



GEF-6 PROJECT IDENTIFICATION FORM (PIF)

PROJECT TYPE: Medium-sized Project

TYPE OF TRUST FUND: Capacity Building Initiative for Transparency

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PART I: Project Information

Project Title:	Strengthening capacity in the agriculture and land-use sectors in Mongolia for enhanced transparency in implementation and monitoring of Mongolia's Nationally Determined Contribution (NDC) under the Paris Agreement		
Country(ies):	Mongolia	GEF Project ID: ¹	
GEF Agency(ies):	FAO (select) (select)	GEF Agency Project ID:	643347
Other Executing Partner(s):	Ministry of Environment, Green Development and Tourism (MOET), Climate Change Project Implementation Unit (CCPIU)	Submission Date:	15 May 2017
GEF Focal Area(s):	Climate change	Project Duration (Months)	36
Integrated Approach Pilot	IAP-Cities <input type="checkbox"/> IAP-Commodities <input type="checkbox"/> IAP-Food Security <input type="checkbox"/>	Corporate Program: SGP	<input type="checkbox"/>
Name of parent program:	[if applicable]	Agency Fee (\$)	82,008

A. INDICATIVE FOCAL AREA STRATEGY FRAMEWORK AND OTHER PROGRAM STRATEGIES²

Objectives/Programs (Focal Areas, Integrated Approach Pilot, Corporate Programs)	Trust Fund	(in \$)	
		GEF Project Financing	Co-financing
(select) (select) CBIT OI 3: MRV systems for emissions reductions in place and reporting verified data.	CBIT	431,621	580,000
(select) (select) CBIT OI 7: Number of countries meeting Convention reporting requirements and including mitigation contributions.	CBIT	431,621	580,000
Total Project Cost		863,242	1,160,000

B. INDICATIVE PROJECT DESCRIPTION SUMMARY

Project Objective: By 2020, Mongolia is preparing reports to the UNFCCC under the Paris Agreement Enhanced Transparency Framework (ETF) with strengthened agriculture, forestry and other land use sector components including inventories of emissions sources and sinks and information necessary to track progress against priority actions identified in Mongolia's NDC for these sectors.						
Project Components	Financing Type ³	Project Outcomes	Project Outputs	Trust Fund	(in \$)	
					GEF Project Financing	Co-financing
Component 1. Institutional arrangements to coordinate preparation of ETF reports for agriculture, land-use and other relevant sectors enhanced.	TA	1.1 Institutional arrangements coordinating information and data from the agriculture and land use sectors into ETF processes and reports enhanced.	1.1.1. Build upon BUR to further pinpoint specific capacity, system and data collection needs meeting ETF requirements with specific focus on priority NDC actions	CBIT	309,765	121,000

¹ Project ID number will be assigned by GEFSEC and to be entered by Agency in subsequent document submissions.

² When completing Table A, refer to the excerpts on [GEF 6 Results Frameworks for GETF, LDCF and SCCF](#) and [CBIT guidelines](#).

³ Financing type can be either investment or technical assistance.

			<p>for agriculture and land use sectors.</p> <p>1.1.2. Coordination mechanism established/strengthened integrating relevant authorities and inputs from agriculture, land use and other sectors into national UNFCCC reporting processes.</p> <p>1.1.3. National ETF monitoring and reporting roadmap for the agriculture and land-use sectors prepared and adopted</p> <p>1.1.4. Mongolia's engagement strengthened in the agriculture and land-use sectors with international transparency-related processes under the UNFCCC</p>			
		<p>1.2 Best practice ETF reporting process, information gathering, system infrastructure and module sharing with i) relevant priority national sectors (e.g. energy, industry/trade, transportation), and ii) regional CBIT agriculture and land use ETF programme.</p>	<p>1.2.1 Multi-sectoral coordination enhanced, strategy and mechanisms strengthened to integrate relevant authorities, data and information systems into national UNFCCC reporting processes.</p> <p>1.2.2 Agriculture and land use lessons learned monitored, captured, up-scaled and shared (i.e. with the Global Coordination Platform) to enhance national, regional and global ETF programming and reporting.</p>			
<p>Component 2. Capacity to assess and report <i>emissions</i></p>	TA	2.1 Reporting on inventories of emissions sources and	2.1.1. Regular and systematic documentation and	CBIT	237,500	519,500

<p><i>and removals</i> from the agriculture and land use sectors to design and monitor related emission reduction activities strengthened</p>		<p>sinks and emissions reduction activities from agriculture and land-use sectors strengthened.</p> <p>(potential indicators target: tier indices employed; enhanced CCM capacities in data collection and reporting; national/Aimag and local offices equipped for direct GHG data entry into central GHG information system)</p>	<p>archiving process established to ensure accuracy and sustainability of the inventory, including quality assurance and quality control, in the agriculture and land-use sectors</p> <p>2.1.2. GHG information management system (MIS) and infrastructure for agriculture and land-use sectors upgraded (link to 3.1.3, adaptation)</p> <p>2.1.3. Capacity and system hardware developed for relevant institutions at different levels to adopt and mainstream latest tools and methodologies for estimating GHG emissions from agriculture and land-use sectors (inter-face w/ 3.1.4).</p> <p>2.1.4. National/sectoral reports prepared and submitted on inventory of emissions sources and sinks and emissions reduction activities from agriculture and land-use sectors consistent with latest UNFCCC guidance</p>			
<p><i>Component 3.</i> Capacity to monitor and report <i>adaptation</i> activities in agriculture and land-use sectors strengthened</p>	<p>TA</p>	<p>3.1 Monitoring and reporting of NDC priority adaptation actions in the agriculture and land-use sectors strengthened</p>	<p>3.1.1. Assessment prepared of relevant good practice methodologies and frameworks for monitoring and reporting NDC priority adaptation actions in the agriculture and land-use sectors</p>	<p>CBIT</p>	<p>237,500</p>	<p>519,500</p>

			<p>3.1.2. National/sectoral appropriate indicators and monitoring and reporting framework developed for NDC priority adaptation actions in the agriculture and land-use sectors</p> <p>3.1.3. Adaptation information management system (MIS) and system infrastructure for agriculture and land-use sectors upgraded (link to 2.1.2 mitigation data)</p> <p>3.1.4. Capacity and system infrastructure developed supporting relevant institutions at different levels to adopt and mainstream monitoring and reporting processes for NDC priority adaptation actions in the agriculture and land-use sectors (interface w/ 2.1.3).</p> <p>3.1.5. National reports prepared and submitted on priority adaptation activities in the agriculture and land-use sectors consistent with latest UNFCC guidance.</p>			
			Subtotal		784,765	1,160,000
			Project Management Cost (PMC) ⁴	CBIT	78,477	
			Total Project Cost		863,242	1,160,000

For multi-trust fund projects, provide the total amount of PMC in Table B, and indicate the split of PMC among the different trust funds here: (N/A)

C. INDICATIVE SOURCES OF CO-FINANCING FOR THE PROJECT BY NAME AND BY TYPE, IF AVAILABLE:

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Amount (\$)
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⁴ For GEF Project Financing up to \$2 million, PMC could be up to 10% of the subtotal; above \$2 million, PMC could be up to 5% of the subtotal. PMC should be charged proportionately to focal areas based on focal area project financing amount in Table D below.

Recipient Government	Ministry of Environment and Tourism (MOET), Climate Change Project Implementing Unit (CCPIU)	In-kind	100,000
Others	UN-REDD Mongolia National Programme (FAO, UNEP, UNDP)	In-kind	1,000,000
GEF Agency	FAO	Cash	60,000
Total Co-financing			1,160,000

D. INDICATIVE TRUST FUND RESOURCES REQUESTED BY AGENCY(IES), COUNTRY(IES), FOCAL AREA AND THE PROGRAMMING OF FUNDS ^{a)}

GEF Agency	Trust Fund	Country/Regional/Global	Focal Area	Programming of Funds	(in \$)		
					GEF Project Financing (a)	Agency Fee (b) ^{b)}	Total (c)=a+b
FAO	CBIT	Mongolia	Climate Change	Cross-Cutting Capacity	863,242	82,008	945,250
Total GEF Resources					863,242	82,008	945,250

a) Refer to the Fee Policy for GEF Partner Agencies.

E. PROJECT PREPARATION GRANT (PPG)⁵

Is Project Preparation Grant requested? Yes No If no, skip item E.

PPG AMOUNT REQUESTED BY AGENCY(IES), TRUST FUND, COUNTRY(IES) AND THE PROGRAMMING OF FUNDS

Project Preparation Grant amount requested: \$50,000					PPG Agency Fee: \$4,750		
GEF Agency	Trust Fund	Country/Regional/Global	Focal Area	Programming of Funds	(in \$)		
					PPG (a)	Agency Fee ⁶ (b)	Total c = a + b
FAO	CBIT	Mongolia	Climate Change	Cross-Cutting Capac	50,000	4,750	54,750
Total PPG Amount					50,000	4,750	54,750

F. PROJECT'S TARGET CONTRIBUTIONS TO GLOBAL ENVIRONMENTAL BENEFITS⁷

Provide the expected project targets as appropriate.

