Managing Peatlands in Mongolia and Enhancing the Resilience of Pastoral Ecosystems and Livelihoods of Nomadic Herders

Part I: Project Information

GEF ID
10545

Project Type
FSP

Type of Trust Fund
GET

CBIT/NGI
☐CBIT
☐NGI

Project Title
Managing Peatlands in Mongolia and Enhancing the Resilience of Pastoral Ecosystems and Livelihoods of Nomadic Herders

Countries
Global, Mongolia

Agency(ies)
UNEP

Other Executing Partner(s)   **Executing Partner Type**

Other Executing Partner(s)

Ministry of Environment and Tourism of Mongolia, and International Centre for Reindeer Husbandry (ICR)

Executing Partner Type

Others

GEF Focal Area

Land Degradation

Taxonomy

Focal Areas, Land Degradation, Sustainable Land Management, Community-Based Natural Resource Management, Ecosystem Approach, Restoration and Rehabilitation of Degraded Lands, Improved Soil and Water Management Techniques, Land Degradation Neutrality, Land Cover and Land cover change, Stakeholders, Local Communities, Civil Society, Community Based Organization, Academia, Type of Engagement, Participation, Partnership, Information Dissemination, Consultation, Beneficiaries, Communications, Awareness Raising, Education, Public Campaigns, Indigenous Peoples, Gender Equality, Gender Mainstreaming, Sex-disaggregated indicators, Gender results areas, Participation and leadership, Access and control over natural resources, Capacity Development, Capacity, Knowledge and Research, Knowledge Exchange, North-South, South-South, Knowledge Generation, Training, Course, Workshop, Learning, Adaptive management

Rio Markers

Climate Change Mitigation

Climate Change Mitigation 2

Climate Change Adaptation

Climate Change Adaptation 0

Duration

48 In Months

Agency Fee($)

357,009

Submission Date

3/23/2020

A. Indicative Focal/Non-Focal Area Elements

Programming Directions	Trust Fund	GEF Amount($)	Co-Fin Amount($)
LD-1-4	GET	3,757,991	20,000,000
Total Project Cost ($)		**3,757,991**	**20,000,000**

B. Indicative Project description summary

Project Objective

To develop the capacity for enhancing ecosystem services of peatlands (specifically reduction of GHG emissions from degraded peatlands) in Mongolia and the capacity of indigenous reindeer herders to reduce land degradation and improve the provision of ecosystem services and increase community resilience.

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount($)	Co-Fin Amount($)

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount($)	Co-Fin Amount($)
Component 1 Policy framework and institutional capacity for climate-friendly and resilient peatland management practices	Technical Assistance	1.1 The peatland based GHG emission reduction plan for four main sectors of the economy (conservation, agriculture, mining, construction) and a framework for reporting on peatland management are approved by the Government and under implementation 1.2 Knowledge and data on peatlands used by national authorities in national reporting	1.1.1 Peatland mitigation and adaptation targets integrated into the LULUCF segment of the NDC of Mongolia 1.1.2 The templates for reporting on LDN and climate-smart solutions and GHG reductions related to peatlands by four sectors (conservation, agriculture, mining, construction) developed for national authorities 1.1.3 Gap analysis of legislation and sectoral regulations in connection to the activities (on peatlands) suggested in the LDN and NDC made available for national authorities 1.1.4 Proposals for the legal framework to safeguard the climate-smart nature-based solutions and reporting on GHG reductions developed 1.2.1 The results of the peatland inventories, including delineation and ecosystem services mapping, carried out in five pilot river basins are available for the authorities in agriculture, water management, mining and	GET	669,630	2,000,000

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount($)	Co-Fin Amount($)
Component 2 Integrate climate-smart peatland management solutions into practice	Technical Assistance	2.1 Sustainable Peatlands management integrated into sectoral policies and practices	2.1.1 Roadmap developed towards SEEA-based ecosystems accounting for peatland ecosystems 2.1.2 Sectoral management plans updated considering peatlands 2.1.3 Solutions for sustainable peatland management piloted in targeted sites 2.1.4 The management capacity of key stakeholders increased 2.1.5 Sector specific knowledge and outreach products available	GET	1,004,445	7,500,000

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount($)	Co-Fin Amount($)
Component 3 Global knowledge-base and capacity for herders' contribution to sustainable landscape management	Technical Assistance	3.1 Sustainable landscape management approaches institutionalized for global reindeer husbandry	3.1.1 Gender sensitive traditional knowledge on existing and past global land-uses, land degradation and indigenous reindeer herders' food governance is globally collected and assessed and made available for global stakeholder groups;	GET	1,904,965	9,200,000
			3.1.2. GIS-based maps of current land-uses and future scenarios are developed globally and compatible for traditional and scientific knowledge to support rangelands mobility made;			
			3.1.3. Participatory mapping and environmental monitoring systems are developed for the global stakeholder groups for an integrated rangeland management systems;			
			3.1.4. Global indicators for assessing sustainable management of rangelands and pastoralism are developed and tested			
		3.2 Global nomadic pastoralist communities	3.2.1 Global training and educational courses for indigenous reindeer herding youth, and field training and community-based workshops for			

Project Component	Financing Type	Project Outcomes	Project Outputs	Trust Fund	GEF Amount($)	Co-Fin Amount($)
			Sub Total ($)		3,579,040	18,700,000
Project Management Cost (PMC)						
				GET	178,951	1,300,000
			Sub Total($)		178,951	1,300,000
			Total Project Cost($)		3,757,991	20,000,000

C. Indicative sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
GEF Agency	UNEP (Regional Project on Peatlands)	Grant	Investment mobilized	500,000
Government	Ministry of Environment and Tourism of Mongolia	In-kind	Recurrent expenditures	6,000,000
CSO	the Wildlife Science and Conservation Center of Mongolia	Grant	Investment mobilized	500,000
Government	Ministry of Construction and urban development	In-kind	Recurrent expenditures	500,000
Government	Selected river basin authorities with Ramsar sites	In-kind	Recurrent expenditures	500,000
Government	Selected provincial authorities	In-kind	Recurrent expenditures	2,000,000
CSO	International Centre for Reindeer Husbandry (ICR)	In-kind	Recurrent expenditures	3,237,000
CSO	Association of World Reindeer Herders (WRH)	In-kind	Recurrent expenditures	6,763,000
			Total Project Cost($)	**20,000,000**

Describe how any "Investment Mobilized" was identified

The joint initiative of UNEP and IUCN with the title "Conserving and restoring vital water towers, biodiversity and carbon storage capabilities of threatened peatlands in key mountain and highland areas of Central and Northeast Asia" is expected to start in 2021. Project's demonstrations on restoration of peatlands and household livelihood approaches in Mongolia will be the investment mobilized contribution for this project. The Ministry of Environment and Tourism of Mongolia, through two of its main departments: 'Department of Environment and Natural Resources' and the 'Department of Land Planning and Water Integrated Policy' will be executing a total of four projects that will contribute co-financing to the current effort. The Government has an annual budget of US$ 8 million for biodiversity conservation. It is estimated that a total of USD 9 million will be in kind cofinance by the Government. Furthermore, it is estimated that minimum US$ 1,000,000 will be spent by international partners and the Wildlife Science and Conservation Center of Mongolia for Ramsar sites and peatlands in four years which will be the investment mobilized for the Project. Finally, The Project will receive US$ 10 million recurrent expenditure investment from International Centre for Reindeer Husbandry and Association of World Reindeer Herders as staff time on the project, investments made to secure the project, and other in-kind

activities. Cofinancing committed by International Centre for Reindeer Husbandry (ICR) totals NOK 27,300,000 that has been converted to USD Cofinancing committed by Association of World Reindeer Herders (WRH) totals NOK 9,000,000 that has been converted to USD

D. Indicative Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
UNEP	GET	Global	Land Degradation	LD Global/Regional Set-Aside	2,000,000	190,000	2,190,000
UNEP	GET	Mongolia	Land Degradation	LD STAR Allocation	1,757,991	167,009	1,925,000
				Total GEF Resources($)	**3,757,991**	**357,009**	**4,115,000**

E. Project Preparation Grant (PPG)

PPG Required

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PPG Amount ($)

136,988

PPG Agency Fee ($)

13,012

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)	Total($)
UNEP	GET	Mongolia	Land Degradation	LD STAR Allocation	68,494	6,506	**75,000**
UNEP	GET	Global	Land Degradation	LD Global/Regional Set-Aside	68,494	6,506	**75,000**
				Total Project Costs($)	**136,988**	**13,012**	**150,000**

Core Indicators

Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
20000.00	0.00	0.00	0.00

Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
20,000.00			

Indicator 4.2 Area of landscapes that meets national or international third party certification that incorporates biodiversity considerations (hectares)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Type/Name of Third Party Certification

Indicator 4.3 Area of landscapes under sustainable land management in production systems

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 4.4 Area of High Conservation Value Forest (HCVF) loss avoided

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Documents (Please upload document(s) that justifies the HCVF)

Title	Submitted

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO_2e (direct)	600000	0	0	0

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO_2e (indirect)	0	0	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO_2e (direct)	600,000			
Expected metric tons of CO_2e (indirect)				
Anticipated start year of accounting	2022			
Duration of accounting	20			

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO_2e (direct)				
Expected metric tons of CO_2e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)

Indicator 11 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	7,000			
Male	7,000			
Total	14000	0	0	0

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

The Sustainable Development Goal (SDG) methodology was applied for justification of the project outcomes, since in 2016 Mongolia adopted the Mongolia Sustainable Development Vision – 2030 and is regularly reporting on its implementation : SDG Justification Gender Equality (SDG 5) The gender equality approach in the project is described below. Clean Water and Sanitation (SDG 6) River basin management integrated with peatland management leads to a significant improvement of water quality. Industry, Innovation, and Infrastructure (SDG 9) Introduction of best practices in 3 target economic sectors and nature conservation sector Climate Action (SDG 13) Sustainable management and restoration of peatlands contributing to climate change mitigation and adaptation. Life on Land (SDG 15) Peatland protection, restoration and sustainable management contributing to the provision of ecosystem services and biodiversity conservation in these areas. The project will mainly contribute to Aichi target 15 – Restoring of 15 % of damaged ecosystems – but will also be relevant to targets 1, 2, 3, 4 5, 7, 8, 10, 14 and 19, and will be in line with the objectives of the UN Decade of Ecosystem Restoration.

