1,000 adolescent women of 15-19 years of age in 2002, the rate rose to 29 births in 2013. Mongolia's adolescent birth rate (40%²⁰ in 2013) is higher than the average among the countries of Asia and the Pacific region²¹. In addition, increasing number of abortions at national level from 18,168 (2015) to 18,316 (2016)²². Combined, these point to an un-met need for family planning and responsible sexual behavior.

In terms of the disparity between male and female life expectancy in 2016, the difference was 9.52 years, 75.1 years among women and 65.58 years among men.²³ In addition, female life expectancy is rising more quickly than male life expectancy, thus, the female-male gap is widening.²⁴

Education

Gender gap in education is still evident among 16-19 year old boys in rural areas.²⁵ There is a tendency to place more importance on educating girls, sending them to universities or supporting them in pursuit of a higher education in urban areas, which is based on a conventional belief that girls are more vulnerable and are not apt to herding. Analyzing the reasons for boys' dropout, the most prevalent one is the need of herder families for more workers and the assumption that herding life secures a regular income.²⁶

In 2015, at national level, the female graduates, at the beginning of academic year, accounted for 52.86% showing 7.79% increase from 45.07% in 2014. In 2015, the female graduates) accounted for 51.95% in general education schools, 41.03% in technical and vocational schools, and 60.72% in universities, institutes, and colleges ((Table-1, Figure-1).

¹⁸ National Statistics Office (NSO) www.1212.mn

¹⁹ Mongolia Human Development Report, UNDP, 2014

²⁰ National Statistics Office (NSO) www.1212.mn

²¹ Mongolia Human Development Report, UNDP, 2014

²² National Statistics Office (NSO) www.1212.mn

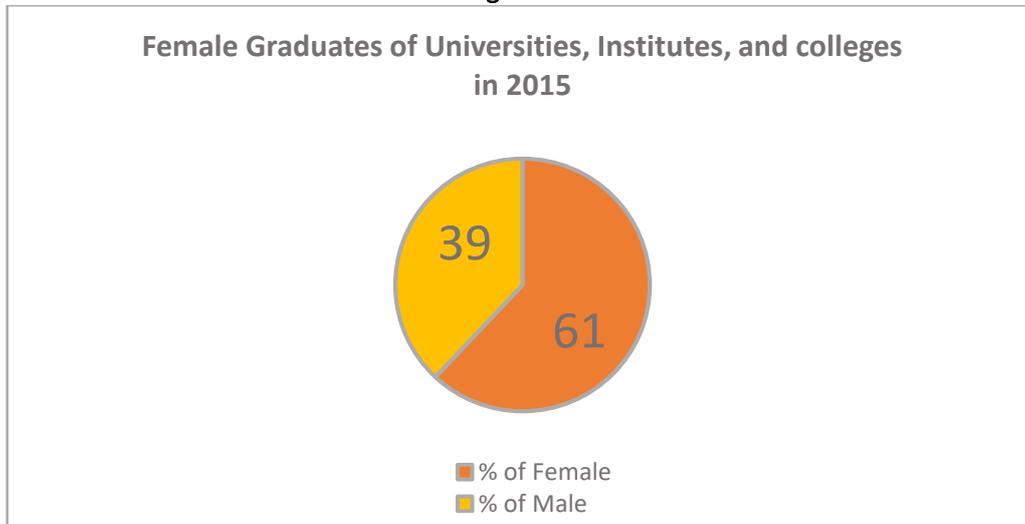
²³ Ibid.

²⁴ Mongolia Human Development Report, UNDP, 2014

²⁵ Ibid.

²⁶ Gender Analysis in Pastoral Livestock Herding in Mongolia, Swiss Agency for Development and Cooperation (SDC) 2015, p64

Figure-1²⁷



Labour force

In the context of labour market, gender disparities are especially prominent in the types of work women do - mostly unpaid with limited engagement in self-employment/entrepreneurial activities and with high level of occupational segregation, having a limited presence in higher level managerial positions – and the wages that they are paid.²⁸ In addition, according to the Government’s General Office of Labour and Welfare Service, among the registered 34,400 unemployed people in 2016, 17,800 people (51.74%) were women. While women have higher rate of university graduation (61%, 2015), more than half of the registered unemployment is represented by them (53.7%, 2017)²⁹. In addition, the overall gender wage gap in log wages is 0.18, which implies that male wages are 1.2 times higher than female wages.³⁰ At national level, there has been ₮³¹ 107,740 (12.65%³²) increase of average monthly wage from ₮ 851,400 (as of the first quarter of 2015) to ₮ 959,140 (the first quarter of 2017). The average monthly wage as of the first quarter of 2017 has shown an increase by 12.93%³³ for men and by 12.43%³⁴ for women compared to that of 2015. Specifically, while there has been 49,490₮ (7.64%³⁵) increase of national average monthly wage from ₮ 647,800 (as of the first quarter of 2016) to ₮ 697,290 (as of the first quarter of 2017) in the sector of agriculture, forestry, fishing, and hunting, men showed 8.03% of increase and women showed 6.91% of increase (Table-2).³⁶

Retirement policy can negatively affect gender equality situation in Mongolia. According to the general requirements established in the Law on Social Insurance (entered into force on 1 January 1995) and the Law on Pensions (amended in 1990), the retirement age in Mongolia for women is 55 years, 5 years earlier than for men and rising to 10 years earlier if they have four or more children. Despite the fact

²⁷ Ibid.

²⁸ Mongolia - Gender disparities in labour markets and policy suggestions, World Bank, 2013

²⁹ National Statistics Office (NSO) www.1212.mn

³⁰ Mongolia: Gender Disparities in Labour Markets and Policy Suggestions

³¹ 1 US Dollar equals to 2413.50 Mongolian Tugrik on July 19, 2017

³² $\{(959,140-851,400)/851,400\} * 100 = 12.65\%$

³³ $\{(1,042,430-923,100)/923,100\} * 100 = 12.93\%$

³⁴ $\{(879,280-782,100)/782,100\} * 100 = 12.43\%$

³⁵ $\{(697,290-647,800)/647,800\} * 100 = 7.64\%$

³⁶ National Statistics Office (NSO) www.1212.mn

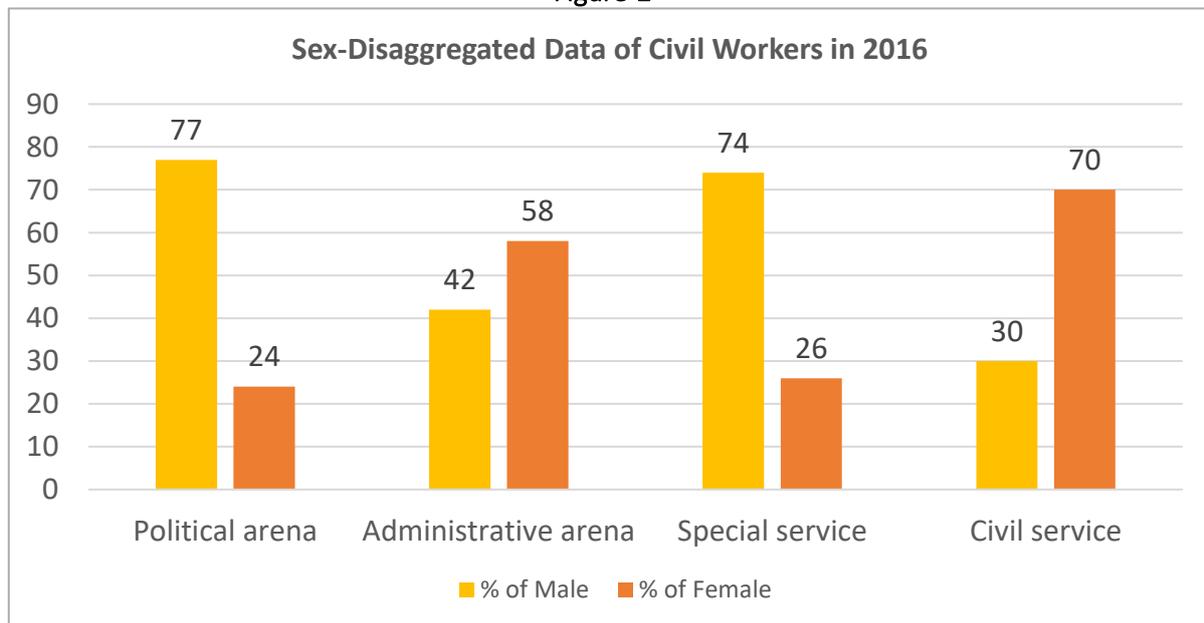
that such laws provide for retirement at “one’s own request”, in reality this clause has become an excuse for dismissing women under the pretext of staff reduction.³⁷