Corporate Results	Replenishment Targets	Project Targets
1. Maintain globally significant biodiversity and the ecosystem goods and services that it provides to society	Improved management of landscapes and seascapes covering 300 million hectares	<i>Hectares</i>
2. Sustainable land management in production systems (agriculture, rangelands, and forest landscapes)	120 million hectares under sustainable land management	<i>Hectares</i>
3. Promotion of collective management of transboundary water systems and implementation of the full range of policy, legal, and institutional reforms and	Water-food-ecosystems security and conjunctive management of surface and groundwater in at least 10 freshwater basins;	<i>Number of freshwater basins</i>
	20% of globally over-exploited fisheries (by volume) moved to more sustainable levels	<i>Percent of fisheries, by volume</i>

⁵ PPG requested amount is determined by the size of the GEF Project Financing (PF) as follows: Up to \$50k for PF up to \$2m (for MSP); up to \$100k for PF up to \$3m; \$150k for PF up to \$6m; \$200k for PF up to \$10m; and \$300k for PF above \$10m. On an exceptional basis, PPG amount may differ upon detailed discussion and justification with the GEFSEC.

⁶ PPG fee percentage follows the percentage of the Agency fee over the GEF Project Financing amount requested.

⁷ Provide those indicator values in this table to the extent applicable to your proposed project. Progress in programming against these targets for the projects per the *Corporate Results Framework* in the *GEF-6 Programming Directions*, will be aggregated and reported during mid-term and at the conclusion of the replenishment period. There is no need to complete this table for climate adaptation projects financed solely through LDCF, SCCF or CBIT.

investments contributing to sustainable use and maintenance of ecosystem services		
4. Support to transformational shifts towards a low-emission and resilient development path	750 million tons of CO _{2e} mitigated (include both direct and indirect)	<i>metric tons</i>
5. Increase in phase-out, disposal and reduction of releases of POPs, ODS, mercury and other chemicals of global concern	Disposal of 80,000 tons of POPs (PCB, obsolete pesticides)	<i>metric tons</i>
	Reduction of 1000 tons of Mercury	<i>metric tons</i>
	Phase-out of 303.44 tons of ODP (HCFC)	<i>ODP tons</i>
6. Enhance capacity of countries to implement MEAs (multilateral environmental agreements) and mainstream into national and sub-national policy, planning financial and legal frameworks	Development and sectoral planning frameworks integrate measurable targets drawn from the MEAs in at least 10 countries	<i>Number of Countries: 1</i>
	Functional environmental information systems are established to support decision-making in at least 10 countries	<i>Number of Countries: 1</i>

PART II: PROJECT JUSTIFICATION

1. *Project Description.* Briefly describe: 1) the global environmental and/or adaptation problems, root causes and barriers that need to be addressed; 2) the baseline scenario or any associated baseline projects, 3) the proposed alternative scenario, GEF focal area⁸ strategies, with a brief description of expected outcomes and components of the project, 4) incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, CBIT and co-financing; 5) global environmental benefits (GEFTF) and/or adaptation benefits (LDCF/SCCF); and 6) innovation, sustainability and potential for scaling up.

• *Problem, root causes and barriers to be addressed.*

1. Located between China and Russia, Mongolia is a landlocked, lower-middle income country. It is situated in a transition zone, at the crossroads of the northern Asia and Boreal Arctic regions, and where Siberian Taiga meets the Asian deserts and steppe. As the most cold, arid and semi-arid region in the northern hemisphere, it's geographic and climatic features support unique ecosystems, globally important biodiversity, and distinctive socio-economic challenges and opportunities.
2. Ranging from mountains and forest steppe, to pastureland steppe and desert regions, Mongolia's climate is increasingly characterized by high extremes in temperature and precipitation. Annual mean temperatures range from -8 degrees Celsius to 8 degrees Celsius, and annual precipitation from 50 millimeter in the Gobi desert to 400 millimeter in northern mountainous areas. Driven by both anthropogenic and climatic changes, over 78% of the country has been impacted by medium to intensive desertification.⁹ Compounding this drying landscape are pronounced climatic trends, with but not limited to: annual mean temperature increasing 2.14 degrees Celsius during the last 70 years; increased seasonal thawing and the reduction of permafrost (by 5%) and glacial areas (by 30%)¹⁰; marked changes in vegetative patterns, typography and water resources; a decrease in precipitation (except in the western part of the country) leading to increased frequency and duration of droughts¹¹, and; a tripling in the intensity and frequency of other extreme weather events including harsh winters (*Dzud*)¹², snow and dust storms with economic costs estimated to be at least USD 5-10 million annually.¹³
3. In the last two decades, Mongolia has experienced intensified economic growth accompanied by rising carbon

⁸ For biodiversity projects, in addition to explaining the project's consistency with the biodiversity focal area strategy, objectives and programs, please also describe which Aichi Target(s) the project will directly contribute to achieving.

⁹ Per 11 January 2017 FAO mission discussion with Mongolia's UNCCD focal point, Dr. Tsened Banzragch.

¹⁰ Mongolian Institute of Geo-ecology (2016).

¹¹ MARCC, 2014.

¹² Such as the unseasonably cold *Dzud* winters in 1990, 2012 and 2016 which have caused high animal mortality.

¹³ Mongolia Second National Communication to UNFCCC (2010)

emissions.¹⁴ Despite this growth, approximately 30% of the population still lives below the poverty line. Mongolia's fragile ecosystems, a reliance on pastoral animal husbandry and rain-fed agriculture, as well as a growing population with a tendency towards urbanization¹⁵ combine to make Mongolia *extremely vulnerable to climate change*.

4. Mongolian society and economy remain highly dependent on its agriculture, forestry, and other land use sectors. Its globally important heritage of traditional rural pastoral livelihood systems and arable farming are directly dependent on natural resources and intact, functioning ecosystem services. The agriculture and landuse sectors as a whole contributes more than 18% to the national GDP, and employs up to 40% of its labor force.¹⁶ Out of a total population of 2.9 million, over 32% of households are rural and where in terms of land use 'agricultural land' dominates all main land use types (at 73.9%, or 114,982 hectares¹⁷). This is followed by 'forest lands' (at 14,334 hectares) and then 'land with water resources' (686 hectares). In comparison, land for cities, villages and other settlements comprises 716 hectares.¹⁸
5. Results of initial national climate change risk assessments demonstrate that Mongolia's agriculture and landuse sectors *are the most vulnerable to the impact of climate change*.¹⁹ In particular, climate impacts to its pasture based animal husbandry, biodiversity and rain fed arable farming necessitate urgent understanding and address. In this regard, establishing *improved monitoring and reporting systems on actions to tackle climate change drivers and impacts in the agriculture and land-use sectors comprising data collection systems, analysis and higher tier GHG indices for improved reporting, efficient address of institutional and systems capacity needs, methodologies for standardized data collection, and overall, establishing rigorous monitoring remain critical to tracking and designing better informed agriculture and lands use sector/sub-sector mitigation and adaptation priorities*.
6. *Water resources and climate change*: Mongolia covers three major continental drainage basins aligned roughly east-west. As of 2015, state protected areas covered 17.4% of the total national land, including important parts of river headwater areas. Integrated river basin management plans have been developed for only 7 out of 29 critical river basins. Total surface water is estimated at 599 km³/year, and is composed mainly of water stored in lakes (500 km³/year) and glaciers (62.9 km³/year).²⁰ Approximately 90% of its total water surface is stored in shallow lakes. Despite the relatively limited amount, basin surface and ground water inventories play an extremely vital role in the country's economy.
7. Recent reports by national academies and its state-owned water companies confirm that many rivers, streams, lakes and ponds have dried up, and/or are increasingly impacted by diminished volumes.²¹ Due to the lack of adequate monitoring, it is difficult to determine the extent to which climate stressors have already altered the country's water resources, however, Mongolia's aquatic ecosystems (including freshwater fisheries) are at risk from climate change and overexploitation.²² Given the country's high reliance on agriculture and landuse sectors, including water needs in pastoral animal husbandry and agriculture production, rural livelihoods are significantly impacted by changes to the natural landscape and climate driven natural disasters. This poses significant threats to the country's food security and its' development trajectory. Monitoring of ground and surface freshwater shortages and related climate drivers and impacts (e.g. increased demand for irrigated water) have been identified major concerns to be addressed by improved planning and management of water.

¹⁴ Mongolia's National Strategy on Green Development (2013). Rising emissions are directly attributable to its Agriculture and land use sector, as well as recent emission spikes from increased mining and raw material extraction.

¹⁵ The population has doubled in the last 50 years, and economic development has greatly accelerated. The majority of the population lives in just one city, i.e. the capital of Ulaanbataar.

¹⁶ Mongolian National Statistical Yearbook (2015)

¹⁷ Of agricultural land, 0.8% is cultivated, 1.6% used for growing fodder, and 97.6% is pasture land.

¹⁸ Mongolian Statistical Yearbook—2015, p. 171.

¹⁹ Mongolia INDC (2015). P 13

²⁰ Mongolia Second National Communication to UNFCCC (2010). P. 44

²¹ Conducted in 2003 and 2007. Ibid. P. 30

²² Mendsaikhan Bud, Mongolian Ecology Center/Rutgers University. 2014.