Part II. Project Justification

1a. Project Description

1a.1) Global environmental and/or adaptation problems, root causes and barriers that need to be addressed

<u>Global significance of peatlands and Reindeer Herding</u>

Globally peatlands play a crucial ecological and economic role. Peatlands are found all over the world covering approximately 3% of the global land area, peatlands store twice as much carbon as all terrestrial biomass. Peatlands have recently come under increased threats including from overexploitation, about 10% of all peatlands are drained or degraded in the course of land use and hence have become a significant carbon source – being responsible for 5% of all anthropogenic CO_2 equivalent emissions (Joosten, 2012). In addition to climate mitigation, they play a significant role in providing other ecosystem services. Drainage of peatlands results in soil degradation, high risk of fires, land subsidence, change of the microclimate, thawing of permafrost in some cases, as well as water pollution. Even though the sensitivity of peatlands to anthropogenic pressures and a changing climate is recognized by several Multinational Environment Agreements (MEAs), and Contracting Parties are undertaking and planning relevant activities, the role of peatlands and their global significance is poorly understood locally. In many cases, the information on peatlands distribution and natural features is not available for decision-makers and they have no clear incentive to recognize their ecosystem services.

The global context for peatlands' role for climate change mitigation and adaptation is described in multiple recent documents[1] which raise peatlands higher on the agenda of MEAs.

Peatlands form when dead plant matter partially decomposes in marshy areas, capturing carbon taken from the air by the plants when alive. The moist, rich soil is a magnet for herders as much of the country's land is exhausted from mining, road construction, human-caused steppe fires, over-grazing or desertification. The problem is that the number of cattle on peatlands is 20 or 30 times higher than other areas.[2] Climate change is making matters worse.

In Mongolia as of 2017, one-third of the national labor force was employed in pastoral agriculture and the sector comprised 8.4 percent of the country's exports and 24 percent of its GDP. Within the agriculture sector, almost 83 percent of total production comes from the traditional pastoral livestock sector, which includes 66.5 million herds, with average of 390 herds per herder's family and totally occupying 72 percent of the country's territory. Nomadic livestock husbandry has developed in its long history in harmony with nature and the environment to adapt to the harsh climatic conditions of rangelands. Healthy rangelands provide important benefits to humans, such as food security, medicine, local and regional economies, tourism, and they are critical for supporting ecosystem services, such as nutrient cycling, oxygen production, wildlife habitat, biological diversity and soil formation. For Mongolians and many other nations pastoralism is their culture, tradition and historical heritage, which was transferred from generation to generation.

Within the world's most northerly regions – the Arctic and sub-Arctic – reindeer husbandry[3] is the most common form of pastoralism. Reindeer pastoralism is a traditional livelihood that represents a model of sustainable exploitation and management of northern terrestrial ecosystems based on experience accumulated over generations, conserved, developed and adapted to the climatic, ecological, political, and economic systems of the north. It represents a human-coupled ecosystem that has developed a historical high resilience to climate variability and change (Turi, 2008). Today, however, the herders' ability to adapt to change is hindered by land degradation and fragmentation. Totally, there are approximately 100,000 herders and 2.6 million semi-domesticated reindeer, covering about 4 million square kilometres of pastures globally. Reindeer herding is conducted by individuals through some form of cooperation, such as families, districts, Sámi[4] villages, sovkhozy (collective farms), etc. Every country where reindeer herding is conducted has regulations that state how it is to be organized, with their being wide variations in such legislation.

National significance of peatlands and Reindeer Herders in Mongolia

Most pastures in Mongolia are former peatlands which are degraded as a result of overgrazing. The high significance of peatlands and peatland related ecosystems for Mongolia was identified in course of the strategic planning undertaken by the Ministry of Environment and Tourism of Mongolia which was based on the Assessment of Peatlands in Mongolia (2017) including comprehensive stakeholder analysis. Key findings of the Assessment and the recommendations for the conservation of peatlands at the international, national and local levels had been summaries in the Policy Brief.

The draft Strategic Action Plan and an associated Policy Brief (2017) identified for Mongolia (Annex E1):

- natural features and ecosystem services of peatlands related to water balance, carbon cycle, soil protection, productivity and biodiversity

- key vulnerabilities and threats to peatlands in course of the land use including all sectors of the economy

- approaches and recommendations for peatland conservation that can be taken at the international, national and local levels

The Strategic Action Plan on Peatlands Conservation and wise Use in Mongolia listed proposed activities.

The Mongolian taiga is also a globally significant region. The Dukha reindeer herders have shown resilience over many years by adapting to changing governance regimes, such as the establishment of national borders cutting through migration routes, the collectivization of reindeer herds, and the transition to market economy. Their herd size has fluctuated, but herders have until now always been able to increase the number of reindeers after a crisis. However, there are limits to the herders' adaptation capacity. There is an urgent need to secure reindeer husbandry as a resilient and sustainable livelihood and further, to ensure that the Dukha reindeer herders are able to maintain their cultural identity and rely on nature for their livelihood and well-being, and control over their own destiny.

Environmental Problems and Threats:

A change in land cover is one of the indicators used to track potential land degradation. According to the land cover change by classes 764 sq.km of the forest, 650 sq.km of croplands and 97,154 sq.km of other lands have changed between 2000 and 2015. Majority of degradation associated with deforestation and vegetation loss. Relatively high degradation rate revealed in wetlands. The urbanization caused degradation is about 330 sq.km area. According to JRC LPD dataset, the productivity is declining on 4.7 % of the total land, 7.3 % is at the early signs of decline and 22 % of land is under the stress. The land area with degraded soil organic carbon is about 24 thousand sq.km. Most the decline in soil organic carbon is due to grassland degradation and is about 33.5 % in average comparing to baseline. Around 31.2 % of carbon declined as a result of urbanization and deforestation. Overall, 77% of Mongolian land is classified as degraded or desertified.

Changes in climatic conditions increase the vulnerability of peatlands through the thawing of permafrost, decreasing water storage, increasing evapotranspiration, mineralization and destruction of peat, changing water quality, and decreases in productivity.

Semi-domesticated reindeer are wary of disturbances, especially calves and females. Land degradation and fragmentation are pressures that reduce herders' ability to respond to the increasingly unstable and unpredictable weather conditions, for example by moving their herds to less disturbed grazing areas. The progressive and effectively irreversible loss

of the uncultivated lands that reindeer use as pasture is probably the single greatest threat to reindeer husbandry in the circumpolar North today.[5][5] The flora, fauna, and traditional reindeer herding societies of the taiga and tundra areas are currently facing unprecedented threats and challenges, which are a result of strong socio-economic and environmental drivers. Such threats are leading to a land degradation, habitat fragmentation and reduced resilience and sustainability of reindeer herding societies in these areas. Pastoral livelihoods are threatened by loss of grazing land due to changes in land use (oil and gas, mining, wind farms, tourism, infrastructure development), and a changing climate. Major drivers behind this development are the world's need for energy and natural resources, also potentially linked to and facilitated by climate change. As such, globalization is very much influencing pastoralists and the sustainability of their communities.

Peatlands are affected by any change of the hydrological regime caused by land use decisions of different sectors. All over the Arctic and sub-Arctic, reindeer grazing lands are under increasing pressure from resource extraction (minerals, petroleum, forest, peat, etc.), infrastructure development (roads, wind turbines, pipelines, dams, etc.), urbanization and rising temperatures. An increased competition for land between herders and other land-use interests, combined with decreased mobility of the herd, lead to new grazing patterns and – for some areas – more intense use of less disturbed land. The land fragmentation leads to more reindeer-predator conflicts. Since the Mongolian taiga is rich in natural resources and a highly rated tourism destination, advertised as the most virgin and wildest land in Mongolia, the herders and biodiversity are increasingly affected by artisan gold miners, forest loggers and taiga tourists.

Water sector: Related to the water sector, peatlands are not included in the water cadaster. As a result, any planning activities do not consider peatlands as water bodies, but rather as land areas. This means that there is an on-going high risk of inappropriate usage of peatlands by other sectors (for example, agriculture and mining), leading to loss of peatland ecosystem services. There is therefore an urgent need for a full peatland inventory for Mongolia, and development of a census as part of the water cadaster. The challenges in the water sector are exacerbated by a lack of scientific capacity on peatlands hydrology in the country.

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Agriculture sector: Overgrazing has a large impact on peatland degradation by compromising the water retention functions of the peatlands. In addition to removing vegetation, livestock trample peatlands, resulting in countless rivulets that channel water out of the areas, thereby leading to drying out and degradation. Until now there are very few solutions for mitigating the impact of overgrazing in Mongolia. Most proposals relate to tax regulations and legal issues. Actions on the ground (regulation of livestock quantity or type, peatland ecosystem restoration) have not been widely applied until now. Degraded pastures in dryland areas are steadily being transformed to arable lands, with constant growth of sown areas. During the summer months, most of the livestock are concentrated in wetlands, causing degradation and further loss of pastures in peatlands.

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Mining sector: The mining sector is the main source of the country's GDP growth, but mining technologies are significantly outdated. In-line with the 'Long Name Law' (Law to prohibit mineral exploration and mining operations at headwaters of rivers, protected zones of water reservoirs and forested areas (2009), LNL), mining operations on peatlands are not allowed as they are river headwaters. However, if peatlands are not delineated, mapped and included in the water cadaster, it is difficult to avoid them during licensing. Therefore, many mining activities are conducted in peatlands. Peat is removed without any awareness of its importance and is simply discarded. The pollution and deterioration of water and peatland areas due to the operations of mining companies leads to irreversible changes in peatlands. Unfortunately, peatlands are not considered as a target of restoration by the mining industry.