Political participation/Decision making

According to the Election Law of Mongolia not less than 20% of nominations must be women and women must comprise at least 20-40% of those at a decision-making level. Although 50.83%³⁸ of Mongolia’s population is female and 60.72% (2015)³⁹ are female graduates from universities, institutes, and colleges, women do not have equal participation in decision-making. In 2016, before the parliamentary election in June, the proportion of female parliamentarians was 14.5%, which was below the world average of 22.9% and Asia-Pacific average of 18.8%. However, the current proportion has increased and stands at 17.1%, with 13 female parliamentarians out of 76 Members of Parliament.⁴⁰

In Mongolia, civil workers are divided into four major categories, namely: i) political arena, ii) administrative arena, iii) special service and iv) civil service. In 2016, among 186,458 civil workers in total, only 23.64% in political arena and 25.95% in special service arena were women while more than half the proportion was represented by women in administrative and civil service arena (Figure-2).⁴¹ In addition, lack of women’s participation in decision-making positions is demonstrated in Figure-3⁴². In 2016, female officials/staffs accounted for 17.11% of the parliament, 12.5% of ministry-level positions, 25% of deputy ministry positions, 4.55% of governor position, and 0% of head of citizens’ khural⁴³ positions.

Figure-2⁴⁴



³⁷ Reports in Response to Request for Information, CEDAW Watch, January 24 –February 15, 2000.

<http://www.un.org/womenwatch/daw/cedaw/cedaw24/cedawcmng34.pdf>

³⁸ National Statistics Office (NSO) www.1212.mn

³⁹ Ibid.

⁴⁰ Statistics of the “Civil “Service Council” of Mongolia 2016

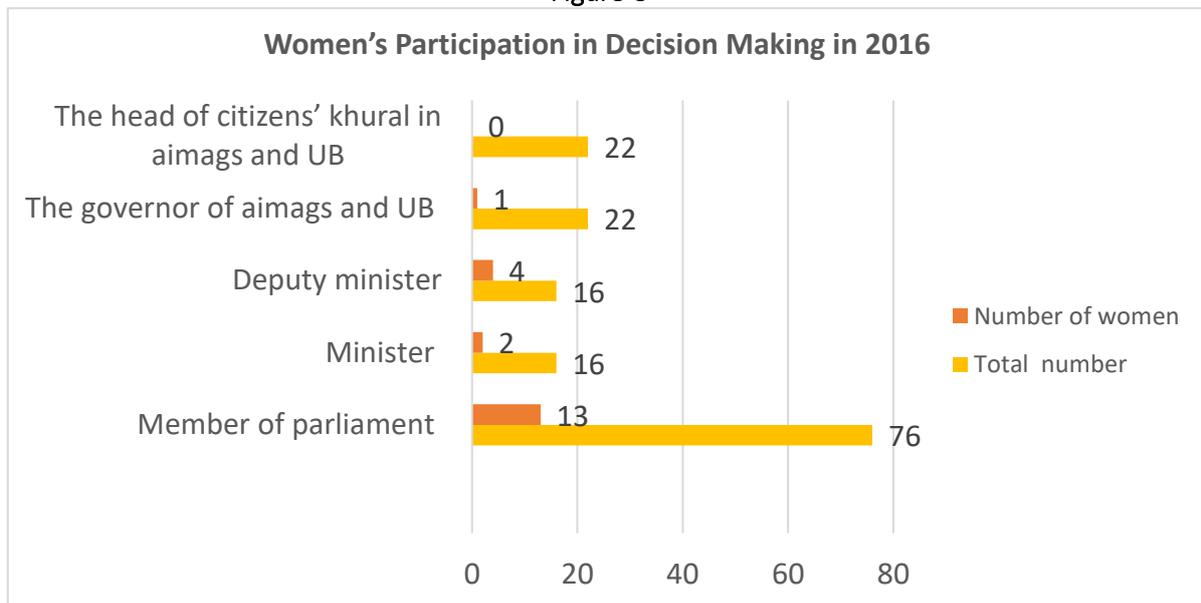
⁴¹ Ibid.

⁴² Ibid.

⁴³ Local self-government of Mongolia

⁴⁴ Statistics of the “Civil “Service Council” of Mongolia 2016

Figure-3⁴⁵



[Access to resources](#)

Unequal distribution of state assets in the shift towards privatization in the 1990s when land and livestock were registered in the names of heads of households, predominantly men (90%), left women without legal title or control. Women require the consent of heads of households to use assets as collateral for loan or credit⁴⁶. Although the participation of husbands and wives in obtaining official bank loans is equal as herder families use their livestock as collateral and both husband and wife have to sign loan contracts, husbands' decisions were more predominant than women's in the other kinds of loan arrangements.⁴⁷ While a survey (1998) conducted by Women's Information and Research Centre reports that 45.2% of those whose principal occupation was herding were women, single women herders received less than their entitlement in the distribution of assets resulting from privatisation⁴⁸.

Under the 1992 Constitution of Mongolia, women have equal rights to inheritance, land use, and ownership of livestock and other property. However, the land tenure and property rights of women are generally weakened by the absence of clear legislation around property rights in the contexts of divorce and inheritance. For women, property ownership remained elusive in rural areas as they exhibited lower rates of property ownership than males⁴⁹.

As per 2011 National Law on Gender equality, Ministries have gender focal points. MET was the first Government Ministry to have a sectoral gender analysis undertaken and gender strategy developed and approved in 2014. For the implementation of the strategy, the sector itself is committed to ensure gender equality in all environmental projects, programs and policies. The strategy acknowledges the

⁴⁵ Ibid.

⁴⁶ B. Robinson and A. Solongo, 2000, The gender dimension of economic transition in Mongolia, p.10

⁴⁷ Gender Analysis in Pastoral Livestock Herding in Mongolia, Swiss Agency for Development and Cooperation (SDC) 2015

⁴⁸ B. Robinson and A. Solongo, 2000, The gender dimension of economic transition in Mongolia, p.10

⁴⁹ Registry Systems Process Study Baseline Report, 2014, Millennium Challenge Account of Mongolia (MCA-M) Property Rights Project (PRP), p.5

importance of different needs of women and men, social groups and local development, and ensuring their equal opportunities for participation and equal access to resources and benefits: “reflect gender-specific and social groups such as different local communities, various population, demographic and social groups with varying participatory scope and levels in the policy planning as they are critical players of development.

However, a UNDP report on “Analysis of social inclusion and gender dynamic for REDD+ in Mongolia” indicates that the policy and decision makers do not adequately recognize the main principles to mainstream gender into sector policy planning. The same report suggested that gender sensitization of decision makers, policy implementers are critical along with capacity building in social inclusion and gender mainstreaming to eliminate existing gender gaps rooted by imbalanced roles and responsibilities and opportunities, existing stereotypes and male preferences/dominance in natural resources management and forestry.

Gender-based violence

Violence against women and girls is a serious concern. While there has yet to be a nation-wide survey, it is reported that close to 90% of victims of domestic violence are women – 40% are young women aged 15-34 – who are less likely to report incidents. In 2015, experts estimated that one out of 5 women suffered physical violence within the family, and one out of 2 children were subjected to domestic violence.

According to 2017 UNFPA report, around 75,000 women in urban areas and 37,000 in rural areas have experienced physical violence within the year preceding the survey. The same study findings indicate that triggering factors include patriarchal attitude, alcohol dependence, poor socio-economic situation in Mongolia; the unemployment of men, vulnerability of households, debt burden, wife’s economic dependency on her husband, the attitude of tolerating violence because of the children or child from previous marriage, lack of emotional skills of the couples such as basic family education, communication skills, respecting other people, managing anger and stress, the influence of family members or friends, lack of professional support services that protect and assist victims of domestic violence, lack of counselling and legal support services, to assist both victims and abusers.

The Law on Combating Domestic Violence (LCDV) was first passed in 2004, its revised version was approved in December 2016 and the law entered into force on 1 February 2017. This law, in conjunction with the Criminal Code, Law on Witness Protection, Criminal Proceedings Code, Family Law and the Law on Child Rights, represents cohesive legislation to address violence against women. Since the adoption of the Law on Combating Domestic Violence, the National Programme on the Control and Prevention of Domestic Violence⁴ was approved in 2007 and implemented. There has also been a Supreme Court Ruling on Uniform Interpretation and Implementation of Some Clauses of LCDV⁵, as well as related rules and procedures issued by the Ministry of Justice and Home Affairs (MoJHA), Ministry of Health (MoH) and Ministry of Labour and Social Protection (MoLSP). The government, apart from taking measures to establish shelter homes, has set up a victim help hotline and three one-stop service centres (OSSC) in Ulaanbaatar in 2009, which provide health, psychosocial, protection and legal aid services. Three further one-stop services centres were established in Zavkhan, Gobi-Altai, and Bayankhongor aimags in 2013-14.