8. *Livestock and climate change:* With more than a third of all households dependent on livestock, and livestock production comprising 82.5% of the country's total agriculture production, animal husbandry is still the main source of livelihood and wealth for many Mongolians. National rangeland carrying capacity can sustainably support up to 25 million head of livestock; in 2016, this was exceeded by 36.5 million livestock head. With 61.5 million head of livestock, Mongolia is thus experiencing very severe soil and pasture land degradation. This is exacerbated by climate change. By example, the unseasonably cold 2016 winter *Dzud* saw more than 1.2 million head of livestock perish, and which left tens of thousands of herder households in poverty.
9. Pasture field observations and available data indicate that pasture biomass has dropped by an estimated 20-30%, and plant diversity has become increasingly impoverished.²³ Pasture and other wood land areas predominate in terms of impacted land area, and comprise over 9,099 hectare of the total 9,575 hectares of the country's "most severely degraded lands."²⁴ There are few more comprehensive studies of grassland soil carbon sequestration, however, an initial estimate has placed grassland mitigation potentials of the country at approximately 29 million tCO₂e p.a.²⁵
10. Tier 2 methodologies adapted to Mongolian specific conditions have established baseline estimates of nitrous oxide and methane emissions produced by the country's livestock. Estimates of enteric fermentation and manure management from 34.8 million livestock in 2006 were nominally determined to be approximately 288.9 Gg of methane, and represented a 12.4% increase from the previous year.²⁶ Accompanied by marked declines in animal weight and health, the number of livestock has since that time doubled (to 61.2 million head in 2016) with emissions estimated now to be significantly higher. Moreover, where diet/nutrition are strongly correlated to emissions, Mongolia's climate is increasingly influencing the type forage and the amount digested by livestock annually. To sum, many interconnected factors influence livestock's main emission parameters, and where the investigation of trends/changes is of growing concern and to understanding the sub-sector's relation to climate and ecological changes. For better informed livestock and pasture management--and that significant GHG emission values be accounted--these factors must be better identified, addressed and tracked through improved, sub-sector specific ETF.
11. *Arable land and climate change:* Simultaneous to surpassing pasture land livestock carrying capacity and increasingly fragile ecosystems, rain fed agriculture in the country is markedly sensitive to climate change. In 2008, domestic agriculture crop production supplied 83.8 % of wheat, 114% of potato and 60% of vegetable consumption, where crop farming covered 282,200 hectare of the country. Yet non-irrigated crop production has become increasingly unstable, where initial assessment indicates wheat production may 'decrease by up to 15% in 2030 due to climate change.'²⁷ With the exception of meat products, Mongolia relies heavily on food imports of flour, rice, fruits, vegetables and other products from foreign and neighboring countries.
12. GHG emissions from the burning of agriculture residues are currently viewed to be small and particularly as compared to sector N₂O emissions from soils induced by grazing animals; manure management, and enteric fermentation. Agriculture pre and post production emissions, waste and food loss are also yet established nor well accounted for within national GHG accounting.
13. *Forests, land use change and climate change:* With approximately 13 million hectare of boreal forest, and 4 million hectare of saxual forest (i.e. dry shrub stands in the area of the Gobi desert), Mongolian forest covers 8.1% of its total territory. Community based forest management has been introduced, with 20% of all forest land under such management/protection.²⁸ Initial estimates of GHG emissions from forestry and land-use changes includes: (i) changes in forest and other woody biomass stocks (a reported 4.7% decrease per year from 1990 to 2006); (ii)

²³ Ibid. P. 30

²⁴ Mongolian Statistical Yearbook—2015, p. 177.

²⁵ MARCC 2014, p. 250. "Unique Forestry and Land use (2012)—Estimated technical mitigation potential/aimag."

²⁶ Mongolia Second National Communication to UNFCCC (2010), P. 62

²⁷ Mongolia INDC (2015). P. 13

²⁸ Ibid, p 14

forest and grassland conversion to cultivated land and land use for industrial mining (CO₂ emissions reduced by 9.3% per year between 1990 and 2006, albeit industrial mining areas have in recent years significantly increased); and (iii) abandonment of managed lands. As regards the latter, massive areas of cultivated land were abandoned during the transition from a centrally planned to a liberalized market economy, and abandoned lands have been reverting back to grassland. Initial estimates indicate this represents important sequestration and CO₂ uptake within the sub-sector (e.g. of 110.9 Gg in 1990 to 3239.9 Gg in 2006).²⁹

14. The country's low humidity and strong winds in the driest seasons of spring (March-May) and autumn (Sept-Oct), make Mongolia one of the *most steppe and forest fire prone countries in Asia*. Influenced by the El Nino-Southern Oscillation (ENSO), forest and steppe fires have become more frequent and the size of burned areas has increased.³⁰ There is a recorded gradual increase in the deteriorating impacts on the country's forest, and increase in frequency and extent of forest and grassland fires and pest outbreaks associated with climate impacts (e.g. global warming, desertification, recurrent dryness). As a result forest area has been reduced (by 0.46% annually) and forest resources have been degraded significantly.³¹ The forest sub-sector is the most advanced in terms of its MRV, and this project will build carefully upon and expand its achievements to date. Nevertheless, climate change impacts are not yet sufficiently understood nor more broadly systematized and tracked in the sub sector, and an ongoing monitoring, reporting, verification (MRV) system requires further vetting to facilitate improved sub-sector emissions reporting. (Please refer to *baseline* below).
15. According to Mongolia's Second National Communication to the UNFCCC (2010), the agriculture sector was responsible for 6.46 MtCO₂-eq of emissions in 2006, representing 41% of total emissions at the national level. In contrast, land use change and forestry was recognized as a sink and sequestering 2.1 MtCO₂-eq of emissions. This places agriculture second (at 6,462 GgCO₂-eq), only behind the energy sector (at 10,220 GgCO₂-eq).³² Unofficial data on emissions collected and compiled by FAO and other organizations indicate that emissions from both agriculture and land-use and forestry sectors have grown considerably. Where in 2012, by example, it was estimated that the agriculture and land-use sectors were responsible for potentially 17.69 MtCO₂-eq and 26.23 MtCO₂-eq of emissions respectively³³.
16. To date, systems for measuring and monitoring progress in addressing the drivers and impacts of climate change in Mongolia's agriculture and landuse sectors are underdeveloped; particularly when compared to other sectors including energy, construction and transport. There are a number of reasons for this, and not least the difficulty and cost associated with coordinating the monitoring of a large number of smaller scale agriculture producers across the country's large geographic area. Institutional knowledge coordination and capacity constraints at all levels creates additional barriers undermining Mongolia's adaptation and mitigation priority setting.
17. In terms of addressing challenges associated with climate change, Mongolia's vulnerability is exacerbated by its *low adaptive capacity*. The agriculture and landuse sectors are increasingly vulnerable to the impacts of climate change due to its dependence on the natural resources, and susceptibility to the changing climate. The low adaptive capacity is evident for agriculture and lands use and in numerous areas, ranging from technical, institutional and policy limitations, to the lack of agriculture and land use sub sector specific tools, methodologies, data and dialogue necessary for identifying adaptation best practices and informing improved national policy, decision making, and investment priorities enhancing Mongolia mitigation and climate resilience. Low adaptive capacity is underscored by data collection and methodological deficiencies, reporting, knowledge sharing and coordination limitations between main national agriculture and landuse sector institutions.
18. Natural disasters and current climate trajectories engender dependence and prevent Mongolia from attaining sustainable and inclusive growth, as well as limit its ability to provide intended national contributions supporting

²⁹ Mongolia Second National Communication (2010), P. 63

³⁰ Mongolia's National Capacity Self Assessment for Global Environment Management and Action Plan (UNEP).

³¹ Ibid, P. 13

³² Mongolia's Second Assessment Report on Climate Change (MARCC)—2014, p. 14.

³³ FAO-STAT, 2012.

global emissions reductions. In addition to natural and man-made changes to ecosystems, economic loss, losses to human and animal life, loss of critical government resources, support policy and decision making are diverted from addressing adaptation options strengthening its agriculture and landuse sectors longer-term and sustainable development.

19. *Mongolia's NDC*: Mongolian Parliament approved the National Action Programme on Climate Change (NAPCC) in 2000, and updated this with an outline of priority actions addressing key sectors in 2011. Mongolia is a party to the UNFCCC, and is fully committed to the negotiation process and to communicating its Nationally Determined Contributions (NDCs) in support of international efforts fulfilling the global objectives of the Paris Agreement. To this effect, Mongolia's first NDC was submitted to UNFCCC Secretariat on the 21st of September, 2016.
20. To address the drivers and impacts of climate change in agriculture and land-use sectors, the Government of Mongolia highlighted specific actions in its NDC (covering both adaptation and mitigation) across relevant agriculture and land use sub-sectors including livestock, field crops, water and forestry. Indeed, its adaptation priorities solely address critical concerns of the agriculture and land use sector. Gaps in NDC ETF baseline are highlighted in the adjacent column in Table 1.³⁴