Across many of the areas where reindeer have traditionally been herded, lie valuable oil, gas and mineral resources. With commodity prices increasing and the introduction of new extractive technologies, these areas are seeing a new mineral boom, the extraction of which is leading to land degradation and increasing fragmentation of the landscape.

The situation is the same for Environment Impact Assessments (EIA) and decommissions planning. Peatlands are not considered due to a lack of information. Peatland ecosystem restoration is not applied due to the absence of knowledge on techniques and approaches. As a result, EIA and decommissioning plans are not ecosystem focused.

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Construction and housing: The construction and housing sector is developing steadily. The number of recreational and residential houses is increasing in the upstream river valleys mainly around the capital. In many cases illegal housing is built in water protected zones, including peatlands. The housing and construction sector is not recognized yet as one of the drivers of environmental problems. The construction of roads and other linear infrastructure does not consider the surface and ground water flow responsible for supplying the water required to maintain peatlands. In many areas, this has a crucial impact on the condition of peatlands.

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Conservation sector: In terms of the conservation sector, there is a lack of information on peatlands distribution and diversity and monitoring needs. The Assessment Report[6][6] demonstrated that the area of peatlands within existing protected areas is significant. The specialists consulted recognized that peatlands are not addressed in a specific way in management plans and are not considered in land use regulations and planning of conservation measures. In order to improve peatlands conservation, experts in this sector recommended upscaling the status and improving management of several protected areas.

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Tourism sector: Tourism is a rapidly growing economic sector. During the last four years the number of tourists has nearly doubled (from 123,330 in 2014 to 222,165 in 2018). Most of the tourists visit protected areas. Information about the impact of tourism on peatlands is not available.

In addition to land degradation, there are legal and political challenges that undermine the traditional and sustainable herding practices and knowledge system[7][7]. Discrepancies in the rights to land attached to the organizational status of reindeer herders are the biggest potential threats for traditional reindeer herding land use. Currently, reindeer husbandry is organized in three structures: (i) Large reindeer herding enterprises, which use the official pasture land; (ii) Private herders, who are organized as legal entities called communities, which inform the State about the pastures they are using, and (iii) Private herders (so-called individual households), who are not part of any legal entity. Currently, private herders do not have a legal right to use the pasture lands for their traditional livelihood. The immediate legal implication for private herders is their lack of involvement in and lack of information about industrial activities on their traditional pastures.

Current challenges facing Mongolian reindeer husbandry relate to the precarious socio-economic situation of reindeer herders within a market economy (Johnsen et al. 2012). Since the early 1990s, government subsidies for salaries and other services have disappeared after 70 years of a communist regime, and the need for cash income to buy essential services and goods has increased in this formerly subsistence community. The market economy, combined with increasing competition for the land, has impacted the reindeer herders' land use. Further, the Dukha people have no community members in elected positions at any level of government (Minority Rights Group International 6th July 2011). They have limited access to legal counsel and information regarding civil and human rights and have no formal ownership or possession of the taiga; all these factors make them vulnerable to exclusion and exploitation (Keay 2008).

Climate Change: Reports by John B. Henriksen (2007) and Lars-Anders Baer (2010) have focused on climate change and its impact in the Arctic on reindeer herding. Climatic and socio-economic changes are now evident across the Arctic, and changes are particularly evident in reindeer herding cultures and in their traditional areas (Oskal et al. 2009; Magga et al. 2011). Global and regional scenarios project dramatic changes in temperature, precipitation and snow conditions in the key areas for reindeer herding and projecting equally dramatic socio-economic changes for reindeer herding communities in the Arctic. Climate scenarios indicate that winter temperature may increase by 7˚C to 8˚C in 100 years (Benestad 2011). Various combinations of these scenarios lead to different snow structures which make the pastures more or less available for the reindeer.

Pilot Sites

Large GHG emissions from drained and degraded peatlands in Mongolia have been reported based on the extrapolation of several publications.[8][8] The targeted peatlands are located in Tsagaan Nuur in Dashinchilen, Kurkh and Khuiten valley, Ugii Lake, and the Darkhadiin Khotgor.

The main issue regarding peatland Kurkh valley is the decrease of peatland ecosystem productivity, which is affecting the availability of pastures. The degradation of peatlands could have a crucial impact on the future of the agriculture sector. The rapid degradation of steppe pastures led to a shift of livestock from steppe ecosystems to peatlands in the late 1980s, with an acceleration of this process at the end of the 1990s and the beginning of the 2000s. During those years still very few steppe pastures were transformed to arable lands. Currently, after the severe degradation of peatlands, the possibilities for a further increase of husbandry on peatlands is lost.

Understanding the connection of the hydrological regimes of rivers and catchments with the status of peatlands is generally limited in selected nine basins (Khyargas Nuur-Zavhan, Ongi, Shishkhid, Selenge, Orkhon, Tuul, Kharaa, Onon, Buir Lake-Khalkh). The peatlands in these nice pilot basins loose water retention capacity and purification capacity. The impact of peatland degradation on water quantity and quality is also not addressed in these nine basins by any scientific study. Very few catchment water balance models have been developed for these sites and none of them considers peatlands as a separate ecological system.

The biodiversity of peatlands in Khurk Ramsar Site is degrading. Although, the management of Khurk Ramsar Site are aware of peatlands degradation and the reduction of the habitat of cranes, they don't consider the losses of other species. Peatlands in Mongolian Ramsar sites are recognized as habitats for several endemic species and for the global migration routes for many endangered species. These peatlands are often the only habitat for amphibia and reptilians.

Barriers

The long-term solution sought by the project is to develop the capacity for enhancing ecosystem services of peatlands (specifically reduction of GHG emissions from degraded peatlands) in Mongolia and the capacity of indigenous reindeer herders to reduce land degradation and improve the provision of ecosystem services and increase community resilience. However, the following barriers are preventing this solution.

Barrier 1: No policy framework, knowledge and institutional capacity for peatlands restoration and management in relation to climate change mitigation:

Although peatlands have significant mitigation potential of GHGs, peatland related activities are not included in NDC. Therefore, peatland management related mitigation activities and the other peatland management efforts are not part of any national reporting mechanism. This is mainly due to limited knowledge and capacity. Since there is no request for peatland related data from decision makers, the research on peatlands and permafrost in relation to climate change and land-use change in Mongolia are insufficient and not published in peer-reviewed journals. The capacity for standard long-term microclimate and carbon balance studies is not in place in the field research stations and institutions. Furthermore, the students, scientific and administrative staff are not sufficiently trained in the ecosystem services concept and nature-based solutions and there is limited awareness on peatland ecosystem services and relation to climate nature-based solutions.

Barrier 2: Limited experience and absence of identified best practices for integration of climate smart peatland management into economic activities

Existing land management decisions of economic sectors in Mongolia are a combination of modern and traditional systems. Because of limited knowledge about the ecosystem services that peatlands provide, there is limited effort in integrating peatland management into sectoral decisions. Planning tools that incorporate sustainable peatland management into sectoral planning processes do not exist. Furthermore, capacity of stakeholders about peatland management is limited, and as a result there is very little experience in Mongolia in implementing sustainable peatland friendly practices such as peatland restoration, consideration of peatlands in environmental impact assessments, etc. Insufficient knowledge and understanding of the importance of sustainable management of peatlands contribute to the barrier.

Barrier 3: Traditional knowledge of reindeer herders does not inform decisions because reindeer herders lack the capacity to participate effectively in land use decision-making:

Reindeer herders around the world, owing to their experience, traditional knowledge and skills, have developed unique management strategies for the protection of pastures, observation of changes, and rational use of natural resources. Addressing climate change in reindeer herding societies might require novel methodological approaches. Recognizing the ability to adapt to change, as demonstrated by reindeer herding, is based on knowledge embodied in the language, the institutions of pastoralism and the knowledge and actions of individual herders. However, the traditional knowledge systems and governance systems for landscape management, biodiversity conservation, and food production amongst Arctic and sub-Arctic pastoralists are not available for decision makers. Therefore, decisions are made without considering the socio-ecological processes of reindeer herders.

This is also due to poor representation in governance processes. The reindeer herders' institutions are poorly adapted to deal with competing land users and other sectors of society, including industry and even protected areas administrations. The capacity of nomadic herders is limited to participate and contribute to the sustainable management of rangelands. Herders' awareness on natural and cultural values of the ecosystems on which they depend is limited. Knowledge exchange between reindeer herders is lacking. Herders don't have capacity to influence planning processes of development projects thus they don't benefit from these projects. Because, the effects of these projects on herders and their traditional land use are not being taken into account and no assessments of potential environmental damage and withdrawal of reindeer pasture are being made; compensation for possible losses is also not being considered.

1a.2) The baseline scenario and any associated baseline

The proposed project will build upon the previous steps already taken by Mongolia towards mitigating climate change and sustainable management of terrestrial ecosystems. Mongolia recognizes the importance of national commitment to mitigation and has identified national emission reduction actions. The LULUCF sector has until now included removals based on afforestation activities only. The national actions do not include organic carbon mitigation potential of peatlands. While projects exist that are addressing the threats and barriers described above, under the business-as-usual scenario, these projects are insufficient to facilitate change that allows for enhanced ecosystem services of peatlands (specifically reduction of GHG emissions from degraded peatlands) in Mongolia and improved provision of ecosystem services and increased community resilience of reindeer herders.

The national Integrated River Basin Management (IRBM) provides framework for the systematic land use planning and management of the information, as well as involvement of the civil society via Basin Councils. The Nationally Determined Contribution (NDC) approach provides clear incentives for the improvement of the land use practices aimed to the reduction of emissions from the LULUCF sector. However, these two policy tools don't recognize the benefits of the regulating services of peatlands. Similarly, Mongolia has additional frameworks which don't consider the role of peatlands. These are:

· Nature Protected Areas Network and UNESCO objects network;

· SDG reporting;

· reporting on land degradation neutrality (UNCCD);

· reporting on Global Action Plan on Peatlands of the Ramsar Convention (Res.VIII.17) and other peatland related resolutions of the Ramsar convention;

· Reporting on the CBD implementation and contribution to IPBES evaluations.