The new Law to Combat Domestic Violence came into effect on February 1, 2017. The newly approved law criminalizes domestic violence, and has expanded its scope of coverage from immediate to extended family members to co-habitants, former spouses or co-habitants and unmarried couples with

children. The multi-sectoral coordination mechanisms for violence against women and girls have been established at the national level and three provinces, but their effectiveness needs to be improved and they need to be expanded to other provinces.

V. Gender Analysis

The gender analysis undertaken at the onset and design of this project acts as an entry point for gender mainstreaming throughout its implementation.

Limited institutionalization of gender mainstreaming: lack of sex-disaggregated data and gender-blind policy making

Relevant sex-disaggregated data and gender qualitative and ethnographic analysis across sectors and geographical regions is very limited. Even though in some instances the sex-disaggregated data is collected and available, it is not being systematically analysed and used in formulation of national and sector-specific programs and policies. For the purpose of this analysis, the following selected national law, policies and development strategies have been reviewed with a gender lens: Mongolian Sustainable Development Vision 2030 (2016); The State Policy on Disaster Protection (2011); National Food and Agriculture Policy (2015); Government Policy for Herders (2009); Green Development Policy (2014); SME Law (2007). While most of the reviewed documents are gender-blind, the Mongolian Sustainable Development Vision 2030 (target 2.2), the National Food and Agriculture Policy (target 7.1.4), and the Green Development Policy (strategic objective 4) highlight the importance of empowering women and promoting gender equality. Thus, continued monitoring/collection of sex-disaggregated data in relevant sectors in each aimag is necessary: division of labour based on time use; asset ownership including access and control over information, land, loan, etc.; income generation; participation and leadership in decision-making including activities within cooperatives such as Land/Water/Forest User Groups, parliament, local government; school dropouts; unemployment. Although gender focal points are designated at government level, they have limited capacity to guide the gender sub-councils at ministries and subcommittees in aimags in establishing gender mainstreaming strategies, policies and programmes. In other words, regardless of gradually improving gender legislative framework, its implementation is inadequate and inconsistent in Mongolia due to lack of sectoral sex-disaggregated data collection/monitoring, gender-blind policy making, and limited accountability and capacity of governance institutions to mainstream gender.

Women's lack of control over resources, participation and leadership in decision-making, access and

Although there are no specific and fact-based gender-related problem in water and soil management reported in any gender related studies, there are common observations. Both women and men play important, but different roles in the management of natural resources and forestry sector in Mongolia's nomadic pastoralism. Women perform both animal husbandry and household works, i.e. taking care of food, clothes, and health of their children and members of the family but also women undertake repetitive housework such as processing milk, taking care of housekeeping. They also work on wool and cashmere sheering, milking and rearing of livestock, feeding and taking care of animal offspring, and cleaning of animal shelters. Men usually do most of the work outside and away from the home such as selecting pastures, haymaking, herding animals, participating in meetings and business-related activities.

At the same time, women's roles and participation in natural resource use, decision-making and implementation have been undervalued. A FAO project report indicates relatively equal level of

participation of men and women in the Forest User Groups (FUGs), of which 54.6% of all members were men and 45.6% were women. However, only 26% of FUGs are led by women revealing a considerable gap between men and women in decision making positions.

There is a deeply engraved social belief that men are to make major decisions and lead livestock production as they are generally more knowledgeable about the land, pastures, water, vegetation, winter disasters, and droughts, women being less interested in these areas. In order to ensure gender balance in decision-making, access and control over resources, capacity building and awareness raising training should be tailored to the needs of target groups including women, men, local government staffs, etc. In terms of leadership, it is important to conduct a gender-sensitive survey on: the respondents' confidence and motivation to participate and lead the community group; community group leader's gender preference; training that women and men need.

It appears that men are dominant at the decision-making level about loans expenditures. In relation to the control of household assets, properties are mostly registered under the husband's name. A report by the Asian Development Bank (ADB, 2005) showed government regulations had not proactively supported gender equality in terms of access to or control over newly allocated land.⁵⁰ For instance, the regulations did not question traditional definitions of "family and household", and in consequence, only those officially registered as a married couple or as a household unit prior to 2003 were initially entitled to land. Some lands also ended up being registered in the names of male household heads only, as other adult household members were allowed to waive their right to be named on titles of newly allocated land. The ADB study found that just 30% of registered land titles were registered jointly to husbands and wives and only 16% were registered to wives.⁵¹

Women's limited access to information and participation in community activities

Information is critical to the development and use of technical innovations and improvements, yet women frequently cannot obtain such information due to inappropriate information disseminating methods and distant training locations and unavailable timing. Providing more relevant information by specifically addressing gender aspects related to agriculture should enable female farmers to increase the accessibility of new agricultural technologies and innovations. According to Swiss Agency for Development and Cooperation (SDC)'s Gender Analysis in Pastoral Livestock Herding in Mongolia 2015, a significant number of the herders surveyed said that they did not participate in community activities because they had not received information in advance. In order to better inform of community activities, appropriate information dissemination measures should be surveyed and applied by gender. There should be a survey before disseminating information whether receivers are literate, technology-literate, physically or mentally available to receive information, etc. in order to select appropriate information dissemination strategies.

Once engaged however, results show strong participation by women. The UNREDD project 2017 "Analysis of Social Inclusion and Gender Dynamics for REDD+ in Mongolia" reports relatively equal level of participation of men and women in 98 surveyed Forest User Groups (FUGs) of which 54.6% of all members were men (1,424) and 45.6% were women (1,196). Groups led by women made up 25.6% of the total. Results show that male and female members are relatively balanced within the groups, which shows the benefits will be shared accordingly. Within the RUGs, most strategic decisions for the RUGs

⁵⁰ Mongolia Country Gender Assessment, ADB and World Bank, 2005

⁵¹ First Reflection on Researching Women's Tenure Security in Mongolia, Zoe Driscoll, 2016

are made through a voting system and therefore, balanced membership of men and women guarantee the participation of women in decision making and benefit sharing.

Women's double burden and transforming gender relations

Data from recent Participatory Living Standards Assessment of the NSO of Mongolia have identified that a disproportionate number of female-headed households are living in poverty and its proportion is growing. This phenomenon is closely related to the fact that women are often limited to engage in livelihood or employment opportunities due to the tasks at home. Specifically, women who are employed or engaged in small enterprises need to work longer hours than men do, just to manage tasks at home and at work.

Specifically, while women who are involved in livestock sector carry double burden to work in productive as well as reproductive arena all year long, the main characteristic mentioned in relation to Mongolian men's work is seasonality with busy periods of work as well as of rest. Women's workload resulted to be higher than men's for all the months of the year, with the exception of March and December. The average daily workload of women during the year is 11.1 hours while the workload of men is 9.2 hours.⁵² Despite this fact, women's contributions and roles are not sufficiently recognized in other aspects of household herding life, such as decision-making on major spending and purchases, household business management, participation in community activities and leadership.

Women's limited access to running small and medium enterprises (SMEs)

According to the SME Law (2007), SMEs are defined as legally registered business entities with 199 or fewer employees and with an annual turnover of up to ₮ 1.5 billion (USD 833,000). The law also differentiates between sectors in terms of number of employees and annual turnover for a company to be considered as a SME (Table-3)⁵³. In addition, the law was amended on February 04, 2016 adjusting the minimum annual turnover to ₮ 50-250million. While wives face higher barriers to loan access compared to husbands, yet they are fully responsible for financial risk in case of business failure. Further gender analysis on loan system in Mongolia is required to establish whether there is indirect discrimination against certain groups of populations such as women who are leading households, bread winners, women with disability, senior women etc.

Sex-disaggregated data on SME owners who are clients at commercial banks is currently not disclosed. However, according to the consultation with managers of several commercial banks and non-bank financial institutions, the share of female-owned businesses in the sector is significant, approaching nearly 60% of micro-scale, family, and sole-entrepreneur-owned businesses. This observation of industry stakeholders differs significantly from the findings of the World Bank's Mongolia Enterprise Survey 2013, which shows the percentage of firms with female ownership at 38.9%.⁵⁴

The earlier described discrepancy of women spending longer time for unpaid work than men, according to 2013 JICA report on Mongolia's Gender Profile, influences women's access to markets negatively. Also, tendencies reported on limited access to finance by women-heads of households and other disadvantaged (elderly and disabled) groups, partially due to lack of collateral as livestock and land is registered to men as head of households.