Table 1: Summarized Mongolia NDC—CCM/CCA contributions to 2030

Category	Short description of priority adapted from Mongolia's NDC	Limitations in NDC ETF baseline
Mitigation	<p><i>Agriculture</i>: Maintain livestock population at appropriate levels according to pasture carrying capacity; (develop comprehensive plan for emissions reductions in the livestock sub-sector, implement between 2020-2030). (Target yet includes arable crop lands).</p> <p><i>Forestry</i>: Reduce GHG emissions from deforestation and degradation by 2% by 2020, and by 5% by 2030.</p> <p><i>Other, including water and land use-change</i>: Additional actions yet identified, established.</p>	<ul style="list-style-type: none"> Land use, land use change and forestry mitigation actions are yet sufficiently considered nor incorporated within Mongolia's mitigation contributions. Despite its importance to the country, these are considered 'ambitious' commitments contingent upon 'gaining access to new technologies and finance'³⁵ <i>Re: agriculture and land use sector ETF, mitigation accounting and methodologies</i>: Emission reduction measures for agriculture and land use are yet sufficiently understood nor accurately estimated due to the lack of available baseline information, methodology and uptake/operationalization as a part of regular sector reporting. Via CBIT, actual and forecast emission reductions will be developed, and recalculated annually based on improved, more accessible and centralized data with appropriate adjustments to business as usual (BAU) baseline assumptions.
Adaptation	<p><i>Animal husbandry and pastures</i>: -To implement sustainable pasture management; reduce rates of pasture degradation; regulate headcounts and types of animals including wild animals to match with pasture carrying capacities.</p> <p><i>Arable farming</i> -To increase irrigated cropland, reduce soil water loss and decrease soil carbon emissions; to improve soil protection and reduce bare/fallow areas to 30%; introduce crop rotation systems;</p>	<ul style="list-style-type: none"> Adaptation is particularly important to Mongolia and the agriculture and land use sector. The CBIT project is being designed to support with greater rigour the detailed analysis of expected impacts, potential solutions, challenges, and synergies between CCA and CCM. Monitoring of CCA measures will be developed and strengthened via this CBIT project; to identify and utilize where appropriate higher Tier indices, and in an integrated way as per existing and

³⁴ See: http://www4.unfccc.int/submissions/INDC/Published%20Documents/Mongolia/1/150924_INDCs%20of%20Mongolia.pdf

³⁵ Mongolia INDC (2015) p. 8.

	<p>expand irrigated cropland by 2-2.5 times</p> <p><i>Water resources</i> -To maintain availability of water resources through protection of runoff formation zones and native ecosystems in river basins (30 % of the territory will be state protected by 2030 and sustainable financial mechanism will be introduced); regulate river and stream flows; create reservoirs for glacial melt harvesting, and; introduce water saving and water treatment methodologies.</p> <p><i>Forest resource.</i> -To increase efficiency of reforestation actions; reduce forest degradation rates, improve effectiveness of forest management</p>	<p>planned national programmes and institutional mandates.</p> <ul style="list-style-type: none"> • Monitoring will be based on achievement of adaptation goals and targets. • Baselines and targets for indicators will be established and assessed quantitatively and qualitatively throughout all agriculture and land use NDC actions and implementation phases. • CBIT ETF will validate best practices to improve investment, decision making, policy, and planning. AFLOU ETF best practices, systems and capacity shared with all national sectors and informing broader CCA/CCM planning and investment prioritization.
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21. At the writing of this PIF, there was no additional support to transparency and MRV for Mongolia being discussed (e.g. such as via ICAT or the Partnership on Transparency in the Paris Agreement). The Government of Mongolia has, however, already commenced with preparation for and implementation of some of its NDC contributions. The **Mongolian Green Credit Fund** is being established (not operationalised) in order to attract and mobilise private sector finance in climate resilient, energy efficient, and renewable projects. The Government has also been actively working to identify opportunities to implement NDC priorities through the **Green Climate Fund (GCF)** with several already being prepared and submitted for consideration of the GCF Board. Capacity building for government sector ministries is also being prepared so that there is broader government understanding of NDC priorities and associated reporting requirements.
22. The implementation of the above actions requires improved institutional coordination and a robust system for capturing precise data and information that is accurate and credible in reporting on GHG inventories (e.g. by sources and sinks). This requires that Mongolia has systems in place to track progress in achieving NDCs across priorities covering both mitigation and adaptation, as well as a wide range of sectors (e.g. agriculture and land use, energy and transport) and related sub-sectors (e.g. livestock, field crops, water and forestry).
23. There is significant potential to make advances in monitoring agriculture and land use activities in support of the NDC employing advances in information and mobile technology. Information technology is rapidly being introduced throughout Mongolia, and considerable progress has been made in recent years to build upon its information and communications infrastructure such as basic services and modern cellular services. While some progress has been made in assessing agriculture and land use sectors' climate change impacts vulnerabilities and risks, as well as reporting to conventions using largely lower-mid tier national GHG inventories, it is critical that regular, harmonized, systematized update of an agriculture and land use sector assessment in all relevant areas of climate change be collected; operationalized, and; a comprehensive higher tier assessment of outputs, results and progress in climate change response measures and actions be developed.
24. The improved ETF systems supported by this project will highlight real potentials that will improve national prioritization, policy and investment to ensure targeted address of Mongolia's most pressing climate change adaptation and mitigation challenges within its most vulnerable sector. Through an NDC lens, this CBIT project will verify challenges and opportunities for meeting agriculture and land use sector resilience and emissions targets.

- *Baseline scenario and associated baseline projects*

25. The proposed project's key executing partner, is the **Ministry of Environment, Green Development and Tourism's (MOET's) Climate Change Project Implementation Unit (CCPIU)**. MOET-CCPIU organizes comprehensive consultation and sector inputs into the NDC, and is charged with the ongoing coordination of over twenty (20) agencies and institutes to bring actions integrating climate change into various sectoral planning, adaptation and mitigation reporting. The CCPIU also houses Mongolia's Nationally Designated Authority (NDA), its Special Envoy for Climate Change, as well as its Nature Conservation Fund which develops and submits National Communications to UNFCCC and is leading the draft of the country's Biennial Update Report (BUR).³⁶

a.) In 2010, Mongolia submitted its **Second National Communication to UNFCCC**. The 2nd national communication highlighted technological, economic, financial and human resource constraints, underscoring the 'urgent need for qualified specialist inputs in each sector who can understand and adequately evaluate climate change as a systematic issue.'³⁷ **Mongolia's Second Assessment Report on Climate Change (MARCC-2014)** and the **UNEP-GEF Technology Needs Assessment** (published in 2013) have underscored similar analysis, barriers and initial steps that, addressed within this CBIT project, will lead to a more in-depth understanding of the agriculture and land use sector, its reporting, technological and capacity needs, specific CCA/CCM constraints and opportunities.

b.) The UNEP-GEF project entitled "**Preparation of Mongolia's First Biennial Update Report (BUR) to UNFCCC**" (2014-2017, USD 352,000) aims to assist Mongolia to meet broad, multi-sector reporting obligations to the UNFCCC. Through this initiative, Mongolia's BUR is currently expected to be submitted by late 2017. To date, the BUR initiative has begun to identify broad institutional arrangements for improved MRV and broad inputs supporting national-level GHG inventories. Local to national institutional capacities and methodologies for preparing agriculture and land use GHG inventories, however, remain underdeveloped. The CBIT project will build upon the BUR's broad institutional assessment and arrangements to provide update and improve the accuracy of its developing database; CBIT will improve agriculture and land use MRV and methodologies to reconfirm and/or amend emissions projections for 2015-2030; CBIT will also strengthen agriculture and land use sector/sub-sector institutional and technical capacities for data collection and preparation of GHG inventory, agriculture and land use monitoring and reporting.

26. In the context of **Mongolia's UN-REDD+ programme**, FAO has been addressing forest sub-sector MRV barriers by developing technical and functional capacities for implementing national forest sub-sector GHG inventory. REDD+, implemented in partnership with UNEP/UNDP, thus provides important forest baseline, methodology and inventory. The programme at present targets emissions, but not adaptation factors. The CBIT project builds upon this baseline to inform wider agriculture and land use sub-sector reporting, as well as wider production landscape mitigation and adaptation planning. The CBIT will also build upon REDD+ to contribute to land use, land-use change and forestry (LULUCF) and agriculture and land use chapters as a whole, linking overall national reporting efforts for GHG inventory and enhanced transparency.

27. As regards to forest sector assessment, GHG reporting and MRV, it is worth noting that amongst existing forest inventories, there remain yet resolved issues in terms of methodology and data developed in these baselines:

- *National Forest Inventory (2014-2016)*. Undertaken by GIZ via the UN-REDD programme, the project gathered information from a sample 5,000 'hotspots' from pre-selected/pre-determined areas (i.e. sites were not random). There is currently a perceived bias towards pre-existing, mature stand forest areas, and carbon and emissions data are still general, and not yet sufficiently disaggregated. No regular methodology has been made available, and no follow up actions established to date. This inventory *identified 9 million forest hectares within country*.

³⁶ The FAO team has worked closely with the NDA (Dr. Bartjargal) and the CCPIU and NCF team to develop this proposal.