Furthermore, there has been a number of project related to reindeer husbandry and land degradation, however these either old or framed and funded as case-based approaches which focus on specific regions and/or themes. Consequently, holistic knowledge about reindeer herding and its relationship with the natural environment is generally weak. Only to a limited degree is the herders' traditional knowledge and practical experiences included in the management of the tundra and taiga rangelands. And this gap in knowledge and data for the sustainable management of rangeland has significant impact on herders. For example, inaccurate data on rangeland degradation (causes and effects) could cause governments or MEAs to blame and dismantle traditionally sustainable herding systems or introduce policies to 'fix' something that is not broken[9][9]. The knowledge gap could also have implications for investments to strengthen the economy and culture of reindeer husbandry. Reindeer herders lack the capacity to communicate their own knowledge and

environmental observations to actors outside their community. Their challenge of mobilizing traditional knowledge of reindeer herders into decisions lack affect their ability to be understood by the rest of society and to participate effectively in decision-making processes.

The list below is based on the information obtained during the initial stakeholder consultations undertaken to inform the development of the PIF. Priority was given to land use and biodiversity projects. The information is not comprehensive and should be extended/deepened during the GEF project preparation. The projects have been grouped in line with the funding sources.

National state funding and private sector

Scientific research work in the frame of the regular plans of the Academy of Sciences, as well as activities on natural resource management, especially water management and protected areas maintenance, are funded from the state budget.

The work on biodiversity conservation at the national level is organized and funded in line with the National Biodiversity Program, which is an umbrella program covering environmental protection, biodiversity conservation and sustainable management of natural resources. The total budget of the state funds for the National Biodiversity Program for the period 2020-2023 is estimated around US$4 million. The respondents mentioned the lack of awareness on peatlands for their integration into the National Biodiversity Program.

A small grant for wetland ecosystem restoration was recently provided by the International Investment Bank to the Academy of Sciences of Mongolia[10][10].

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International funding

The National Adaptation Plan (NAP) process, which intends to strengthen climate-resilient development is under implementation with support from the Green Climate Fund (GCF) and the UN Environment Programme (UNEP)

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Switzerland provided funds for the "Green Gold" project on pasture restoration*[11]*[11]. The Project will be implemented until 2021 and the planned budget for the period 2020-2021 is around US$1,200,000.

The German Ministry of Economic Cooperation and Development (BMZ) has funded several climate related projects, which will complement the objectives of this project:

Biodiversity and Adaptation to Climate Change via KfW 2019-2026 with a budget of US$ 30.5 million (27.5 million euro);

Supporting Protected Areas for the Conservation of Ecosystem Services – SPACES, 2019 – 2022, with a total budget of US$ 1,000,000;

1a.3) The proposed alternative scenario with a description of outcomes and components of the project

The project will achieve its objective to develop the capacity for enhancing ecosystem services of peatlands (specifically reduction of GHG emissions from degraded peatlands) in Mongolia and the capacity of indigenous reindeer herders to reduce land degradation and improve the provision of ecosystem services and increase community resilience through the following three technical components.

The main premise of the Project is that in order to sustain ecosystem services of peatlands and reduce land degradation, sustainable peatland management should be mainstreamed into policy frameworks and sectoral policies, and nomadic herders capacitated to contribute to sustainable land management. This premise can only be achieved if knowledge and data on peatlands are used by national authorities in identification of peatland based mitigation and adaptation options so that these options can be part of national plans so that sustainable peatland management based activities can be implemented, reported and monitored. Sustainable peatland management can be achieved if other sectoral plans and strategies incorporate peatland management solutions into sectoral policy formulations. Finally, nomadic herder communities' capacities will be enhanced so that nomadic pastoralist communities participate in rangeland management processes so that indigenous knowledge will be part of sustainable landscape management approaches. Cross-community exchanges at global scale will further facilitate dissemination of project's good practices, lessons learned on herders' contribution to sustainable landscape management globally so that Project's best practices will be replicated at global scale. The project's methodology is to develop activities spanning the spectrum from knowledge through policy to practice:

Component 1: Political framework and institutional capacity for climate-friendly and resilient peatland management practices:

In the proposed alternative scenario, with the GEF support, the project will mobilize and support Mongolia to develop peatland based GHG emission reduction plan for four main areas (conservation, agriculture, mining, construction). This plan will be monitored with a reporting framework. The closest possibility to integrate peatlands related activities in the LULUCF segment of the NDC of Mongolia will be done by supporting the Government for the inclusion of peatland related GHG reduction activities in the National Communication. The project will work on the formulation of peatland-based mitigation targets in cooperation with MET and the CBIT projects. The main missing information to identify peatland related GHG reduction activities is the location of peatlands and their boundaries. Without delineation of peatlands, no decision on peatland-related land use can be undertaken. The peatlands inventory will be finalized at the country level and will be detailed for the pilot areas. The second set of information is related to the ecosystem services of peatlands, with special emphasis on climate change mitigation. The project will especially identify the carbon storage potentials of peatlands, possible carbon losses from peatlands caused by different land uses, and the reductions of emissions caused by peatland restoration or climate-smart land management activities. The inventory of peatlands (as water objects), and their ecosystem services will be shared with other national platforms. The reporting on mitigation measures will be embedded by the project into the political and legal frameworks and in business schemes through social corporate responsibilities reporting (reputation risk avoidance). For this purpose, the project will conduct gap analysis of legislation and sectoral regulations. The project will work on capacity building in different sectors through demonstration pilots and guidelines on best practices for implementation and reporting.

Component 2: Integrate climate-smart peatland management solutions into practice:

This component helps to integrate the climate-smart ecosystem-based solutions into activities of target economic sectors to streamline their land-use practice. The Project will establish an inter-agency natural capital accounting National Working Group to consultatively develop a coherent and consistent national framework for peatland ecosystem accounts in compliance with the SEEA framework. The peatland related land-use issues and solutions are intersectoral. However, practical implementation is within the sectors. The project will demonstrate how political frameworks developed by the project and project knowledge accumulated on peatlands function. The component will address five economic sectors: nature conservation including tourism; water resource management; agriculture production (herding and crop production); mining; construction. All sectors are addressed in line with the following logical scheme: stakeholder analysis and engagement; mobilizing of knowledge, development of guidelines and practical recommendations; implementing the pilot; report on the outputs of pilot; dissemination and sustaining results.

Peatlands conservation will secured within the natural protected areas system by updating the management plans for at least two NPAs considering peatlands. Pilots on awareness raising on peatlands and sustainable tourism, and restoration of sites after destruction by unsustainable tourism will be demonstrated.

The project will provide GIS layers of delineated peatlands and basic information on their status to water resource managers. Further the project will work with local river basin authorities to develop the recommendations on peatlands management to enhance their adaptation capacity especially regarding water access and resilience to natural disasters.

The project will provide information on peatlands and suggest possible climate-smart land-use practices to decision-makers to be considered in future agriculture strategies. The specific knowledge base will include ecosystem services assessment with the emphasis on climate change mitigation and adaptation in targeted agriculture mainstream pilots.

The project will conduct a gap analysis and recommendations for improvement of the legal framework for the integration of the best peatland management practices over the course of mining operations and planning. The project will assist integration of restoration techniques and peatland monitoring into operational planning of the mining sites and Environmental Impact Assessments. Additionally, Project pilot in mining industry will demonstrate best practices in restoration of peatlands near an active mining site.

Component 3: Global knowledge-base and capacity for herders' contribution to sustainable landscape management:

Under this component, the project will document and assess the Gender sensitive traditional knowledge of reindeer herders' community-based practices and models to enhanced ecosystems services and land degradation including human well-being. The component will present similarities and differences within and between the two main types of herding practices: tundra and taiga reindeer husbandry. The approach focuses particularly on the co-production of knowledge between scientists, relevant governmental institutions dealing with land management and biodiversity issues, and reindeer herders, paying attention to placing reindeer herders' knowledge on an equal footing to academic scientific knowledge. This information will be collected through a variety of means, including interviews with reindeer herding elders, field-based scientific studies, remote sensing, including time series of land use changes within the model areas, and collection of data from administrations and the private sector, where applicable. GIS-based maps of current land-uses and future scenarios will be developed through participatory mapping workshops. Furthermore, an environmental monitoring system that assesses sustainable management of rangelands and pastoralism will be developed and tested.

In this component, the capacity of nomadic pastoralist communities will be enhanced to enable them participate in rangeland management. After this Project, reindeer herders will be able to address land degradation, ecosystem conservation and resilience building within their communities. The Project will provide support for building the institutional capacity of nomadic pastoralist communities to participate in rangeland management and engage in a constructive dialogue with planners and decision-makers, government, industry and other international stakeholders. Finally, the project aims to share the project's results with outside experts, policy-makers, scientists and others from across the region and beyond.

1a.4) Alignment with GEF focal area and/or impact program strategies

The project will contribute to the GEF-7 Programming directions land degradation by creating an enabling environment to support LDN target implementation in Mongolia. Furthermore, by enhancing the land use, land-use change, and forestry (LULUCF), the Project will support Mongolia's NDC framework. The NDC framework developed as the implementation mechanism of the Paris agreement is called to create incentives for mitigation and adaptation on the national level. Within the Climate Change Focal Area, the project will contribute to mitigation of GHGs by introducing balanced restoration practices, contributing to the improvement of land use, and increasing land degradation neutrality (LDN). Specifically, this Project will support Mongolia's LDN target of 'Promoting sustainable grassland management and halting further grassland degradation' and

'Ensuring no net loss of wetlands by 2030 compared to 2015' by putting 20,000 ha of landscapes under improved practices. Among other, the project will also contribute to piloting and mainstreaming climate mitigation-based practices in key economic sectors such as controlling housing on peatlands by development of a spatial plans

The project is also aligned with the GEF-7 Programming Directions, specifically with the Land Degradation focal area (LD-1-4 Reduce pressures on natural resources from competing land uses and increase resilience in the wider landscape). Through its emphasis on the traditional knowledge of Arctic and sub-Arctic indigenous communities on sustainable land management and its efforts to improve their capacity to participate in decision-making on land use in reindeer herding areas, the project will meet the GEF's stated objectives of: "Building capacity at all levels required to restore and maintain functional landscapes"; and "Lessons learning and knowledge exchange and south-south cooperation within regions".