⁵² Gender Analysis in Pastoral Livestock Herding in Mongolia, Swiss Agency for Development and Cooperation (SDC) 2015, p9

⁵³ <http://www.mongolianlaws.com#>

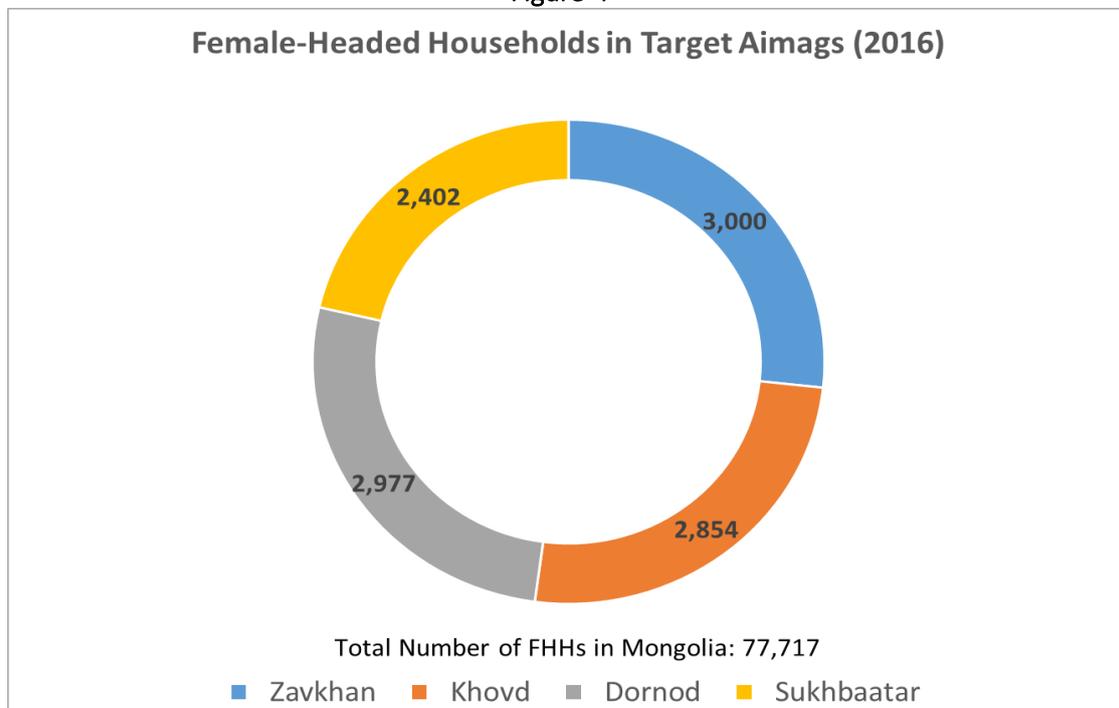
⁵⁴ World Bank's Mongolia Enterprise Survey 2013

Vulnerable groups in four target Aimags

Following paragraphs present a more granular information on the status of identified vulnerable groups in four target Aimags of this project.

Female-headed households: 14.45% of the total female-headed households reside in the four aimags. The number of female-headed households decreased by 1.13% from 78,606 (2015) to 77,717 (2016) at national level. However, during the respective period, the number of female-headed households increased by 3.7% from 2,893 to 3,000 in Zavkhan, by 3.69% from 2,871 to 2,977 in Dornod, and by 3.98% from 2,310 to 2,402 in Sukhbaatar, while that decreased by 1.55% from 2,899 to 2,854 in Khovd aimag (Figure-4)⁵⁵.

Figure-4⁵⁶



Female registered unemployment: At national level, the female registered unemployment rate oscillated between 52.85%-54.29%, in the period between Q1 2016 – Q3 2017⁵⁷.

According to Table-4, the national female registered unemployment decreased by 12.16% from September 2016 to September 2017. The female registered unemployment increased by 94.23% in Zavkhan aimag and by 26.72% in Khovd aimag, while that decreased by 4.05% in Dornod aimag and by 4.49% in Sukhbaatar aimag.⁵⁸

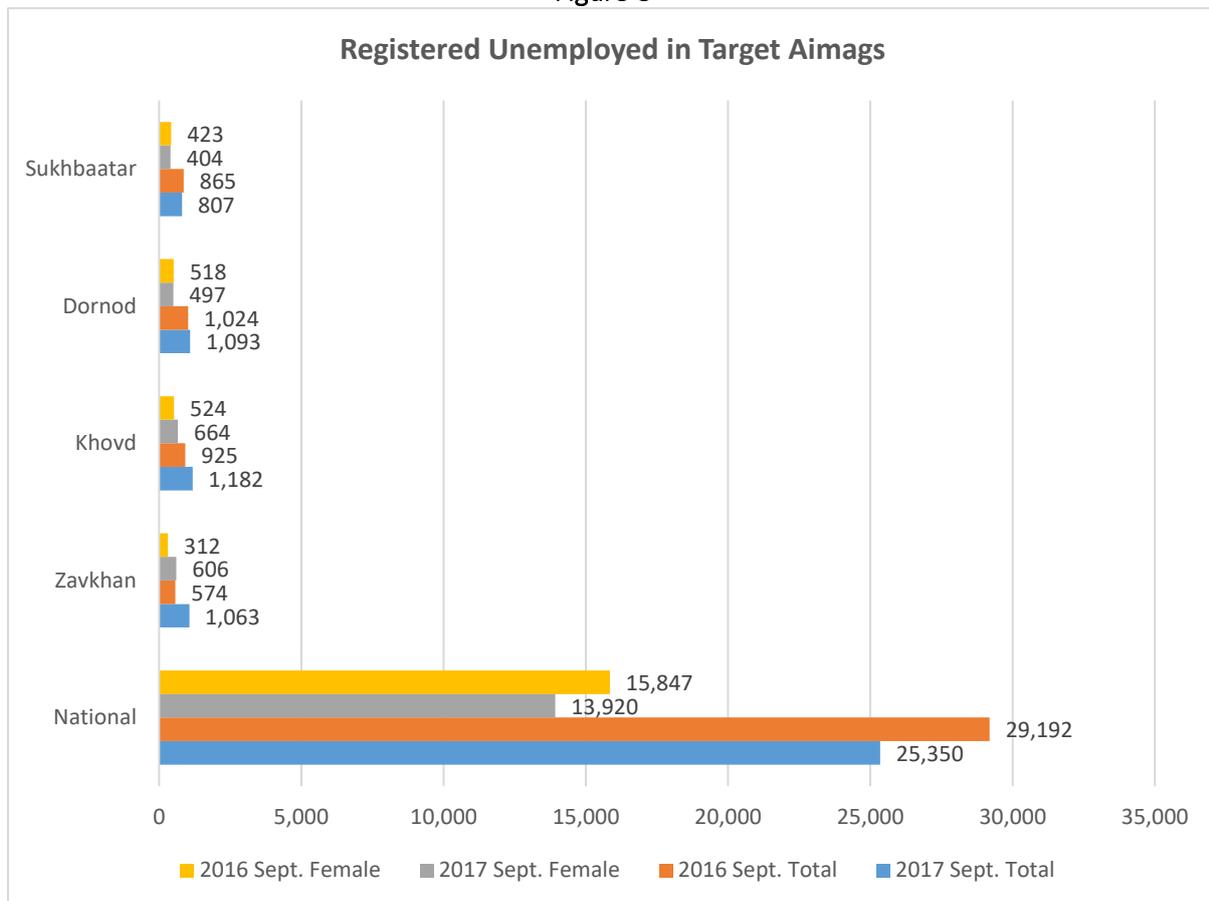
⁵⁵ National Statistics Office (NSO) www.1212.mn

⁵⁶ Ibid.

⁵⁷ Ibid.

⁵⁸ Ibid.