³⁷ Mongolia 2nd National Communication to UNFCCC. (2010). P. 138

- *FAO-staff, UN-REDD (2016)*. The FAO-led team developed forest reference levels supporting national UN REDD reporting and utilizing satellite data with its *CollectEarth* tool; the work incorporated important historical trends and data developed over the last 20 years. This inventory *came up with 13 million forest hectares*, as well as very low annual deforestation of 2,000 hectare.
 - *Forest Taxation data* has been developed by the state agency *Forest Research Development Agency (FRDA)*. An annual report is developed supporting forest inventory every 4-5 years. The inventory is undertaken by private companies under tender; and methods/quality control are viewed to be outdated and are not yet uniform. This inventory *also came up with 13 million forest hectares* within the country. Data is not site specific and is yet sufficient enough to inform CCA/CCM potentials; and it is also not yet rigorous enough to meet national level GHG reporting requirements.
28. This proposed CBIT project will address the need for harmonization and clarification to develop improved sub-sector national forest inventory, emissions data and reporting.
29. Mongolia's **Ministry of Food, Agriculture and Light Industry (MAFALI)** implements national objectives related to agriculture, food production/supply, and animal husbandry. Its agencies and divisions' regular programmes of work provide important sub-sector baseline for agriculture, inter-Aimag (provincial) pasture land management, water availability and usage, agriculture and land use technical extension supporting crop production, veterinary inputs and animal breeding, and technology and light industry supporting raw material and crop processing. At present, all MAFALI agencies supply, through ad hoc and poorly coordinated data collection, yet standardized, basic raw data which is used to develop emissions calculations. Methodologies are yet in place to establish higher tier inventories. Mechanisms promoting institutional improvements in GHG inventory reporting, as well as the active inputs of local levels and participation of communities and private sector in adaptation and mitigation assessment are not yet explored nor elaborated.
30. In order to carry out day-to-day activities related to GHG monitoring, coordination between local levels and relevant ministries must be improved. An important baseline inventory is currently being developed through the **National Agency for Meteorology and Environmental Monitoring (NAMEM)**, which is responsible for nationwide pasture land monitoring. At present, NAMEM's work covers 2,100 monitoring plots representative of all Bagh (villages) and ecosystems in Mongolia. Meteorology technicians based in 320 soums (districts) collect primary data annually, and have been using 'newly' standardized methodologies (since 2011). Aimag (provincial) engineers oversee this data collection, ensure quality control and enter the monitoring data within a newly established *National Rangeland Monitoring Database*. The current National Database is being modified and adapted to Mongolia from the Database for Inventory, Monitoring and Assessment developed by the U.S. Department of Agriculture (USDA). This information is now used to inform UNCCD reporting. The database can accommodate all core indicators, and CBIT will build upon this system to contribute tracking of new ETF NDC indicators. Customized reports for interpretation of assessment and monitoring data will be produced to incorporate wider agriculture and land use sector transparency and reporting needs.
31. Building upon the NAMEM work, local, provincial and national technical capacities will be enhanced through the CBIT project, with new monitoring and reporting procedures to specifically target GHG emissions factors, as well as related to national land quality, forest, water, arable land and rangeland health, and their use is expected to strengthen resilience land use planning and investment decision. The CBIT project will introduce improved tools for interpreting agriculture and land use to support spatially-explicit management recommendations (i.e. Ecological Site Descriptions or ESDs) as piloted by NAMEM in the **Swiss Development Cooperation's Green Gold Project (GGP, 2004-2020, USD 27 million)**. NAMEM ESD monitoring work will be viewed and linked, where possible, to the **Administration of Land Affairs, Geodesy and Cartography (ALAGAC)** development of a nationwide grazing impact monitoring system.

32. The GGP provides notable baseline, where they have worked closely with MAFALI, NAMEM and ALAGAC to: (i) institute measurement of internationally-accepted core indicators and to standardize these nationally; (ii) develop a reference database of different rangeland types that provide a basis for developing ESDs and interpreting monitoring data; and (iii) build capacity to produce a timely outlook on rangeland health as based on monitoring data. A multi-ministerial technical group comprised of land managers, animal husbandry breeding, rangeland specialists and meteorological technicians are advising rangeland use agreements at soum (district) levels, and the CBIT project will capacitate these groups to address GHG inventory and monitoring for the country.
33. This CBIT project also builds upon related baseline comparisons to address gaps in existing land use monitoring methodologies employed by different Mongolian institutions (i.e. research institutes and universities; MOET; MAFALI; NAMEM; and ALAGAC) to: (i) harmonize and operationalize agreements around a unified set of core indicators (i.e. to reduce controversy in assessments of agriculture and land use GHG emissions, forest, arable land and rangeland health); and (ii) improve integration of climate information into projections and models, enhancing adaptation planning in the sector.
34. While various climate projects (36 projects initiated on behalf of MAFALI, and 47 projects on behalf of international organizations), studies (including country specific improvements to strengthen monitoring of CC impacts) and scientific research targeting agriculture and land use (such as piloting best available technologies and the most adaptable species) have been produced by the **Mongolian University of Life Science** (MULs under the Ministry of Education, Culture and Science) and its **five colleges and four institutes**,³⁸ much of that remains as ‘research,’ and is not yet applied nor carried over into national extension or planning.
35. By example, the Institute of Plant and Agricultural Science (under MULs and working directly with MAFALI) is responsible for plant and soil monitoring as well as for tracking fertility and yield improvements; the Geographical and Ecological Research Institute under the Mongolian Academy of Sciences develops mapping supporting ALAGAC and MOET—and yet, despite the important links to be developed between soil monitoring and land use mapping, the information between MOET and MAFALI remains for all practical purposes uncoordinated and so not applied. In addition, the MULs Centre for Innovation, Business Development houses 460 teaching and research staff who play advisory roles for the National Extension Coordinating Unit. This work is in the first case almost completely directed towards MAFALI, and coordination with MOET and other relevant ETF institutions is yet apparent. Secondly, even within MAFALI, there remains very low integration on trialed innovations as evidenced in the *low up take of research within national extension, policy and investment decision making*.³⁹
36. A seven-year **UNDP-FAO Green Climate Fund (GCF) project entitled “Improving Adaptive Capacity and Risk Management of Rural communities in Mongolia”** (2017-2023, USD 40 million) project concept has been approved for development by CCPIU, and is currently in its design phase. The project intends to address key institutional coordination issues, policy and regulatory frameworks, and to strengthen the climate resilience of agricultural households in Mongolia. FAO is leading the development of Component 3 and ‘identification and application of climate smart agriculture (CSA) and climate smart livestock (CSL) technologies.’ The developing GCF project is being viewed to support this CBIT ETF proposal, with a combined aim of (a) strengthen the capacity of existing institution to monitor and scale up climate resilient agriculture; (b) identify and scale up efficient technologies such as inland management and water resource use; (c) train key departments and staff on holistic plant management, soil management, environment impacts and monitoring; and (d) promote ETF awareness, expand best practice and lessons learned for national level uptake.

³⁸ i.e. College of Veterinary Medicine; Animal Science and Biology; Agro-Ecology (incl Forests); Agriculture Engineering and Technology, and; Agriculture Economics/Business. Institutes include include 260 researchers within the Institutes of Veterinary Medicine; Animal Husbandry; Plant Science/Agriculture, and; the Institute of Plant Protection.

³⁹ MULs shares its research with MAFALI via a National Science Committee (charied by the Prime Minister), but the committee is not strong, and dissemination and uptake are weak. A multi-sectoral State Science and Technology Fund (of \$1.75M) managed by MOECS for MULs is also yet well targeted, given insufficient funds and large, multiple demands.

37. Despite the past and ongoing project to build monitoring and reporting capacity for GHG inventories and mitigation and adaptation actions, as noted in Mongolia's Second National Communication to UNFCCC, its Second Assessment Report on Climate Change and Technology Needs Assessment, technical and institutional barriers continue to pose major constraints to the preparation of regular timely and accurate monitoring and reporting in support of UNFCCC processes. Utilizing the GEF-6 CBIT quality indicator rating system, the following core ratings were assessed:

- a.) *MRV systems tracking* results related to low-GHG development and GHG emissions mitigation are essential for ensuring transparency, accuracy and comparability of information with regard to climate change. Mongolia's agriculture and land use sector is assessed with a *ranking of 3*, and where measurement systems are in place for a few activities; there are *some* improved data quality and methodologies, but these are neither cost nor time efficient; wider access to reporting is still limited and information is partial, and where verification is rudimentary and yet standardized.
- b.) A qualitative *assessment of institutional capacity for transparency related activities under Article 13* of the Paris Agreement places Mongolia's agriculture and landuse sectors with a *ranking of between 2 and 3*, and where: a designated transparency entity exists, and this organizational standing unit (MOET's Climate Change Project Unit [CCPIU]) has *some* (albeit currently limited) staff, capacity and authority to coordinate transparency activities under Article 13. The institution still lacks essential and functional coordination capabilities, and activities are yet well integrated into national planning or budgeting activities.

38. A synthesis of the baseline scenario above and review of Mongolia's **National Capacity Self-Assessment (NCSA)** for Global Environmental Management and Action Plan, which assessed capacity required for Mongolia to fulfil its commitments under the UNFCCC, CBD and CCD, highlights remaining gaps that need to be addressed to enable Mongolia to produce more timely and accurate reports for UNFCCC processes; particularly the reporting requirements under the Paris Agreement ETF. The NCSA identified thematic-specific capacity development needs for reporting to the UNFCCC that would benefit from additional support to the agriculture and land-use sectors under CBIT. These are detailed by level in Table 2. The proposed CBIT project will work to address the priorities identified as part of the NCSA assessment to strengthen institutions and capacity required for enhanced monitoring and reporting under UNFCCC processes over the long-term with a technical focus on the unique needs of the agriculture and land-use sectors.