The Project is also aligned with the 'Sustainable Forest Management Impact Program on Dryland Sustainable Landscapes' (GEF ID 10206). It is worth to note that this Project does not seek a direct contribution to the drylands agenda. However, there exist significant potential synergies such as comprehensive land-use planning approaches. Both this Project and the Impact Program aim at enhancing intersectoral platforms and mechanisms for integrated land use planning.

1a.5) Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing

Currently, despite the development and acceptance by the Ministry of Environment and Tourism of Mongolia of the Strategic Plan for Peatlands Conservation and Wise Use in Mongolia, the capacity for its implementation is insufficient. There are gaps in the PLRs and in capacities for MRV, as described in the project justification section. To fill the existing institutional and capacity gaps in Mongolia regarding the integration of peatlands and climate policy, incremental financial support from the GEF is necessary. The current intentions expressed in the Strategic Plan for Peatlands Conservation and Wise Use and emerging efforts by the government and other stakeholders to implement the Peatland Strategy require additional support to ensure the inclusive and sustained realization of a peatlands policy. A wide range of stakeholders is aware of climate change and of the need to apply improved land and other resources use. Peatlands and permafrost management have not, however, been recognised as a significant part of the challenge, and that is the reason for the request of additional funds. GEF support will strengthen these ongoing efforts on the part of the national government and other stakeholders and will support the country to increase its capacity to eventually establish a sustainable peatlands and climate policy. Building on the previous efforts on peatlands and climate change policy, Mongolia is currently intending to undertake efforts towards creating national capacities for implementing the policy in the country. However, these efforts are not sufficiently resourced in time, knowledge and funds to mainstream peatlands and climate change policies across all levels of government and with other stakeholders.

The GEF support will support incorporation of conservation and restoration of peatlands into GHG emission reduction plan for four main sectors and into into sectoral policies. The GEF support will help to mainstream sustainable peatland management into relevant national strategies by making information and data on ecosystem services of peatlands.

Information on peatland distribution will be made available for land use planning and decision-making processes. Furthermore, the Project will support demonstrations at subnational scale that introduce best practices on sustainable peatland use and peatland restoration as part of land improvement programs.

In addition, as summarized in the baseline scenario, decision-making on land-use and rangelands conservation will continue to be based on processes that exclude reindeer herders' knowledge and participation. The lack of acknowledgement of traditional knowledge and management practices will undermine these knowledge systems and challenge the maintenance and development of pastoral knowledge, practices and culture, as well as their transfer to the next generation of herders. Unique contextual knowledge about local landscapes, ecosystems management and biodiversity will not be collected and archived and will not inform measures to reach the SDGs and LDN targets.

With the incremental support of the GEF, reindeer herding communities will be able to document and assess environmental observations, traditional knowledge, as well as western scientific knowledge, about landscapes and biodiversity. Further, the herding communities will be able to communicate this knowledge to and engage in constructive dialogue with other sectors that have competing land use interests or that take part in decision-making concerning land-use. The latter will facilitate decision-making that minimize the stress on both the landscape and the pastoral communities and reduce the number of land-use conflicts in reindeer grazing areas globally. Furthermore, the incremental support of the GEF will make available, and increase awareness of, gender-sensitive knowledge regarding landscape management – information that is currently not available.

In addition, Component 3 of the project has been designed to facilitate the sharing of experiences between the participating herding communities and with international stakeholders and environmental decision-making fora, such as the UNEA, CBD and the Arctic Council. This is expected to contribute to international documentation and targets, including the SDGs and LDN targets, and other on-going and planned international initiatives on sustainable pastoralism (e.g. UNEA resolution 2/24).

1a.6) Global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF)

This Project will support Mongolia's LDN target of 'Promoting sustainable grassland management and halting further grassland degradation' and 'Ensuring no net loss of wetlands by 2030 compared to 2015' by putting 20,000 ha of landscapes under improved practices. The Project will reduce 30,000 t of CO_2e per annum with sustainable peatland management interventions. Demonstration of successful introduction of peatlands related land use change in the NDCs of Mongolia will be a positive example for other countries and will encourage countries to include peatlands in their NDCs.

The project implementation will have a significant positive impact on Mongolian part of the watershed of Lake Baikal. The sources of the main tributaries of the Lake Baikal, Orkhon and Selenga, are part of the project area. Safeguarding these sources will contribute to alleviating the current problems of the decline of the water level of Lake Baikal, the world´s largest freshwater resource. The project will develop and apply existing methods of ecosystem restoration and test them in pilots to inspire local, national and international stakeholders. Restoration of peatlands in arid and semiarid biomes, as well as restoration of permafrost is a significant challenge. By demonstration of pilots, the Project will help in meeting the targets of the UN decade of ecosystem restoration (2021-2030).

Furthermore, the project will directly contribute to increasing the capacity of disadvantaged nomadic herder communities to engage in and benefit from sustainable land management efforts and adapt to environmental and human-induced changes to the rangeland habitats they depend upon. The tools and partnerships developed through the project will increase their knowledge and understanding of policy and national decision-making processes that affect the habitats they depend upon, and their livelihoods. With these capacities, herder communities will be in a better position to advocate for their sustainable model of land use in sensitive tundra and taiga landscapes and mitigate pressures to convert land to more degrading uses. Nomadic herders will enhance their resilience to changing social, environmental and climatic conditions at the global scale.

An additional expected benefit of the project is community empowerment, enabling nomadic herders' community members to participate more fully as equal partners in information sharing, education and training, technology transfer, organizational development, and policy development, thereby gaining more access to commercial, social and political opportunities. The project will also facilitate interaction between state, local authorities, industry and nomadic herders, assisting in creating dialogue, building confidence and sharing information.

1a.7) Innovativeness, sustainability and potential for scaling up

Scaling Up: The project has a specific component related to the knowledge base, which will provide solid knowledge tested and verified in pilots and presented further to the global community. The project's approach is designed to work on pilot sites representing a wide range of Mongolian ecosystems. Building on the analysis of the project results and lessons learnt in the pilot areas, experiences can be applied in other regions and be included as standards for national climate change, hydrology and conservation PLRs. Mongolia's innovative approach to peatlands and climate policy could be upscaled further to areas of Eastern and Central Asia with similar highland conditions. The experience on accounting and reporting on land use change in peatlands and permafrost within the NDC is anticipated by many countries, by the expert community and the Secretariat of the UNFCCC to encourage contracting parties to follow such best practices. Implementation of the project will involve strong global players in peatlands conservation, wise use and climate-smart management, including UN Environment (World Conservation and Monitoring Center, Global Peatland Initiative), FAO, Wetlands International, IUCN, Greifswald Mire Center. This will provide the channel to upscaling the lessons learnt south-north and north-north.

The results and achievements in Component 3 can be expanded to whole Arctic region, outcomes and lessons learned can be shared and incorporated to further understand the best methods of preserving and developing reindeer husbandry. In addition, great importance within this project has been placed on information dissemination and communication activities.

Sustainability: A key consideration in the design of the project is enhancing dialogue and understanding, which is a financially sustainable strategy in itself. The overall project approach is firmly rooted in the mandates of the key partner institutions and existing policy processes. Furthermore, the strong ownership of the project by the implementing partners and communities. Furthermore, the Project will positively affect institutions and individuals at the national, district, and local levels, as well as in the private sector, through their involvement in the implementation of pilot activities and for discussing supportive new practices and PLRs.

Capacity building is one of the major components of the project and as a result there will be a strong focus on the knowledge transfer and training. Direct capacity building will take place through trainings, practical work and scientific cooperation during project implementation. The project will invest in providing the knowledge, tools and networks required to fulfil the tasks after its completion. The data and knowledge created by the project will provide a long-term base to continue the work on peatlands, including for MRV. Regular updates on peatlands and permafrost as a part of the NDC reporting will put Mongolia in the position of being able to sustainably safeguard its water supply sources and other peatlands related ecosystem services.

The international partners play an important role in facilitating regional collaboration. The local institutions and partners play a crucial and primary role in sustainability of the methods. The technical capacity of these institutions will themselves be strengthened throughout the project.

Innovativeness: The project is highly innovative as, for the first time in Mongolia it demonstrates the significant potential of peatlands and permafrost ecosystems for climate change mitigation through improvements to the country's water and natural resources management. The project contributes to safeguarding the country's water resources, including those stored in permafrost which are unknown to most decision-makers. The project will use the concept of ecosystem services to asses land use impacts and possibilities for improvements. The connection with respective ongoing international initiatives like TEEB and IPBES over the course of project implementation will allow Mongolia to contribute to and benefit from international progress made in this field. The project introduces and anticipates the principle of ecological ecosystem restoration. The project will apply the eight international principles and standards for the practice of ecological restoration defined by the Society for Ecological Restoration (www.ser.org/standards).

The proposed project is innovative in its approach of combining reindeer herders' traditional knowledge with science and modern technology to reduce degradation of grazing land and improved rangeland management by including both reindeer herders, scientist and indigenous scholars. The project is the first one which will put in place a strong

platform for the integrated and holistic sustainable land management involving reindeer herders. This will include the production of new and novel knowledge products and platforms for knowledge sharing actively involving societies and local youth and building local capacity and leadership. Providing a better understanding of indigenous peoples' food production system is also unique, likewise providing mechanism for youth to be trained to participate in decision making.

[1] The IPCC Special Report highlights the role of peatlands in climate change adaptation and mitigation response options. The report provides examples of response options with immediate impacts, including the conservation of high-carbon ecosystems such as peatlands, wetlands, rangelands, mangroves and forests.

The IPBES global assessment (IPBES 2018 a) refers to peatlands as a source of ecosystem services and the regional report for Europe and Central Asia (IPBES 2018 b) includes a chapter on peatlands explaining the specific ecosystem services of peatlands and change tendencies.

The recent UNEP Resolution on peatlands and the CBD decision 14/5 on Biodiversity and Climate Change calls for increasing the synergy of MEAs regarding peatlands.