Figure-5⁵⁹



Children out of school: Sex-disaggregated data on out-of-school children is missing. At national level, the number of pupils dropped-out of schools aged 6-14 has gradually decreased – 2,332 in 2012, 1,755 in 2013 and 1,169 in 2014. In 2014, the number of pupils dropped-out of schools aged 6-14 was 13 in Zavkhan aimag, 39 in Khovd aimag, 15 in Dornod aimag and 47 in Sukhbaatar aimag.⁶⁰

People with disabilities: The rate of females with disabilities was 44.79% at national level in 2016. Compared to that, Zavkhan demonstrated a higher rate (46.57%), while Khovd (43.71%), Dornod (42.66%) and Sukhbaatar (41.15%) showed a lower rate in 2016. (Table-5).⁶¹

Single women with the children aged below 16 years old: The national statistics do not show the latest number of single women with the children aged below 16 years old. The most recently updated data from 2012 indicate that the number of single women with the children aged below 16 years old was 38,559 at national level, 839 in Zavkhan aimag, 575 in Khovd aimag, 1,369 in Dornod aimag and 652 in Sukhbaatar aimag.⁶²

Senior single-headed households over 65 years old: At national level, there has been 4.77% increase in the number of female-headed households over 65 years old in 2016 compared to that of the previous

⁵⁹ Ibid.

⁶⁰ Ibid.

⁶¹ Ibid.

⁶² Ibid.

year. Compared to that, only Khovd demonstrated 4.57% decrease, while Zavkhan (13.58%), Dornod (23.49%) and Sukhbaatar (21.76%) showed higher rate of increase in 2016 (Table-6).⁶³

VI. Legal and Administrative Framework Protecting Women and Protecting Gender Equality

Mongolia promotes a national movement towards gender-sensitive climate change response guided by the Law of Mongolia on Enforcement of the Law on Promotion of Gender Equality (LPGE), the National Action Programme on Climate Change (NAPCC), the Environmental Sector Gender Strategy 2014-2030, Green Development Policy and Mongolia Sustainable Development Vision 2030.

The adoption of the *LPGE* and the revision of the Criminal Code led to the criminalization domestic violence. The revision of the *Law on Election* ensured that at least 20 percent of candidates nominated by a party or coalition shall be represented by one gender (Article 126.2.) and the *LPGE* stated that representation of any one sex among politically appointed civil servants shall not be less than 15 percent on national, aimag and the capital city levels, 20 percent on district, 25 percent on soum and 30 percent on khoroo levels (Article 10.1.1.) and representation of any one sex in decision-making positions in public administration shall not be less than 15 percent among state secretaries and heads of agencies, 20 percent among managers in other central agencies, 30 percent among heads of department in ministries and agencies, 40 percent among heads of secretariats, departments and divisions on aimag, city, soum, duureg and khoroo levels (Article 10.1.2.). The *LPGE* introduces concept of gender mainstreaming and stipulates for development of gender-sensitive policies through incorporation of gender equality concepts in laws, government policies, programs and projects.

The NAPCC, which was approved by the Government in 2000, highlights to “ensure justice, transparency, human rights and gender equality are upheld in the implementation of the program.”

The Environmental Sector Gender Strategy 2014-2030 gives gender-sensitive strategic guidelines for activities and interventions in the environmental sector in general, and with regards to climate change in particular through the objective 1.2, which aims “to facilitate introducing new content into the Bachelor Degree program curriculum for students studying (forestry and water) at colleges and universities on the subjects of social development, gender discourse, social impacts of climate change and natural resources utilization, etc.” and the objective 3.1., which “encourages participatory data-collection and information packaging work to be carried out jointly with the local community people on the climate change, desertification and disaster prevention by emphasizing gender roles of women and men that are based on their needs and by jointly planning the dissemination schedule.”

Even though the Green Development Policy does not make direct, explicit references to gender equality, the preamble of this policy emphasizes inclusiveness, social justice and better human well-being. These notions imply that equal and inclusive participation of men and women of all groups are to be ensured.

The Mongolia Sustainable Development Vision 2030 states that one of the principles for achieving the sustainable social development is to ensure gender equality in social development and create a pleasant environment for equal participation in social welfare.

⁶³ Ibid.

VII. Recommendations

In response to the need for continued efforts to mainstream gender in climate change adaptation, this particular gender assessment provides steppingstone to reveal gender inequalities related to aggravating climate change in Mongolia and guides the project team in addressing them throughout various stages of its implementations.

Based on the gender analysis, recommendations are made to address gender dimensions within the whole project cycle including design, implementation, monitoring and evaluation and reporting. Emphasizing the fact that women are the key players in supporting climate resilience and transformational change in the agriculture sector, this proposal works to identify and integrate interventions to provide gender responsive and transformative results.

Best Practices and Lessons Learned

The gender action plan for the proposed project was also built on the lessons generated through the previous interventions in the field of Community-based Natural Resources Management, Climate change adaptation and Disaster risk reduction. A key strategy is to present equal opportunities available to men and women, support to overcoming gender-based barriers, increase women participation and ensure that the enhanced mechanisms for women's empowerment should not have a negative impact on the social functioning of the communities.

A good practice of undertaking comprehensive analysis and developing recommendations, policies and measures on social inclusion and gender mainstreaming in forest and climate change through UNREDD programme has been applied for the proposed project, as has a social and environmental safeguards framework. Through UNDP's "Sustainable Land Management for Combating Desertification" project, it has been found that the poorest and most vulnerable, including elderly, disabled and women headed households are at the risk of becoming left behind, as the most active and better-off herders benefit more by getting informed of opportunities presented through development partner initiatives. Therefore, the SLM project instituted principle of including certain percentage of vulnerable households (elderly, disabled, single-parent or women headed) while establishing Resource User Groups in order to receive project support. It has also been found that enrolling higher percentage of women in capacity building interventions increase effectiveness of interventions, as they tend to further disseminate the obtained information and knowledge much more openly and efficiently than men would. This also includes application of block chain technology in traceability of sustainable livestock commodities (i.e. cashmere and wool), the certification of which requires joining efforts as a group, not as individual households, to improve quality of their practices in animal husbandry and rangeland stewardship.

The herder group model has been applied throughout the last 20 years in all development partner projects and there are proven advantages of joining the efforts to improve their livelihoods and overcoming economic and disaster shocks. According to the 2018 SDC report "Socio-economic study of herder households" indicates that group herders' annual earnings are almost 30% higher than those living individually. Much earlier UNDP report of 2012 on development results indicated that the group herders suffered 30% lower loss of animals during the dzud of 2010-2011 winter. The herder groups are formed of 10-20 households within the same geographic locations (Bahg and Khoroo) as neighbours and relatives. The groups are established mainly of herder households with different purposes however, mainly for enhanced management of natural resources management, i.e. pastureland and water and forest resources, local protected area management/visitor management or biodiversity

protection. As herders do not have regular income, many of these groups are engaged in additional income generation or alternative livelihood initiatives. Once those activities are successful, they turn into cooperatives or Herder Producer Organizations. Participation in groups are household-based, not on individuals and therefore both husband and wife and other adults in the household can be enrolled as members. The groups are established on voluntary basis and elect their own leaders. The groups mostly establish their co-management funds (risk management fund) with everyone's contributions and strategic and investment decisions and labor division (resource management plans, hay and fodder preparation for winter, establishment of hay making areas, rotational use of pasture, well establishment) are made on democratic principles or voting at resource user group meeting. The same principles applied when revenue is generated and needs distribution.

Project design and implementation

- Promote the growing role of women in agriculture by ensuring participation of women in community consultations to adequately respond to their needs and challenges;
- Collaborate with the existing initiatives within UNDP Mongolia, and those of other development partners and relevant government interventions - and seek for gender mainstreaming entry points for existing policies - water/land management policies, Soum Level Development Plans, Resource Use Agreements, etc;
- Conduct a needs assessment and collect sex-disaggregated data to identify the gaps in gender equality, enabling development of targeted implementation strategies. Continued monitoring/collection of sex-disaggregated data in relevant sectors in each aimag is necessary: division of labour based on time use; asset ownership including access and control over information, land, loan, etc.; income generation; participation and leadership in decision-making including activities within cooperatives such as Land/Water/Forest User Groups, parliament, local government; school dropouts; unemployment. This needs assessment will be a useful basis to mainstream gender into the development of PPCP-CRAD Agreement, Integrated Agricultural Development Model, HPO's Business Proposals, Value-Chain Analysis, etc.;
- Promote national/aimag/soum-level policy making process to raise its gender-sensitivity by ensuring gender parity in terms of participation and ensuring that sex-disaggregated data and a gender-sensitive screening checklist for policy development is incorporated into the decision making process of aimag/soum khurals;
- Tailor capacity building needs by gender and facilitate trainings that are based on men and women's needs. Training on introduction to and culturally acceptable sensitization about gender equality and women's empowerment should be planned for partner organizations' staff involved in the project implementation, as well as direct beneficiaries. Possible trainees are HPOs, PMUs, Resource User Group, NANEM and gender focal points of local governments;
- Prepare a short questionnaire to monitor the impacts of trainings and other capacity development interventions on women and men and document the results;
- Ensure that both men and women have equal access to information on markets, pricing policy, and climate through innovative information communication mechanisms. Before holding decision-making meetings or trainings, identify and tailor appropriate information dissemination method, timing, and location for women and men. For example, enabling an environment where women can bring their kids to community activities or holding events during winter and autumn which are thought to be the best seasons for training⁶⁴, would be a

⁶⁴ Gender Analysis in Pastoral Livestock Herding in Mongolia, Swiss Agency for Development and Cooperation (SDC) 2015, p77

solution for women’s low level of participation in community activities due to double work burden.