Table 2: Mongolia NCSA capacity gaps/needs that can be addressed by CBIT⁴⁰

NCSA Level	Description	Related sector-specific gaps/needs that can be addressed by CBIT	Relevant Project Outputs in alternate CBIT scenario
Systemic	Harmonization of policy and strategy including enhanced mechanisms for integrating/reflecting climate change issues in sector-specific and national development priorities	<ul style="list-style-type: none"> • Capacity to assess and adjust NDC ambition levels to attract international support • Knowledge and resources to better inform Mongolian Government involvement in UNFCCC processes regarding transparency and sector-based target setting exercises • Support to engage in sub-national, national, regional and global peer-to-peer exchange on ETF reporting requirements 	Output 1.1.5; Output 1.2.1; Output 1.2.3
	GHG Mitigation Strategy including improved capacity to environmentally	<ul style="list-style-type: none"> • Capacity to clarify reporting against mitigation and adaptation targets through improved baselines and 	Output 1.1.4;

⁴⁰ Government of Mongolia. *Final Report Mongolia's National Capacity Self-Assessment for Global Environmental Management and Action Plan*. Ministry of Nature and Environment.

NCSA Level	Description	Related sector-specific gaps/needs that can be addressed by CBIT	Relevant Project Outputs in alternate CBIT scenario
	friendly mitigation technologies and mitigation projects.	BAU projections covering projections for agricultural output <ul style="list-style-type: none"> • Capacity to understand national emission scenarios and adjust national sector-specific mitigation planning processes accordingly 	
	National Adaptation Strategy including review and identification of cost-effective adaptation measures for climate change and related extreme events; development of interactive mechanism between key socio-economic sectors, and their sub-sectors, as well as between public and private sectors on climate change impacts and adaptation; and development of special information materials on adaptation.	<ul style="list-style-type: none"> • Preparation of national sector specific adaptation indicators and systems capable of measuring progress against NDC adaptation priorities • Preparation of systems to aggregate adaptation monitoring and reporting to capture progress toward NDC adaptation priorities • Development of sector specific adaptation data management systems 	Output 3.1.1; Output 3.1.2; Output 3.1.4;
Institutional	Improvement of GHG Database including development of national or regional emission/sink factors to estimate GHG emissions/sinks and development of an efficient and user-friendly database system, together with a user manual, will be developed for archiving, updating and maintaining the GHG inventory data, including emission factors and other relevant data and information	<ul style="list-style-type: none"> • Preparation of Mongolia specific emission factors for key agriculture and land-use sector activities • Development of sector specific GHG inventory and mitigation knowledge management systems for the agriculture sectors 	Output 1.1.4; Output 2.1.2;
Individual	Education, Training and Public Awareness including making policy makers aware of vulnerability and adaptation assessments in key sectors and strengthening institutions involved in climate change related studies	<ul style="list-style-type: none"> • Capacity to understand national climate-risk scenarios and adjust national sector-specific adaptation planning processes accordingly • Capacity on GHG measurement, GHG inventory and emission factor development for agriculture and land-use sectors 	Output 3.1.5; Output 2.1.3

39. Additional synergies and collaboration under discussion are detailed in the section *coordination with other ongoing initiatives*. As noted, methodological variability has led to vast discrepancies in agriculture and land use and sub-sector criteria, application and assessment. Without intervention by the GEF through CBIT, the Government will face challenges in achieving the enhanced transparency requirements for agriculture and land use reporting against NDC actions. This pertains also to other relevant national sectors such as energy/power; energy/transport; and industry). Through the project's main executing partner, MOET CCPIU, those sectors' ETF will be strengthened. It is likely that without intervention, emissions from agriculture and land use will be measured using outdated methodologies; technology reports will be produced without proper quality assurance mechanisms; and adaptation actions will be poorly monitored and reported. The continuation of this baseline scenario would be inconsistent with the spirit of the Paris Agreement, the ETF and the establishment of the CBIT.

- *The proposed alternative scenario, GEF focal area strategies, with a brief description of expected outcomes and components of the project*

40. Drawing upon the CBIT fund, the GEF alternative scenario will develop and implement a capacity building programme to ensure that by 2020 Mongolia is preparing reports from the agriculture and land use sectors consistent with the requirements of the ETF, including inventories of emissions sources and sinks and information necessary to track progress against priority actions identified in Mongolia's NDC. This programme builds upon existing and planned baseline, reporting and database information systems to target capacity building activities under three components, and in three key areas, as follows:

41. **Component 1. Institutional arrangements for transparency:** Component 1 will address barriers associated with gaps in institutional coordination and awareness to ensure that information and data from the agriculture and land-use sectors is coordinated and integrated into national ETF processes and reports. Coordination, education and capacity building activities proposed will include: (i) building upon the submission of the BUR to further pinpoint agriculture and land use potentials and gaps and analysis for transparency based upon Mongolia's NDC priority actions (*output 1.1*); (ii) establish a strategy for institutional coordination and support mechanisms for ETF reporting in the agriculture and land use sector, including technical working groups (*output 1.1.2*). The strategy and mechanisms developed will aim to maintain established capacities beyond the lifetime of the project; and (iii) formulate an updated national MRV roadmap for enhanced transparency taking into account Paris Agreement requirements (*output 1.1.3*).

42. Where appropriate, existing national emission and sink factors will be used to estimate GHG emissions and sinks, which builds upon existing raw data and databases and will enhance data quality. Previous inventory data will be assessed and re-calculated based on improved GHG methodology to facilitate comparison and trend analysis, and the existing BUR and National Rangeland Monitoring (and similar) databases will be improved. This is useful, not least, for identification of climate change impacts, threats and establishing potentials for best practice and environmentally sound technologies, their development and transfer.⁴¹ In particular, Mongolia-specific GHG factors for forest and steppe fires, and methane emissions factors for livestock enteric fermentation will be developed.

43. An efficient and user friendly database system and user manual will be developed for local-national archiving, updating and maintaining agriculture and land use GHG inventory data. Project outcomes will first target and then leverage agriculture and land use sector processes and modules to coordinate, mobilize, and improve relevant national and sector accounting. Coordination among national institutions (MOET and MAFALI), national climate research centres and other relevant institutions will be enhanced to facilitate knowledge sharing and improved communication.

44. Moreover, knowledge and module sharing are developed in *Outcome 1.2* to build upon and strengthen the existing NDA led inter-ministerial working group to ensure that data and information flows will continue to be improved, and an enhanced strategy developed to guide this ongoing and future coordination between all relevant national sectors and actors (e.g. including private sector, civil society, academia). The multi-sectoral, national level coordination mechanism will be strengthened in this regard, and integrate relevant authorities and their inputs into UNFCCC reporting processes. Information systems, data, tools, improved programming and lessons learned will be shared for improved national, regional and global programming (e.g. such as via the FAO Global CBIT programme, and the CBIT Global Coordination Platform).

45. **Component 2. Transparency for monitoring and reporting emissions and emissions reductions:** Under this component, activities will be designed to address barriers for improved priority agriculture and land use NDC *emissions and removals* measurement, monitoring and reporting. Mitigation options based on the enhancement of carbon sinks (e.g. including rehabilitation of degraded lands, afforestation and reforestation) must be identified

⁴¹ Mongolia National Capacity Self-Assessment for Global Environmental Management and Action Plan (UNEP-GEF). P. 76

and reassessed utilizing improved methodologies to highlight GHG factors and barriers for adopting more environmentally friendly mitigation technologies.

46. Targeted investment of the project will help to achieve regular, reliable and systematic archiving processes, including quality assurance and control (*output 2.1.1*). An integrated database will be developed and installed in the offices of relevant local-national agencies. This will also serve as an information portal for wider and public consumption. The component will establish GHG information management system (MIS) for agriculture and land use (*output 2.1.2 with link to 3.1.3 adaptation*), and by leveraging the capacity of local universities like MULs and its research institutions to adopt and improve national GHG inventories for national sectors and enable enhanced field-level GHG monitoring (*output 2.1.3*). The proposed activities of this component will directly benefit the MRV components for agriculture and land use sub-sectors (e.g. forestry/REDD+), and vice versa by utilising existing data management platforms, tools and methodologies for GHG estimates and measurements.
47. Component 2 will also support investment in basic but critical IT hardware and system infrastructure to store and manage existing and projected GHG emissions data and information requirements (*output 2.1.3*). These systems will be designed to interface with and, where possible, enhance existing systems. Capacity building programmes will include establishing processes to ensure the reliability and sustainability of the inventory monitoring, including (i) quality assurance and quality control, in the agriculture and land-use sectors; (ii) training and support to produce emissions estimates for the sectors using the latest IPCC guidelines (2006) and software; (iii) training to identify improvement activities such as Tier 2 level estimates for key sub-sectors; (iv) training and support to establish MRV systems based upon NDC priority mitigation actions for key sub-sectors; and (v) preparation and submission of national communications, biennial update reports consistent with latest UNFCCC guidance (*output 2.1.4*).
48. **Component 3. Transparency for monitoring and reporting adaptation:** Under this component, priority indicators, methodologies, frameworks and interventions will be identified (*output 3.1.1*) to address barriers for adaptation monitoring and reporting of priority NDC *adaptation actions* in the agriculture and land-use sectors. Investments in data collection hardware will be made to enhance the monitoring capacity of national, Aimag and local authorities (*output 3.1.2*). Complementing the development of emissions data (component 2), inter-face IT/MIS hardware and system infrastructure will be developed and utilized to store and manage existing and projected data and information on adaptation initiatives in support of the NDC (*output 3.1.3, link to 2.1.2*).
49. Capacity building activities will include assessment of good practices and methodologies for monitoring NDC priority adaptation actions (*output 3.1.4 linked to 2.1.3*); development of appropriate indicators; training adaptation monitoring and reporting at different administrative levels and preparation and submission of national reports consistent with latest UNFCCC guidance (*output 3.1.5*). The participation of community levels and business will be encouraged and promoted to ensure that CCA/CCM options, strategies and measures developed are applicable and viable at local (*bagh and soum*) levels.
50. As the implementing entity of this programme, FAO will draw upon its deep technical understanding of the agriculture and land-use sectors and wide range of tools and methods for development of emissions inventories, measuring and monitoring emissions from agriculture, land-use and land-use change, agriculture and land-use MRV systems, quality assurance protocols and adaptation planning and monitoring (see *Innovation*, below).
 - *Incremental cost reasoning and expected contributions from the baseline, the GEFTE, LDCF/SCCF, CBIT and co-financing:*
51. *Without this CBIT project*, necessary conditions meeting the Paris ETF will be unmet in Mongolia. Without intervention by the GEF through CBIT, it is anticipated that the Government will continue to have under developed capacity to meet the enhanced transparency requirements for reporting against NDC actions in the agriculture and land-use sectors. Although good inroads have been made by REDD+ in the forest sub-sector, National Rangeland Monitoring Database and BUR, necessary activity data and emission factors using latest IPCC guidelines are not available for all agriculture and land use sectors and for compiling a comprehensive, accurate, and reliable national