The 2013 Supplement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories: Wetlands (Wetlands Supplement) extends the content of the 2006 IPCC Guidelines by filling gaps in coverage and providing updated information reflecting scientific advances, including updating emission factors. It covers inland organic soils and wetlands on mineral soils, coastal wetlands including mangrove forests, tidal marshes and seagrass meadows and constructed wetlands for wastewater treatment. The coverage of the 2006 IPCC Guidelines on Wetlands was restricted to peatlands drained and managed for peat extraction, conversion to flooded lands, with limited guidance for drained organic soils. The Wetlands 2013 Supplement provides emission factors for peatlands of different types, in different geographical zones and with a variety of land uses. This opens the possibility to increase the quality of countries' reporting on the LULUCF related emissions and raises the effectiveness of the mitigation activities.

[2] https://www.adb.org/results/mongolia-battles-save-its-peatlands-and-nomadic-way-life

[3] The term 'Reindeer herding' refers to how the work of reindeer herding is organized and how practical reindeer herding tasks are carried out. Reindeer husbandry concerns a wider aspect than reindeer herding as it includes both the practical work with reindeer but also the whole reindeer herding industry, biology, science, management, and even hunting and fishing in areas where they are a part of reindeer herding rights. In other words, reindeer herding is an older concept and focuses only on the work with reindeer, while reindeer husbandry focuses more on the transformation of reindeer herding into an economically, socially and biologically sustainable industry.

[4] The Sámi people traditionally inhabit a territory known as Sápmi, which traverses the northern parts of Norway, Sweden, Finland and the Russian Kola peninsula. Although the Sámi are divided by the formal boundaries of the four States, they continue to exist as one people and are united by cultural and linguistic bonds and a common identity.

[5] https://undocs.org/E/C.19/2012/4

[6] Assessment Report, Strategic Planning for Peatlands in Mongolia, Wetlands International, 2017.

[7] AMAP, 2017. Adaptation Actions for a Changing Arctic: Perspectives from the Barents Area. Arctic Monitoring and Assessment Programme (AMAP), Oslo, Norway.

[8] (Couwenberg, 2011; Joosten, 2010; FAO, 2012); and (Lu Y et al., 2009).

[9] Johnsen, K.I., M. Niamir-Fuller, A. Bensada, and A. Waters-Bayer. 2019. «A case of benign neglect: Knowledge gaps about sustainability in pastoralism and rangelands». United Nations Environment Programme and GRID-Arendal, Nairobi and Arendal.

[10] https://iib.int/en/articles/iib-to-allocate-funds-for-environmental-initiatives-in-mongolia

[11] https://www.eda.admin.ch/dam/countries/countries-content/mongolia/en/Factsheet-GG_EN.pdf

1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.

Maps of targeted sub-national pilot areas in Mongolia is provided in Annex A.

2. Stakeholders
Select the stakeholders that have participated in consultations during the project identification phase:

Indigenous Peoples and Local Communities Yes

Civil Society Organizations Yes

Private Sector Entities Yes

If none of the above,please explain why:

In addition, provide indicative information on how stakeholders, including civil society and indigenous peoples, will be engaged in the project preparation, and their respective roles and means of engagement.

Institution/organization	Role/mission	How we will engage during PPG phase

Institution/organization	Role/mission	How we will engage during PPG phase
The Ministry of Environment, Green Development and Tourism and its relevant departments (Water Department, Protected Areas Department, Hydrometeorological Department, etc.)	Executing Partner The Ministry of Environment, Green Development and Tourism is the central administrative body in the structure of the Government, responsible for the environment, nature conservation and green development in Mongolia. Key departments include the Department of Environment and Natural Resources and the Department of Land Planning and Water Integrated Policy. Key departments include the Department of Environment and Natural Resources and the Department of Land Planning and Water Integrated Policy.	Direct, plan and manage the formulation of the Prodoc, in coordination with other Ministries, and include relevant actors and local communities in the planning and management of the PPG. In charge of execution of the Component 1 and Component 2.
Ministry of Food and Agriculture	Collaborating partner MoFA is the Government's central administrative body responsible for developing intensified food and agricultural sector able to overcome natural and economical risks and able to compete in local and international markets. There are eight departments and several funds and centres directly under the MoFA including veterinary and breeding fund, agro-farming fund, husbandry conservation fund, centre for applying new technologies to agriculture	Technical support in the preparation of the ProDoc, and representing the sectors addressed in the project by involving in the project steering committee.
Ministry of Mining and Heavy Industry	Collaborating partner MoM is the Government's central administrative body responsible for managing subsurface natural resources and mining policies.	Technical support in the preparation of the ProDoc, and representing the sectors addressed in the project by involving in the project steering committee.
The Ministry of Construction and Urban Development	Collaborating partner MoCUD is the Government's central administrative body responsible for urbanization and construction works.	Technical support in the preparation of the ProDoc, and representing the sectors addressed in the project by involving in the project steering committee.
Mongolian Academy of Sciences	Collaborating partner the central scientific thinktank, whose aim is to develop science and advanced technology in the country	Technical support in the preparation of the ProDoc, including providing scientific data, know-how and guidance.

Institution/organization	Role/mission	How we will engage during PPG phase
the Wildlife Science and Conservation Center of Mongolia	Collaborating partner The Wildlife Science and Conservation Center of Mongolia (WSCC) is a nonprofit organization dedicated to preserving Mongolia's wildlife and their habitat through research, conservation, and public education.	Technical support in the preparation of the ProDoc, including providing scientific data, know-how and guidance.
National Commission for Soil Protection and Combating Desertification (NCCD)	Collaborating partner The NCCD is comprised of 11 ministries and 7 other agencies and government institutions. It coordinates and monitors activities that address land degradation and desertification, and oversees the National Action Plan for Combating Desertification (NAPCD)	Designing the planning and implementation of pilot activities in targeted areas.
Aimag administrations	Aimag governments are responsible for implementation of environmental laws in their respective provinces	Ensuring project activities aligned with aimag level land use plans
Soum administrations	Soum Governors' offices prepare, implement, monitor and evaluate local policies including rangeland and forest management and biodiversity conservation.	Ensuring project activities aligned with soum level land use plans
Local communities and herders	Key users of natural resources and beneficiaries of the project.	Designing the planning and implementation of pilot activities in targeted areas.
Miner organizations (e.g., cooperatives and/or associations)	Collaborating partner	Designing the planning and implementation of pilot activities in mining sector
The Protected Area Administrations	Collaborating partner Protected Area administrations (PAAs) established at local level are responsible for carrying out the actual management of Protected Areas. There are 29 PAAs that are responsible for daily management of overall Strictly Protected Areas (SPA), National Parks (NP) and some of Nature Reserves (NR) and National Monuments (NM).	Designing the planning and implementation of pilot activities in targeted Protected Areas.

Institution/organization	Role/mission	How we will engage during PPG phase
River basin authorities of Khyargas Nuur-Zavhan; Ongi; Shishkhid; Selenge; Orkhon; Tuul; Kharaa; Onon; Buir Lake-Khalkh	Collaborating partner River basin authorities are public administrations at the river basin scale with the main tasks of drafting basin plans, organising a water inventory, licensing water abstraction and wastewater; monitoring water resources and uses, protection measures with environmental rangers and governors.	Designing the planning and implementation of pilot activities in targeted water basins.
the River Basin Councils of Khyargas Nuur-Zavhan; Ongi; Shishkhid; Selenge; Orkhon; Tuul; Kharaa; Onon; Buir Lake-Khalkh	Collaborating partner the River Basin Councils are stakeholder fora at the river basin scale. Councils are composed of representatives of local administrations, environmental, water and inspection authorities as well as of water users und scientists.	Designing the planning and implementation of pilot activities in targeted water basins.
JASIL (Environment and Development Association)	JASIL is member of the International Land Coalition. Their aim is to facilitate community-based co-management of pasture and nature resources and to improve livelihood of local people.	Designing the planning and implementation of pilot activities
International Centre for Reindeer Husbandry (ICR)	Executing partner A Norwegian State Agency with a special authorityto support to the international cooperation of World Reindeer Herders	Support the formulation of the Prodoc, in coordination with other Ministries, and include relevant actors and local communities in the planning and management of the PPG. In charge of execution of the Component 3.
Association of World Reindeer Herders (WRH):	Collaborating partner WRH is the circumpolar NGO/ Civil Society Organization for all 29 reindeer herding peoples of the world, with members spanning the circum-Arctic and Sub-Arctic regions across ten nation states. WRH is an Observer to the Arctic Council, and has Consultative Status with UN EcoSoc.	Technical support in the preparation of the ProDoc, and representing the Herders addressed in the project by involving in the project steering committee. WRH will coordinate its work, be part of the monitoring and evaluation of the project, and will also nominate students and other project participants.
Taiga Nature Society	Collaborating partner An NGO that represent indigenous Dukha reindeer herders in Mongolia.	

Institution/organization	Role/mission	How we will engage during PPG phase
Aoluguya Ewenki Reindeer Herding Organisation	Collaborating partner A CSO that represents indigenous Ewenki reindeer herders in China.	Designing the planning and implementation of pilot activities
Suoma Boazosámit rs (Finnish Sámi Reindeer Herders organization):	Collaborating partner The aim of the organization is to supervise, uphold and develop the common rights and interests of Sámi reindeer herders.	Designing the planning and implementation of pilot activities
Reindeer Herders Association of Norway (NRL)	An organisation for the Sámi reindeer herding in Norway	Designing the planning and implementation of pilot activities
The Arctic Economic Council (AEC)	Key stakeholder An independent organization that facilitates Arctic business-to-business activities and responsible economic development through the sharing of best practices, technological solutions, standards, and other information.	Will be consulted during the implementation of the project and nominate relevant participants to activities targeting private sector.
Standing Committee of Parliamentarians of the Arctic Region (SCPAR):	Key stakeholder Consists parliamentarians representing the eight Arctic countries and the European Parliament. SCPAR started its activities in September 1994. One of its main priorities was originally to support the establishment of the Arctic Council. Since then SCPAR has worked actively to promote the work of the Council and engages in topics such as education and research, human development and climate change.	Will be consulted during the implementation of the project and nominate relevant participants to activities targeting politicians and decision-makers.
Conservation of Arctic Flora and Fauna (CAFF)	Key stakeholder The biodiversity working group of the Arctic Council and consists of National Representatives assigned by each of the eight Arctic Council Member States, representatives of Indigenous Peoples' organizations that are Permanent Participants to the Council, and Arctic Council observer countries and organizations.	Will be consulted during the implementation of the project and nominate relevant participants to activities targeting researchers

3. Gender Equality and Women's Empowerment

Briefly include below any gender dimensions relevant to the project, and any plans to address gender in project design (e.g. gender analysis).