- Ensure that project interventions are directed to women and men’s practical and strategic needs and priorities that would bring transformational change in the gender relations. Through trainings, invite both men and women to freely question what they want to do before being asked to do something, which will lead them to see flexibility in gender roles. If needed, focus group discussions can be held in order to enable a freer environment for women to raise their voices.
- Create a financing mechanism that can promote and ensure women’s involvement in public private partnership, SMEs, etc. by adding value to existing women’s capacity building activities such as felt product making of EbA project and giving women sales opportunities in the market;
- All interventions should be monitored, collecting sex-disaggregated data before and after interventions, so that the gender-specific benefits and outcomes from the project interventions can be discerned in the mid-term report, and terminal evaluation;
- Ensure that good practices and lessons learnt from gender mainstreaming activities related to climate change adaptation evidenced through the project are shared effectively amongst stakeholders and inform policy/decisions at national and sub-national levels;
- Secure a Gender Specialist position for provision of advice within the project to implement gender related activities and identify budget for gender mainstreaming in the designing stage of the project. In addition, an effective communication system with regular meeting schedules should be institutionalized within the project team to provide a platform for the Gender Specialist to actively interact with other team members of the project;
- In order to ensure that the project is sustainable and inclusive, disaggregate data about the project’s main target beneficiaries, herder households, who are vulnerable to climate change, by various attributes that can cover the needs of vulnerable people such as single- and female-headed households, men, women or youth with disability, etc.

Monitoring, evaluation, and reporting

Above-mentioned recommendations will be incorporated in the Gender Action Plan (GAP), annual Project Implementation Report, Mid-Term Report, and Terminal Evaluation. GAP will function as a monitoring and evaluation platform, demonstrating entry points for gender-responsive actions and indicators to track the progress of these gender actions. This can be incorporated into the detailed M&E plan, which can be updated through the project implementation and provide additional concrete recommendations on how to ensure gender equality throughout implementation.

Stakeholder engagement

The first consultation for stakeholders from four aimags targeted by the project took place on November 10, 2017 at UN House, Ulaanbaatar. Over 70 people participated comprising of representatives from the Ministry of Environment and Tourism (MET), Ministry of Food and Agriculture (MoFA), governors from 4 target aimags such as Dornod, Sukhbaatar, Zavkhan and Khovd, national agencies, international organizations, research institutions, private companies and NGOs. Group discussion on the following themes were conducted: Enhanced early warning system to strengthen preparedness and planning in the agriculture sector; Up-scaled ecosystems based adaptation measures to preserve land and water resources; Application of climate-smart technologies to increase agriculture production and protect agriculture livelihoods.

The second consultation for stakeholders from Dornod aimag was organized at Choibalsan soum of Dornod aimag on February 20, 2017 with a support from governors from Dornod aimag. A main purpose of organizing the workshop at the local level was to incorporate closer to the local administration, agricultural organization, herders and natural resource users and obtain their views and contributions into development of project documents for adaptation agricultural sector in climate change. Over 50 participants including from local government, civil society organizations, private sectors herders and natural resource users attended the consultation. Group discussion on the following themes were conducted: Disaster risk assessment and early warning information system; Actual measures to provide ecosystem services; Climate change adapted agriculture.

This gender assessment was mainly based on a desk review. In order to implement gender mainstreaming effectively, gender dimension of the project should be discussed and related experiences shared with the Ministry of Environment and Tourist, National Committee of Gender Equality, Mongolian Women’s Caucus, National Committee on Gender Equality, women’s organizations, international development partners such as SDC, cooperatives, aimag/soum level governments and their gender focal points. In addition, good practices and lessons learnt from the project promoting gender equality in climate change adaptation should be shared amongst stakeholders and inform policy/decisions at national and sub-national levels.

Stakeholder engagement and consultation should focus on identifying the following areas as particularly important dimensions to be reflected in the implementation strategy of the project:

- Identification of project activities that promote gender equality and women’s empowerment;
- Eliciting distinct needs of people of different gender in terms of climate change adaptation;
- Identifying specific roles to be played by women during the project implementation;
- Establishment of recommendations to incorporate into the Gender Action Plan;
- Adjusting advocacy and awareness raising approach to different population groups - for sensitive topics, focus group meetings can be organized.

Gender actions proposed for the project (Detail description in GAP)

- Appoint a gender specialist;
- Allocate gender budget for potential needs - other than the activities described in GAP - in the future;
- Conduct gender-responsive M&E and reporting;
- Collect sex/age-disaggregated data for any surveys;
- Ensure balanced inclusion of both men and women members of households to the RUGs and HPOs and other governance mechanisms from gender equality perspective will be put in place, such as PPCP agreement templates including gender sensitive clauses
- Ensure gender-balanced participation in trainings (i.e. technical trainings on agriculture, business, value chain, etc. as well as gender trainings targeting HPOs, NANEM and aimag level government or community activities) and community activities (i.e. HPO activities, livestock investment fairs and Agricultural Development Business Model building activities);
- Review the core documents with gender perspective, i.e., Opportunity and Risk Analysis on PPCP-CRAD; Value Chain Analysis; Climate Change Impact, Vulnerability, and Risk Assessment; Climate, Risk, and Adaptation Profiles;

- Mainstream gender into local level policies, i.e., PPCP agreements; Soum Level Development Plans; Resource Use Agreements (RUA); Watershed Plans;
- Break gender stereotypes promoting non gender stereotypical roles by implementing 2 activities a year to include more men or women in non-typical roles of men – i.e. felt handicrafts and women – i.e. firefighting training. Time constraint for women and the reproductive work burden will be considered.

The project will commission a baseline study with number of sex disaggregated surveys during the inception period to further validate the targets set and to identify some of the hidden or underlying issues between women and men that can very well be locally specific. This includes looking into gender issues in detail as well and collecting baseline data that can be used to update the Gender Action Plan of the project and be reviewed regularly. The Safeguards and Gender Officer at the central Project Management Unit in Ulaanbaatar will be responsible for ensuring availability of sex-disaggregated data to address issues of gender-equality within the project interventions. The grievance redress mechanism established for the project will be a means to identify and address gender related challenges that can be addressed through the project.

The project should aim to put in place mechanisms to enhance women power and participation in decision making in RUGs and to create enabling environment for women to participate and express their views and promote women leadership programmes. The project should work to ensure that women have the same level of access to information as with men, including information on markets, pricing policy, and climate through innovative information communication mechanisms, creating special mechanisms for women if needed. If found necessary, focus group discussions could be held separately with women and vulnerable groups which would enable a freer environment for women and other vulnerable groups (elderly, disabled and minorities) to raise their issues and voices and project interventions can be planned and implemented to facilitate the specific needs of those groups.

Before holding decision-making meetings or trainings, the project should identify and tailor appropriate information dissemination method(s), timing, and location for women and men. These include for example, enabling an environment where women can bring their children to community activities, providing child and elderly care support while women participate in project activities, promoting technologies to help reduce women's unpaid work burden, engaging men in conversation about their involvement in unpaid housework, or holding events during winter and autumn which are thought to be the best seasons for training, as a potential solution for women's low level of participation in community activities due to double work burden.

The project plans to take the following actions: a) Ensure facilitating access to financing, including ADB project financing mechanism (see FP for further details on ADB project), that can promote and ensure women's involvement in public private partnership, SMEs, etc. by adding value to existing women's capacity building activities such as felt product making of Ecosystem-based adaptation project and giving women sales opportunities in the market and project supported trade fairs; b) ensure gender-balanced participation in developing integrated agricultural development business model in order to address different needs and benefits from the project by gender and use information dissemination methods and choose locations and timing that can involve both men and women effectively; c) when supporting HPOs to prepare business proposals, review the findings of opportunity and risk analysis, done under Activity 3.1.1, as a baseline to utilize and maximize the strengths of female-run business

on business proposals; d) facilitate access to the Government’s special purpose fund on SME support, where small businesses can obtain loan with low interest to expand their businesses.