GHG inventory. Technical rigor of the National Communications has also been inconsistent for agriculture and land use and sub-sectors, and the BUR is not yet produced.

52. Furthermore, through its NDC submission, *Mongolia has prioritized emissions reductions and adaptation actions in agriculture and land use* that will need to be monitored and reported under the Paris Enhanced Transparency Framework. The recent past and current experiences with national reporting have helped strengthen the national capacity to collect, measure, and analyze GHG emissions from sectors, and lay a basic foundation for tracking progress of the implementation of NDC priority actions on reducing GHG emissions from agriculture and land use sectors.

53. *With the CBIT project*, Mongolia's national capacity to track progress of priority actions on climate adaptation from agriculture and land use sectors as identified in the NDC will be strengthened, and the information on climate adaptation will be collected in a systematic manner to fulfill Paris ETF requirements. Secondly, with the support of the project, Mongolia will improve the quality and coverage of data collected and reported on GHG emissions from agriculture and land use sectors by transitioning from IPCC 1996 to 2006, and from Tier 1 and 2 to Tier 2 and 3 emission factors. Moreover, with an increased local-national capacity to measure, monitor, and report against the priority actions identified in the NDC, it puts Mongolia in a better position to increase its level of ambition on including more ambitious emissions reductions activities in agriculture and land use sub-sectors.

54. Lastly, the project intervention enhances Mongolia's long term vision for climate change reporting and transparency improvement over time through enhanced institutional capacity and arrangements targeting national sector emissions and adaptation accounting.

- *Global environmental benefits (GEFTF), and adaptation benefits (LDCF/SCCF)*

55. The global environmental benefits targeted by this proposed capacity building program will flow from the improved coordination and capacity to monitor and report action to address the drivers and impacts of climate change in a transparent manner.

56. In the near term, the project supports both upgrade and establishment of systems to provide evidence-base for more effective mitigation and adaptation in the agriculture and land-use sectors. Over time the systems supported by the project will allow policy makers and planners at national and provincial levels to design interventions to address climate change drivers and impacts based upon a more complete understanding of what works. In the longer-term the improved understanding of mitigation and adaptation potentials made possible through the project will provide the Mongolian Government with greater opportunity to increase levels of ambition for both mitigation and adaptation in future iterations of Mongolia's NDC and better articulate the magnitude and types of financial and technical support required to meet national priorities.

57. The project directly supports Mongolia to adopt transformational shifts towards low-emission and resilient development. As a result, global environmental benefits can also be expected in the form of enhanced contributions from Mongolia to collective global efforts to work towards aggregate emission pathways consistent with holding the increase in the global average temperature to well below 2 degrees Celsius above pre-industrial levels.

- *Innovation, sustainability and potential for scaling up:*

Innovation:

58. The proposed CBIT project will facilitate scientific innovation through investment in infrastructure and systems to update and modernize the measurement and monitoring capacities of Mongolia's government, local technical and research institutions. The project will facilitate investment and technology transfer for new and updated equipment at local universities and labs to measure and monitor emissions from a wide range of agriculture and land-use activities. The project will also facilitate investment in dedicated knowledge management information

systems and IT hardware for the more effective management and reporting of data and information related to transparency of both mitigation and adaptation actions. Field monitoring systems will be reviewed and improved through the upgrading of data collection processes by including wider application of mobile telecommunications, app-based data collection platforms and cloud-based data storage and transfer services. Systems upgraded through the project in MOET and MAFALI will be able to replicate in other ministries at reduced effort and cost.

59. Recommended systems of the project will be designed to benefit from recent advances and tools for estimating GHG emissions and removals from the crops, livestock and forestry sectors. FAO, with partners, has developed or is currently developing a suite of tools for standardizing emissions monitoring and reporting at Tier 2 and 3 levels. For example, FAO has developed the Global Livestock Environment Assessment Model (GLEAM) that establishes baselines and assesses the impacts of different mitigation and adaptation scenarios at local and national scale. Based on IPCC Tier 2 methodology and GIS based modeling of livestock distribution, GLEAM allows the assessments of all major GHG emissions from livestock and the impacts of all actions to reduce emissions from the sector.
60. Furthermore FAO, under the Mitigation of Climate Change in Agriculture (MICCA) programme, has produced a suite of tools to support countries to enhance the technical capacity to prepare the national GHG inventory from the data collection to the emissions and removals estimates and to assess its accuracy and quality to prepare an improvement plan for the next inventory cycle; to design Nationally Appropriate Mitigation Actions (NAMAs) within the Mongolian NDC, to design and put in place MRV systems. With the application of FAO tools, Mongolia national institutions will have enhanced capacity to develop a sustainable GHG inventory and MRV systems and consequently measure progress, eventually achieved through mitigation actions within its NDC. FAO has also well developed in partnership with Google models for monitoring land cover, land use and land management and changes across time in both agriculture and forestry (e.g. CollectEarth), as well as machine learning algorithms that may be applied to remote sensing data.
61. With the application of GHG estimation tools such as GLEAM and those developed under MICCA, Mongolia's national institutions will have enhanced capacity to measure progress toward NDC priorities in agriculture and land-use sectors. At global level, evidence tested and compiled in Mongolia will facilitate the improvement of scientific knowledge of GHG emissions reduction potential from agriculture and land use sectors, consequently improving our knowledge to estimate global environmental benefits. These systems once implemented and operational will support the potential for improved understanding of mitigation potential and adaptation needs and the possibility for increased levels of ambition and quantification of support required in future iterations of Mongolia's NDC in the lead up to and during the commitment period of the Paris Agreement.
62. In addition, the project adopts an innovative approach that integrates extensive stakeholder consultations and assessments of capacity needs and baseline activities for monitoring the progress. The project interventions have been formulated by taking into account the need to enhance national capacity in monitoring mitigation and adaptation actions for agriculture and land use and relevant sectors as a whole emerging from the representatives of line ministries in Mongolia at the regional transparency workshop organized in Bangkok, Thailand in June 2016.

Sustainability:

63. With the project support, Mongolia will be able to articulate, through a step-wise approach, a clear plan of action with regards to national reporting of its NDCs, utilizing the monitoring and reporting roadmap, coordination mechanisms, and technical guidelines prepared by the project. All stakeholders will be empowered to access, archive, analyze, and monitor the necessary information and activities with regards to agriculture and land-use sectors, as well as to inform processes by lessons learned in other sectors.
64. Through the capacity building activities, the capacities of technical and policy focal points from the two participating ministries as well as the capacities of relevant national institutions will be improved. The soft skills

and knowledge acquired will be retained through the systematic support put in place through the establishment of climate change transparency database, management information system (MIS).

65. The core outcome of the project is to establish an enabling institutional coordination mechanisms to ensure greater collaboration among line ministries, in particular, with MOET-CCPIU and MAFALI. During the project life cycle, at least one comprehensive LULUCF or AFOLU chapter to NDC reporting will be facilitated and improved by the government with technical supervision of FAO. This experience and institutional memory will better prepare the government of Mongolia to fully take-over the reporting processes in the next reporting cycle from 2020 onwards. Furthermore, the transfer of GHG measurement and estimation technologies supported through improved national capacity in agriculture and land use sectors is expected/will potentially help Mongolia improve its ambitions by including reductions in GHG emissions from agriculture and land use into its NDC emissions reductions targets.