Mongolia adopted the Law on Promotion of Gender Equality in 2009 and has a gender and environment strategy (2014-2030). At the national level, gender equality issues are addressed by the National Committee on Gender Equality[1]. The latest national statistical data on the Gender Empowerment Measure (GEM) index in Mongolia are available for 2013 and show promising growth from 0.4 (2011) to 0.527 (2012) and 0.529 (2013). Unfortunately there is not much study on peatlands considering the gender aspects (Herawati, Tuti, et al. "An exploration of gender equity in household: A case from a peatland-based community in Riau, Indonesia." Biodiversitas Journal of Biological Diversity, 2019). However, a few studies demonstrate that in communities which maintain livelihoods from peatland ecosystems, gender roles in agricultural activities are significantly dominated by men, while women play a more significant role in domestic activities. Both men and women contribute equally to the social life of the community. Low-income families tend to have higher gender equity in agricultural activities than rich households.

In order to address the lack of information on gender, an in-depth gender analysis will be conducted at the PPG phase to achieve gender equitable outcomes in the project. In fact, equal participation and representation of women and men will be ensured in project implementation activities by requesting from the executing partners to set targets for equal participation of women. Furthermore the planned gender sensitive project outputs will be materialized by planning related activities and allocating specific budget for gender related activities.

The project will seek a gender balance in all activities. Gender equality and empowerment issues will be mainstreamed into the project implementation and monitoring, considering the differences, needs, roles and priorities of women and men. The project will address gender equality directly by balanced involvement of experts in the research, conservation and restoration work, as well as for training and capacity building. Women will be strongly involved in alternative agriculture (mainly gardening), environment tourism (guides and service) and awareness work (managers and guides of educational centers). Women will also support negotiations with local herders on restoration (especially fencing).

The criteria designated in the Project Taxonomy Worksheet will be used for the evaluation of project performance in relation to Gender Equality and Women's Empowerment. Additionally, a project gender equality impact assessment will be coordinated with the National Committee on Gender Equality. The project will consider the objectives of the updated National Programme on Gender Equality.

[1] https://gender.gov.mn/

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment? Yes

closing gender gaps in access to and control over natural resources; Yes

improving women's participation and decision-making; and/or Yes

generating socio-economic benefits or services for women. Yes

Will the project's results framework or logical framework include gender-sensitive indicators?

Yes

4. Private sector engagement

Will there be private sector engagement in the project?

Yes

Please briefly explain the rationale behind your answer.

The private sector involvement is a critical condition for project sustainability and efficiency. The Assessment Report on Peatlands in Mongolia identified that peatlands as natural objects are subjects of intersectoral interests.

Private businesses with interests in the project include small private herders' householders; medium-sized business related to herders' production (including cashmere); medium and large-scale agriculture business corporations; water supply enterprises; tourism companies; engineering and construction enterprises; mining exploration and exploitation business.

The project will work with private businesses directly in course of implementation of the project's activities and indirectly via administrative channels. The private sector will be involved in all three components. Through its global component, the project will engage with global natural resource extraction industries, alternative energy, tourism and infrastructure developers through cooperation with the Arctic Economic Council. The purpose of the dialogue will be to facilitate an exchange between herders and industry on perspectives, needs and concerns related to land-use.

5. Risks

Indicate risks, including climate change, potential social and environmental risks that might prevent the Project objectives from being achieved, and, if possible, propose measures that address these risks to be further developed during the Project design (table format acceptable)

For an analysis of safeguards risks, please see the 'Environmental, Social and Economic Review Note' uploaded into the documents section.

Risk	Level	Mitigation
The "Law to prohibit mineral exploration and mining operations at headwaters of rivers, protected zones of water reservoirs and forested areas" is abolished, leading to more intensified mining in the upstream water sources	Low	Support of democratic interest groups which are engaged in maintaining and applying the law. Clearly define in the project area and which areas could be affected by not applying the law. Justify that peatlands and permafrost should be subject to the law.
Data for the implementation of the project are not available in a timely manner with the required quality	Low	Put emphasis on scientific cooperation internally and with international scientific partners. Include also proxy approach for the assessments.
A primary risk is that community participation in the project is ineffective/fails due to inadequate approaches being adopted. A second risk related to community participation is language barriers and cultural understanding, which threatens the ability of the project to assess conditions and generate new knowledge, and replication within and across borders.	Medium	Participatory approaches and clearly defined mechanisms for community participation will be employed throughout the project implementation to ensure that all elements are fully demand-driven and well-received. All existing ethical guidelines for linking into indigenous herding societies will be followed by the project (including the GEF and UNEP guidelines on this topic). The project will earmark adequate resources for interpretation, translations and preparatory work in conjunction with local partners.
Nomadic pastoralism is an adaptation to an unpredictable environment, where climate conditions are subject to a high degree of spatial variability. However, current rapid climate change in the some of the reindeer herding areas may exacerbate current land use problems and jeopardize the project results.	Medium	This project is designed to enhance the sustainability and resilience of communities engaged in nomadic pastoralism. Case-based assessment reports of the impacts of land-use and climate change, and the development of scenarios for medium to long-range forecasts, will help identify and mitigate risks. In addition, the training of community members in monitoring will help detect local-level climate risks and define adaptive responses.

Risk	Level	Mitigation
Climate Change impacts degrade or alter the peatlands and reduces herders' ability to respond to the increasingly unstable and unpredictable weather conditions.	Medium	To build site-level resilience to climate change impacts, the project will identify the impacts of climate change on targeted peatlands. Nomadic herding sites will be mapped according to temperature change models to identify potential adaptation measures.

6. Coordination

Outline the institutional structure of the project including monitoring and evaluation coordination at the project level. Describe possible coordination with other relevant GEF-financed projects and other initiatives.

UNEP will act as the GEF Implementing Agency. The Ministry of Environment and Tourism of Mongolia will execute Components 1 and 2 and the International Centre for Reindeer Husbandry (ICR) will be responsible for the execution of the Component 3.

The project will build on completed GEF projects and will coordinate with currently ongoing GEF projects, as well as other relevant non-GEF funded projects and initiatives – based on advice from the GEF Indigenous Peoples Advisory Group[1].

The project will complement and cooperate with the ongoing CBIT project (GEF id 9834) feeding it with relevant data on emissions reduction and improving local monitoring, verification and reporting (MRV) capacity. The overall MRV capacity in relation to future NDC reporting for the LULUCF sector is poor in Mongolia the project will complement the running CBIT project.

The Project's policy, monitoring and awareness raising components will be coordinated with the GEF funded "Sustainable Forest Management Impact Program on Dryland Sustainable Landscapes" (GEF id 10206).

The Project activities will be coordinated with the GEF project "Ensuring Sustainability and Resilience (ENSURE) of Green Landscapes in Mongolia" (GEF id 9389), which seeks to enhance ecosystem services of rangeland and forestlands; and with the GEF Project "Promoting Dryland Sustainable Landscapes and Biodiversity Conservation in the Eastern Steppe of Mongolia" (GEF id 10249).

The Project will seek synergy with the GEF funded project "Land Degradation Offset and Mitigation in Western Mongolia" (GEF id 5700) on activities mainstreaming peatlands into mining sector. Specifically, the two projects will generate synergy in integrated landscape management. This proposed project will benefit from the knowledge and information generated on identification of ecologically sensitive areas and offset opportunities.

Similarly, the project's activities on mainstreaming peatlands into construction and urban development will be coordinated with the GEF Project "Nationally Appropriate Mitigation Actions in the Construction Sector in Mongolia" (GEF id 5830). A synergy among these two projects will be strengthened while the current proposal seeks to develop templates how to report GHG reductions related to peatlands by four sectors (conservation, agriculture, mining, construction) (Output 1.1.2). The Construction sector project (5830) aims at developing a framework for evaluating appropriate climate change mitigation interventions for the construction sector.

Further, the project will build on previous work using the *GLOBIO model* to assess past, present and future human-induced changes in terrestrial biodiversity at regional to global scales, and facilitate dialogue and planning for landscape and biodiversity conservation (see Degteva et al 2017)[2].

The World Initiative on Sustainable Pastoralism (WISP, http://www.iucn.org/wisp/) is coordinated by IUCN with support from the GEF, UNDP, IFAD and others. WISP is a global advocacy and capacity building network that promotes sustainable pastoral development for both poverty reduction and environmental management. Through proposed activities the proposed project will complement the WISP engagement for advocacy, capacity building and networking.

The project will also contribute to the global work of the World Alliance of Mobile Indigenous Peoples (WAMIP) and the FAO Pastoralist Knowledge Hub to strengthen the voice of pastoralists and improving the governance of rangelands. Through the Project Advisory Board, the project will be in dialogue with and support the International Support Group for the International Year of Rangelands and Pastoralists (IYRP) – a group represented by a number of UN organisations, including UNEP and FAO. An International Year of Rangelands and Pastoralists (IYRP) can provide the impetus and momentum necessary for a worldwide understanding of the importance of these lands to global food security and environmental services.

Furthermore, the project builds on *International Polar Year EALÁT-Network Study* of the University of the Arctic EALÁT Institute of Circumpolar Reindeer Husbandry[3]. The Institute recently developed educational programs for reindeer herding youth, focusing on impact assessments. Also, the project will contribute to the *Arctic Council Sustaining Arctic Observation Networks process*[4]. The project will furthermore be coordinated through Arctic Council, Working Group of Conservation of Arctic Flora and Fauna, an inter-governmental body that brings together the eight Arctic states and 6 Permanent Participants together for international environmental cooperation.