This active mainstreaming of gender equality aspects and approaches throughout the project will contribute to have the issue of women and men’s inequality in regular focus. Dialogues with men on women’s rights, the benefits of their empowerment for the household and more broadly society/community, throughout the course of the project implementation, will contribute to bringing in balance the power relations between men and women which ultimately brings meaningful gender equality. The project will ensure within the three project outcomes maximize the gender equality benefits. As recommended in project gender analysis, through project supported trainings, both men and women will be encouraged to freely question before being asked to do something, and take up leadership roles in community-based activities, which will lead them to see flexibility in gender roles. If needed, focus group discussions can be held with women separately in order to enable a freer environment for women to raise their voices.

UNDP ensures gender equality results through its four point-scale gender marker mechanism, whereby all projects are expected to generate such results. Also a Gender analysis is undertaken for all projects, to identify specific gender issues, based on which Gender Action Plans are developed. All project workplans are required to incorporate specific and properly budgeted activities to contribute to implementation of the Gender Action Plan with special focus on involving more women in capacity building interventions in both local and central levels. UNDP projects encourage participation of female government officers and rural women in planning workshops and meetings throughout the implementation. Local community-led activities of the projects prioritize benefits to women headed households.

The Gender Action Plan can help ensure that the project interventions across the three Outputs will contribute to SDG Target 5.4. Recognize and value unpaid care and domestic work through the provision of public services, infrastructure and social protection policies and the promotion of shared responsibility within the household and the family and 5.5: Ensure women's full and effective participation and equal opportunities for leadership at all levels of decision-making in political, economic and public life.

VIII. Gender Action Plan (GAP)

Project Title	Improving Adaptive Capacity to Climate Change and Risk Management of Rural Communities in Mongolia
GCF Project Outputs	<p>Output 1. Integrate climate information into land and water use planning at the national and sub-national levels</p> <ul style="list-style-type: none"> • Enhanced technical capacity for long-term climate resilient development planning, and medium-term response planning capacity • Integration of climate change and climate-informed carrying capacity into aimag and soum level development plan (incl. Integrated River Basin Management Plans (IRBMP)) • Analytical products to support policy and regulatory reform promoting sustainable land and water management and resilient herder livelihoods <p>Output 2. Scaling up climate-resilient water and soil management practices for enhanced smallholder productivity resources management</p> <ul style="list-style-type: none"> • 2.1. Enhanced cooperation among herders on sustainable use and stewardship of shared land and water resources (formalized through Resource User Agreements) • 2.2. Ecosystems-based adaptation measures to protect land and water resources from the impacts of climate change <p>Output 3. Build herder capacity to access markets for sustainably sourced, climate-resilient livestock products</p> <ul style="list-style-type: none"> • 3.1. Identify public-private-community partnerships for sustainably sourced, climate resilient livestock products • 3.2. Establishment and training of Herder Producer Organizations (or cooperatives) • 3.3 Improve traceability for sustainably sourced, climate-resilient livestock products • 3.4. Generation and dissemination of knowledge products to support private-sector engagement and herder enfranchisement in climate-resilient and sustainable production in Mongolia
Gender Mainstreaming Output(s)	<ul style="list-style-type: none"> • Appoint a gender specialist; • Allocate gender budget for potential needs - other than the activities described in GAP - in the future; • Conduct gender-responsive M&E and reporting; • Collect sex/age-disaggregated data for any surveys; • Review the core documents with gender perspective, i.e., Opportunity and Risk Analysis on PPCP; Value Chain Analysis; Climate Change Impact, Vulnerability, and Risk Assessment; Climate, Risk, and Adaptation Profiles; • Ensure balanced inclusion of both men and women members of households to the RUGs and HPOs and other governance mechanisms from gender equality perspective will be put in place, such as PPCP agreement templates including gender sensitive clauses • Ensure gender-balanced participation in trainings (i.e. technical trainings on agriculture, business, value chain, etc. as well as gender trainings targeting HPOs, NAMEM and aimag level government or community activities) and community activities (i.e. HPO activities, livestock investment fairs and Agricultural Development Business Model building activities); • Mainstream gender into local level policies, i.e., PPCP agreements; Soum Level Development Plans; Resource Use Agreements (RUA); Watershed Plans;

	<ul style="list-style-type: none"> Break gender stereotypes promoting non gender stereotypical roles by implementing 2 activities a year to include more men or women in non-typical roles of men. Time constraint for women and the reproductive work burden will be considered. 				
Gender Actions	Related Project Outputs and Activities & Detail Gender Actions	Indicators/Evidence	Responsible Institutions	Timeline	Budget (USD) – costs are integrated in to budget activities
1. Appoint a gender expert	All Outputs and Activities	Indicator: No. of gender experts Baseline: 0 gender expert (2018) Target: 1 gender expert (2019 onwards) Evidence: ToR for gender expert	UNDP	Y1 - End	100,000
2. Allocate budget for gender activities to remove barriers for gender balanced participation	All Outputs and Activities	Indicator: Budget allocation for gender activities ensured to remove barriers for gender balanced participation	UNDP	Y1 - End	See below
3. Conduct gender-responsive M&E and reporting	All Outputs and Activities By using the GAP, monitor and report gender-related activities and budget utilization on a quarterly basis; Ensure that bi-annual monitoring report captures gender-specific project results; Project evaluation report should examine and assess gender-specific results achieved during the project.	Indicator: GAP Baseline: GAP (2018) Target: Implement GAP (during the project) Evidence: GAP implementation progress documented on a quarterly basis Indicator: Existence of bi-annual monitoring report capturing gender-specific project results Baseline: 0 (2018) Target: 2 Midterm report (End of year) Evidence: 2 Midterm report	PMU, gender expert, UNDP	Y1 - End	50,000

		<p>Indicator: Project evaluation report examines and assesses gender-specific results achieved during the project</p> <p>Baseline: 0 (2018)</p> <p>Target: Project gender-specific results mentioned in project evaluation report</p> <p>Evidence: Annual project implementation report; Mid-term report; terminal evaluation TORs and reports</p>			
4. Collect sex/age-disaggregated data for any surveys or assessments including the needs assessment	<p>Output 3, Activity 3.2:</p> <p>Identify the support needed by women and men by analyzing their opportunities and risks in terms of participating in PPCP-CRAD, i.e., access to and control over information; community discussions; business ownership;</p> <p>Identify the challenges that men and women experience by participating in HPOs and developing joint business strategies with the private sector.</p>	<p>Indicator: Assessment conducted including the sex-disaggregated data collection (RCTs)</p> <p>Baseline: 0 (2018)</p> <p>Target: Sex-disaggregated data collection checklist prepared prior to the needs assessment and needs assessment conducted (2019)</p> <p>Evidence: Needs assessment with sex/age-disaggregated data from target areas; consolidation of gender-related best practices of existing initiatives or development partners</p>	PMU, gender expert, HPOs, existing initiatives	Y1	100,000
5. Review the core documents with gender perspective, i.e., Opportunity and Risk Analysis on PPCP-CRAD; Value Chain Analysis; Climate Change Impact, Vulnerability, and Risk Assessment; Climate, Risk, and Adaptation Profiles	<p>Output 3, Activity 3.1:</p> <p>Include the gender-sensitive screening checklist as one of the screening tools for validation of PPCP agreements;</p> <p>Review the legal template for PPCP agreements with a gender perspective by ensuring gender balanced participation and including gender-sensitive contents in the agreements - address the identified needs of male and female herders and elaborate the benefits that private sector can gain by engaging with HPOs.</p>	<p>Indicator: Existence of the gender-sensitive screening checklist for validation of PPCP agreements, for implementation of the Climate Change Impact, Vulnerability, and Risk Assessments (CCIVRA) and for preparation of business proposals</p> <p>Baseline: No (2018)</p> <p>Target: Yes (2019)</p> <p>Evidence: gender-sensitive screening checklist for the aforementioned core documents</p>	PMU, gender expert, HPOs	Y1	5,000

	<p>Output 3, Activity 3.2: When supporting HPOs to prepare business proposals, review the findings of opportunity and risk analysis, done under Activity 3.1.1, as a baseline to utilize and maximize the strengths of female business runners on business proposals.</p> <p>Output 2, Activity 2.1: When conducting the Climate Change Impact, Vulnerability, and Risk Assessments (CCIVRA), identify how people of different gender have dissimilar advantages and disadvantages against climate change adaptation.</p>	<p>Indicator: Gender equality mainstreamed into the PPCP agreements and actions Baseline: No (2018) Target: Yes (2019) Evidence: Gender mainstreamed into PPCP agreements/actions, the Climate Change Impact, Vulnerability, and Risk Assessments (CCIVRA) and business proposals</p>			<p>10,000</p> <p>20,000</p>
<p>6. Ensure gender-balanced participation in trainings (i.e. technical trainings on agriculture, business, value chain, etc. as well as gender trainings targeting HPOs, NANEM and aimag level government or community activities) and community activities (i.e. HPO activities, livestock investment fairs and Agricultural Development Business Model building activities)</p>	<p>Output 3, Activity 3.2: As PMU will act as the manager to oversee PPCP-CRAD, provide trainings that can guide PMU to raise their gender sensitivity and enhance gender mainstreaming strategies; Ensure women herders’ active participation in livestock investment fairs to identify PPCP opportunities by using appropriate information dissemination methods and holding the events where women are more accessible and when they are less involved with house chores, caretaking responsibilities and seasonal livestock-related tasks; Ensure gender-balanced participation in developing integrated agricultural development business model in order to address different needs and benefits from the project by gender. Use</p>	<p>Indicator: Technical as well as gender trainings targeting project beneficiaries provided Baseline: 0 (F:M=0:0), 2017 Target: (F:M=50%:50%), 2018 Evidence: List of participants for training; gender-sensitive/technical advisory training materials; gender-sensitive questionnaires to monitor the impact of training</p> <p>Indicator: No. of case studies documenting project results from the perspective of both men and women Baseline: 0 (2018) Target: 6 (2024) Evidence: published case studies in media, on project/UNDP websites and presented in the knowledge-sharing workshops</p>	<p>PMU, gender expert, HPOs, NANEM, NEMA, local government officials of target areas</p>	<p>Y2 or 3</p>	<p>50,000</p>

	<p>information dissemination methods and choose locations and timing that can involve both men and women effectively;</p> <p>Output 3, Activity 3.2: Set up HPOs and provide trainings for them by ensuring gender-balanced participation – for instance, general management and financial training to HPO leaders; Develop questionnaires to monitor sex-disaggregated impact of trainings for HPOs; Ensure gender-balanced participation when providing market specific trainings in production, post-harvest processing, post-harvest value addition and on-sight storage.</p> <p>Output 1, Activity 1.3: Based on the business proposal developed by HPOs, provide targeted technical assistance to build capacity related to climate resilient value chains ensuring gender-balanced participation; Provide technical assistance for women to build niche high-end value chains – for instance organic certification, traceability, humane processing and ISO standardization – through trainings.</p> <p>Output 2, Activity 2.1: When establishing community-based Resource User Groups (RUGs), ensure gender-balanced participation by using appropriate information dissemination methods and choosing convenient</p>	<p>Indicator: No. of participants in the livestock fairs disaggregated by sex Baseline: 0 (2018) Target: Evidence: Participation list of livestock investment fairs (F:M=50%:50%); gender-sensitive invitations for community activities</p> <p>Indicator: No. of RUGs led by women Baseline: Target: Evidence:</p> <p>Indicator: Gender equality committee is represented in decision making body over climate change and risk management issues Baseline: Target: Evidence: A minutes of the report or decision decree</p>			<p>50,000</p> <p>100,000</p> <p>50,000</p>
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	meeting time for women and men Ensure that gender-balanced participation in RUGs leads to better incorporation of women’s voice when developing Rangeland Use Agreements.				
7. Mainstream gender into local level policies, i.e., PPCP agreements; Soum Level Development Plans; Resource Use Agreements (RUA); Watershed Plans	<p>Output 1, Activity 1.3: Incorporate the gender-related findings of CCIVRA into development planning to guide adaptation measures in four target aimags.</p> <p>Output 1, Activity 1.3: Review the national and sub-national policies and strategies on land water management, climate change-related forecasts with a gender perspective, and identify the gaps and entry points in regard to gender mainstreaming; Ensure gender-balanced participation in developing Soum Level Development Plans and Resource Use Agreements (RUAs), and make sure gender-sensitive recommendations are included in these documents;</p>	<p>Indicator: No. of gender mainstreamed planning documents and agreements Baseline: 0 (2018) Target: Evidence: Gender mainstreamed local level policies such as PPCP agreements; Soum Level Development Plans; Resource Use Agreements (RUA); Watershed Plans</p>	PMU, gender expert, Local government	Y1 - End	20,000 10,000
8. Break gender stereotypes promoting non gender stereotypical roles by implementing 2 activities a year to include more men or women in non-typical roles of men.	-	<p>Indicator: No. of events held that promote non gender stereotypical roles Baseline 0 (2018) Target: 2 activities implemented per year (during the project)</p>	Gender expert, PMU, local government	Y1-End	20,000

IX. Tables

Table-1: GRADUATES OF EDUCATIONAL INSTITUTIONS OF ALL LEVELS at the beginning of an academic year, by sex, year

Unit: thousand persons

Classification	2015	2014	2013
National total number	111.8	127.7	162.2
Of which: female	59.1	67.5	73.1
General education schools	56.4	73.5	85.1
Of which: female	29.3	37.5	43.4
Technical and vocational schools	19.5	19	18.4
Of which: female	8.0	8.1	8.0
Universities, Institutes and colleges	35.9	35.2	33.9
Of which: female	21.8	21.9	21.7

Source: National Statistics Office (NSO) www.1212.mn

Table-2: MONTHLY AVERAGE WAGES AND SALARIES, by divisions, sex, quarter

Unit: thousand MNT (₮)

By divisions	Sex	The first quarter of 2017	The first quarter of 2016	The first quarter of 2015
National average	Total	959.14	871.4	851.4
	Male	1,042.43	936.4	923.1
	Female	879.28	809.6	782.1
Agriculture, forestry, fishing and hunting	Total	697.29	647.8	697.7
	Male	714.48	661.4	735.5
	Female	676.85	633.1	657.4

Source: National Statistics Office (NSO) www.1212.mn

Table-3: SMALL AND MEDIUM ENTERPRISES in Mongolia

Enterprise category	Sector	Number of Employees	Annual turnover in MNT (₮)
Small	All sectors	≤19 employees	≤MNT (₮) 250 mln
	Services	≤49 employees	≤MNT (₮) 1.0 bln
Medium	Wholesale	≤149 employees	≤MNT(₮) 1.5 bln
	Retail/Manufacturing	≤199 employees	≤MNT(₮) 1.5 bln

Source: <http://www.mongolianlaws.com/#>

Table-4: REGISTRED UNEMPLOYED, by sex, by region, by month

	Sex	2017 Sept.	2016 Sept.
National	Total	25,350	29,192
	Female	13,920	15,847
Zavkhan	Total	1,063	574
	Female	606	312
Khovd	Total	1,182	925
	Female	664	524

Dornod	Total	1,093	1,024
	Female	497	518
Sukhbaatar	Total	807	865
	Female	404	423

Source: National Statistics Office (NSO) www.1212.mn

Table-5: DISABILITY PERSONS, by sex, aimag, year

Aimag	Sex	2016	2015	2014
National	Total	100,993	101,730	99,573
	Female	45,235	45,296	44,709
Zavkhan	Total	3,618	3,723	3,921
	Female	1,685	1,714	1,727
Khovd	Total	2,832	2,958	3,025
	Female	1,238	1,268	1,280
Dornod	Total	4,137	4,258	4,025
	Female	1,765	1,847	1,715
Sukhbaatar	Total	2,649	2,696	2,665
	Female	1,090	1,124	1,107

Source: National Statistics Office (NSO) www.1212.mn

Table-6: NUMBER OF SENIOR SINGLE-HEADED HOUSEHOLDS OVER65 YEARS OLD, by sex, aimag, year

Indicators	Sex	2016	2015
National	Total	34,060	33,007
	Male	9,294	9,369
	Female	24,766	23,638
Zavkhan	Total	1,797	1,675
	Male	417	460
	Female	1,380	1,215
Khovd	Total	1,256	1,315
	Male	317	331
	Female	939	984
Dornod	Total	637	519
	Male	227	187
	Female	410	332
Sukhbaatar	Total	952	852
	Male	163	204
	Female	789	648

Source: National Statistics Office (NSO) www.1212.mn

Table-7: GENDER INEQUALITY INDEX, by region, aimags and the capital

Aimag	2016	2015	2014	2013	2012
National	0.335	0.289	0.294	0.323	0.345
Zavkhan	0.289	0.264	0.261	0.241	0.348
Khovd	0.806	0.815	0.789	0.815	0.803
Dornod	0.841	0.841	0.842	0.841	0.819
Sukhbaatar	0.836	0.816	0.821	0.819	0.822

Source: National Statistics Office (NSO) www.1212.mn