Further, the project will contribute to and be a part of the Circumpolar Local Environmental Observer (CLEO) Network by building on the ICR executed project "Training of Arctic indigenous youth for Arctic Change" (2018–2021). The Network further provides an online platform to share and discuss environmental concerns within and across different Arctic communities. The GEF project will use the CLEO tools and work closely with other Network partners.

[1] https://www.thegef.org/content/indigenous-peoples-advisory-group

[2] Degteva, A., Oskal, A., Mathiesen, S. D., Burgess, P., Aslaksen, I., Johnsen, K. I., Westerveld, L. (2017). Indigenous peoples' perspectives. In AMAP (Ed.), *Adaptation Actions for a Changing Arctic: Perspectives from the Barents Area* (pp. 167-194). Oslo, Norway: Arctic Monitoring and Assessment Programme (AMAP).

[3] www.ealat.org, www.reindeerportal.org

[4] http://www.arcticobserving.org

[5] Jernsletten, J. L. and A. Klokov (2002). *Sustainable Reindeer Husbandry. Arctic Council 2000-2002*. University of Tromsø, Norway.

[6] Johnsen, K. I., et al. (2012). *Changing Taiga: Challenges to Mongolian Reindeer Husbandry*. Birkeland, Norway, United Nations Environment Programme and GRID-Arendal.

[7] Degteva, A., et al. (2017). Indigenous peoples' perspectives. *Adaptation Actions for a Changing Arctic: Perspectives from the Barents Area*. AMAP. Oslo, Norway, Arctic Monitoring and Assessment Programme (AMAP): 167-194.

[8] ACIA. (2005). Arctic Climate Impact Assessment. Cambridge University Press.

7. Consistency with National Priorities

Is the Project consistent with the National Strategies and plans or reports and assesments under relevant conventions

Yes

If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc

The project components and activities are developed in-line with the "Strategic Plan for peatlands in Mongolia" developed at the request of the Ministry of Environment and Tourism of Mongolia in the frame of the TA funded by the ADB with the support of the government of Japan. The Strategic Plan was developed with reference to the Mongolian national strategies and international strategies to which Mongolia is committed. These include National Green Development Policy and Action Plan, National Sustainable Development Vision 2030, National Water Programme, National Strategy on Biodiversity and Action Plan, UNFCCC (Paris Agreement) Nationally Determined Contribution, UNCCD National Reporting, CBD National Report, Ramsar National Reporting. The project outcomes will directly contribute to national reporting to the UNFCCC, including the Paris Agreement and other relevant MEAs. Components are totally devoted to the integration of peatlands related activities into the NDC of Mongolia and assistance in the development of the reporting framework and in the reporting itself. The Project further contributes to The United Nations Development Assistance Framework (2017-2021) by

supporting Result#3 'Protection of ecosystem services that support the livelihoods of the rural poor and vulnerable' of Outcome 1 'By 2021, poor and vulnerable people are more resilient to shocks, and benefit from inclusive growth and a healthy ecosystem'.

The project addresses two of the objectives of the UNCCD 2018-2030 Strategic Framework: Strategic objective 1 (improve the condition of affected ecosystems and promote sustainable land management), and strategic objective 2 (food security, improve the living conditions of affected people, empower and participate in local and global decision-making processes for combating land degradation). The Project will contribute to land degradation neutrality efforts. More specifically, the Project will support Mongolia's LDN target of 'Promoting sustainable grassland management and halting further grassland degradation' and 'Ensuring no net loss of wetlands by 2030 compared to 2015' by putting 20,000 ha of landscapes under improved practices. The proposed project is fully aligned with the efforts of the international community to address the challenges faced by reindeer herders including the 2009 Declaration of the World Association of World Reindeer Herders, which called for increasing international attention on the taiga areas; the "The Cancun Declaration" on Promoting Sustainable Pastoralism and Livestock Production for the Conservation of Biodiversity in Grasslands and Rangelands.

Finally, the proposed project is closely aligned with UNEP's Medium Term Strategy 2018-2021. It will also contribute to the implementation of Resolution 2/24 of the United Nations Environment Assembly on "Combating desertification, land degradation and drought and promoting sustainable pastoralism and rangelands" and Resolution 4/15 'Innovations in sustainable rangelands and pastoralism'. This resolution recognizes "that healthy grassland and rangeland ecosystems are vital for contributing to economic growth, resilient livelihoods and the sustainable development of pastoralism; regulating the flow of water; maintaining soil stability and biodiversity; and supporting carbon sequestration, tourism, and other ecosystem goods and services, as well as distinct lifestyles and cultures, and that they can play a significant role in the achievement of the 2030 Agenda".

8. Knowledge Management

Outline the Knowledge management approach for the Project, including, if any, plans for the Project to learn from other relevant Projects and initiatives, to assess and document in a user-friendly form, and share these experiences and expertise with relevant stakeholders.

The project has a strong knowledge management component. It will collect information through participatory approaches and make this information globally available through training courses and community-based workshops through ICR. A wide range of publications, briefings, policy guidelines, etc. will be prepared for a broad range of global stakeholders. Through dissemination activities, the project knowledge will be globally shared, capacity will be developed and sustainable land management strategies will be improved to become more efficient and fair.

The project will develop a knowledge base for LULUCF sector MRV in relation to peatlands and cooperate with the ongoing CBIT project in developing training products and sustaining knowledge via involving country representatives of UN agencies, local and national governments, civil society organizations and academic institutions.

On the one hand, the project will benefit from databases and capacities available at GEF like CBIT, NBSAP and other platforms; on the other hand it will make its own guidelines and databases which involve peatland management methodologies, reporting formats, data on carbon storage and especially emission factors, mitigation and adaptation nature-based solutions, etc. available to GEF.

The peatland related scientific community is based on an international cooperation background, backed up by several international scientific network-based NGOs (International Mire Conservation Group – IMCG; Greifswald Mire Centre – GMC, International Peatland Society – IPS; Wetlands International, IUCN Peatland Group), the UN Global Peatland Initiative, as well as the scientific advisory bodies of the MEAs (Ramsar STRP, CBD SABSTA, IPCC and IPBES) and more interdisciplinary organisations such as the Society of Ecological Restoration, Society of Wetland Scientists, International Permafrost Association. These networks are connected to the experts working on peatlands in Mongolia. On the one hand, the project will involve more Mongolians, especially young scientists, in those networks. On the other hand, the project will channel integrative knowledge and experience available in the organizations named above to the GEF knowledge framework. The Project will also closely cooperate with UN agencies and MEAs secretariats with a focus on FAO, UNCCD, IPCC, Ramsar STRP and the UN Global Peatland Initiative by using the project outcomes and key findings to inform and address issues at the international level. Under the mapping activities, it is expected (modalities to be defined) that the project will exchange its remote sensing data and data storage systems, granted by Space Agencies involved in the project (JAXA and ESA) with GEF. The project plans to benefit from GEF's repository of raw information/data and synthesized knowledge.

Herders in Mongolia have in depths traditional knowledge about managing grazing grounds sustainably. However, this knowledge has been pushed to the background because of the recent development to increase the size and composition (percentage of goats and sheep) of herds for economic reasons beyond the carrying capacity of the ecosystems concerned. The project will take stock of traditional herding knowledge, apply it as far as possible in the short project life and accumulate and document it for its future use and appreciation.

The project will promote open access and information dissemination for decision support systems on peatland management including conservation, wise use and restoration. The project will develop low-cost solutions for information storage, management, and exchange systems within the components addressing mapping, GIS and other databases development. The project will seek to engage target audiences and inform the general public through a variety of outreach and dissemination activities. A wide range of publications, briefings, policy guidelines, etc. will be prepared for a broad range of national and regional stakeholders.

Part III: Approval/Endorsement By GEF Operational Focal Point(S) And Gef Agency(ies)

A. RECORD OF ENDORSEMENT OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S): (Please attach the Operational Focal Point endorsement letter with this template).

Name	Position	Ministry	Date
Ms. Ariuntuya Dorjsuren	Director General	MINISTRY OF ENVIRONMENT AND TOURISM	3/23/2020

ANNEX A: Project Map and Geographic Coordinates

Please provide geo-referenced information and map where the project intervention takes place

The river basins as the framework for the project implementation

Project activities at the level of 5 river basins (catchments, as delineated by the Mongolian Integrated Water Management Plan):

·   The delineation, mapping and inventory of peatlands for five river basins

·   Dissemination of information on peatlands and permafrost, raising awareness and improving the capacity of local experts on water management

Nine river basins will be addressed in the project: Shishkhid; Selenge; Orkhon; Tuul; Kharaa; Onon;.

BASIN NUM	DRAINAGE	NAME_ENG	AREA_SQKM	SOUTH BORDER	NORTH BORDER	EAST BORDER	WEST BORDER
1	Arctic Ocean Basin (b)	Shishkhid	26,866.20	50.424597 N 99.14149512 E	52.55376372 N 99.60816168 E	50.97459699 N 100.2081618 E	51.01209693 N 97.65399528 E
2	Arctic Ocean Basin (b)	Orkhon	53,955.00	46,45793034 N 101,6789951 E	50,41626372 N 106,4831616 E	50,27043033 N 106,6123285 E	47,17459701 N 100,3623286 E
3	Arctic Ocean Basin (b)	Tuul	50,111.90	46,59543036 N 103,7373286 E	48,92043033 N 104,7873283 E	48,512097 N 108,3081618 E	47,837097 N 102,7956618 E
4	Arctic Ocean Basin (b)	Kharaa	17,480.40	47.86626366 N 106.4081617 E	49.91209704 N 106.1498282 E	48.44126367 N 107.3873282 E	48.74543037 N 105.3373284 E
5	Pacific Ocean Basin (c)	Onon	56,323.20	47,77459704 N 109,8789952 E	50,83709661 N 114,0831616 E	50,61209562 N 115,6581608 E	48,83293035 N 108,7414952 E

Figure 3. Position of pilot river management basins