Potential for scaling-up:

66. The project has good potential for scaling up, and specifically embeds opportunities to scale-out and scale-up the measures implemented. The relative importance of the agriculture and land-use sectors to the Mongolian economy and the significant technical challenges and capacity gaps for enhanced transparency in these sectors in the Mongolian context necessitate a focused, sector specific approach. However, the information management systems and infrastructure for monitoring and reporting mitigation and adaptation actions in agriculture and land use sectors established under the project will be designed in way to allow for easy replication and adoption by other sectors.
67. Hardware, capacity building and training provided to national and local level stakeholders will be developed as modules that they can be adapted to improve data collection methods and analysis across all sectors. By working through and strengthening the institutional mechanisms in place for transparency of climate change actions the project will be able to better facilitate this process of scaling out project-developed systems and processes. The enhanced capacity provided by the project will enable regular national reporting of actions to address climate change drivers and impacts as envisioned under Paris Agreement Article 13.
68. Outcome 1 of the project will also facilitate Mongolia's engagement in international transparency-related processes under the UNFCCC. With the enhanced institutional capacity and engagement with international process, the government will be capacitated to identify potential partners to further develop scaling-up actions and investment opportunities for further improving transparency over time, as well as to benefit other countries in the region to develop more transparent, accurate, complete, consistent and comparable monitoring and reporting systems.
69. The government will plan to designate regular budget and locate financial sources (if necessary, and beyond project efficiency gains) ensuring continued application and sustainability of the transparency systems and infrastructure for the other sectors by applying for various international climate finance sources, or using a combination of national budget and international support for fulfilling its reporting requirements to the Convention.

2. *Stakeholders.* Will project design include the participation of relevant stakeholders from civil society organizations (yes /no) and indigenous peoples (yes /no)? If yes, identify key stakeholders and briefly describe how they will be engaged in project preparation.

70. The project will be implemented in close cooperation with relevant stakeholders at the national, provincial and district levels. Key stakeholders and their roles include:

Name of Institution	Role
Ministry of Environment, Development and Green Tourism (MOET)—Climate Change Project Implementation Unit	CCPIU charged with NDC ETF; coordination of gap analysis; policy guidance; CBIT ETF implementation.

Ministry of Food, Agriculture and Light Industry (MAFALI)	Agriculture and land use data collection, CCA/CCM decision making and investment.
National and provincial government agencies, e.g.: Water Authorities; National Agency for Meteorology and Environmental Monitoring (NAMEM), Administration of Land Affairs, Geodesy and Cartography (ALAGAC).	Engaged to enhance data and information collection supporting improved, coordinated GHG monitoring.
Universities, colleges and research institutes.	Applied research supporting country specific improvements for strengthen monitoring of CC impacts
Other relevant national sectors (e.g. Energy, Industry, Transport).	Synergies and collaboration strengthening Mongolian climate monitoring, scale up; expansion of best practice and lessons learned.
Donors, leaders of other CBIT related initiatives	Create synergies (e.g. in database development), avoiding duplication—support more efficient allocation of transparency resources/efforts
Civil society	Extension of transparency requirements to non-state actors; research, public awareness, training; strengthened capacity of forest and pasture land user group in climate monitoring;
Private Sector	Extension of transparency requirements to non-state actors; inputs strengthening CBIT identification/ address of gaps/needs and roll out of priority CCA/CCM actions.

71. As noted, specialized national and provincial agencies will be engaged to enhance data and information collection and coordination, and other relevant sectors as prioritized in the Mongolia's NDC. Civil society organizations (CSOs) and research institutions have and will continue to be engaged in the design and implementation of the project, including the baseline assessment and stocktaking of the existing activities and systems. The institutional and coordination structure will consider including dissemination strategies for effective data management and reporting processes.

3. *Gender Equality and Women's Empowerment.* Are issues on gender equality and women's empowerment taken into account? (yes /no). If yes, briefly describe how it will be mainstreamed into project preparation (e.g. gender analysis), taking into account the differences, needs, roles and priorities of women and men.

72. There is an urgent need to integrate further gender considerations into the enhanced transparency framework. Gender differentiation, equity and related issues will be mainstreamed during project design and implementation. The project will be developed in line with the GEF Gender Equality Action Plan, the national Law on Promotion of Gender Equality (2011) and existing Mongolian agriculture and land use policy and strategy supporting Gender Mainstreaming to enhance these efforts with improved transparency systems. In line with the FAO's established practices, gender equality on panels at coordination, project outreach and activity events will be guaranteed.

73. In terms of overall socio-economic benefits, the project will benefit Mongolian society and economy by supporting NDC implementation and progress monitoring of national agriculture and land use mitigation and adaptation priorities. An appropriate transparency framework will generate multiple social, economic and environmental co-benefits such as human capacity, local and national institutions, cost-effective national budgeting and planning, reduced vulnerability of its food systems, and the national resources and ecosystems that the food systems depend upon. Through improved and more transparent data, the project also supports improved and better targeted local, regional and national investment and decision making.

4 *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).

No.	Description of risks	Types of risks	Probability and	Measures to address the risks
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			impact (1-5)	
1	Lack of political will to support the project activities due to government change	Political	P=3 I=5	Awareness raising amongst key ministries and decision makers combined with a strong stakeholder involvement plan.
2	Lack of coordination among concerned ministries and local government authorities	Political	P=3 I=4	Clear project institutional arrangements that specify roles and responsibilities.
3	Limited cooperation on data and information sharing among stakeholders	Organizational	P=2 P=5	Clear buy-in and agreement of stakeholders to collect and hand over required data and information.
4	Inability for the government to fund the ETF related activities beyond the project cycle	Financial	P=3 I=4	Project linkage closely linked to baseline national activities and budgets, as well as international finance.
5	Gender mainstreaming hindered by resistance from local and national stakeholders	Cultural	P=3 I=3	Clear initial communication on gender equality as one of the key monitoring element for tracking progress of the project.
6	Transparency related work loses momentum if the Paris Agreement is not adopted	Political	P=1 I=4	Mongolia is fully committed to the Paris Agreement. Social, cultural, environment, resilience are underscored; transparency needs extend beyond the Paris Agreement (no-regrets approach)

5. *Coordination.* Outline the coordination with other relevant GEF-financed and other initiatives.

74. In compliment to this baseline scenario, other baseline initiatives the project will seek synergies and to build upon include:

Other baseline initiatives	Areas of complementarity with this CBIT Project
<p>Mongolia Livestock Sector Adaptation Project. GEF-IFAD. USD 1.5 million (2010-2016)</p> <p>The main objective of this SCCF project is “to increase the resilience of Mongolian livestock system to changing climatic conditions by strengthening the adaptive capacity of the livestock system as well as the capacity of herders' groups to address climate induced changes”.</p>	<p>This GEF IFAD project aims to increase the resilience of the Mongolian livestock system to changing climatic conditions. CBIT transparency bolsters this project’s target climate proofing targets (e.g. in water supply, and building the capacity of herders' groups to address climate change).</p> <p>The CBIT project will improve agriculture and land use adaptive capacity, and is expected to provide critical inputs better informing the piloting of Index-Based Livestock Insurance (IBLI) schemes.</p>
<p>Nationally Appropriate Mitigation Actions in the Construction Sector in Mongolia. UNDP-GEF, USD 1.5 million CCM.</p> <p>The proposed projects aims to facilitate market transformation for energy efficiency in the construction sector through the development and implementation of NAMA.</p>	<p>The Ministry of Construction and Urban Development has been targeted within this awarded (but yet mobilized) UNDP-GEF project.</p> <p>This CBIT project will work with MOET to ensure suitable systems and MRV procedures are coordinated and shared supporting wider and improved enhancements to national GHG accounting and reporting. This CBIT project will provide platform for national/systematic monitoring systems and their institutionalization.</p>
<p>Ensuring Sustainability and Resilience (ENSURE) of Green Landscapes in Mongolia (proposed USD 8.5 million, MFA; proposed 7 year project).</p>	<p>Synergies between the proposed Ensure project and this CBIT project are being considered, and initially include:</p> <p>i) Tools and capacity development supporting best practice approaches, and;</p>

<p>This PM endorsed project proposes to enhance ecosystem services in multiple landscapes of the Sayan and Khangai mountains and southern Gobi by reducing rangeland and forest degradation and conserving biodiversity through sustainable livelihoods.</p>	<p>ii) Utilizing improved CBIT transparency to improve public awareness of the benefits to livelihoods via resilient/green development.</p>
<p>Mainstreaming Biodiversity Conservation, SFM and Carbon Sink Enhancement Into Mongolia's Productive Forest Landscapes. FAO-GEF; USD 3.5 million. (2012-2017)</p> <p>This FAO project targets SFM and multiple GEBs to reduce degradation, enhance ecosystem resilience and carbon sequestration via SFM</p>	<p>CBIT builds upon this work to strengthen capacity of institutions across sectors to collaborate and manage and monitor forest landscape changes.</p> <p>The CBIT project builds upon baseline carbon data and national REDD+ actions implemented in target forest and pasture land sites.</p> <p>CBIT will benefit from the project's national afforestation inventory system, with transparency supporting improved CCM/CCA actions of its established forest user groups.</p>
<p>Production and Service of Agro-Ecological Information to Climate Change. Mongolian University of Life Sciences, Agro-Ecology Department. Asian Food and Agriculture Cooperation Initiative (AFACI). USD 30,000. (Sep. 2012 – Aug. 2015).</p> <p>This small research-oriented project targeted the Orkhon-Selenge river basin, creating an agro-meteorological database and recommendations supporting climate change adaptation measures and options.</p>	<p>The CBIT project review the climate data, and if relevant, potentially expand the agro-meteorological and zonation classifications of this site specific project to other areas of the country.</p>

6. *Consistency with National Priorities.* Is the project consistent with the National strategies and plans or reports and assessments under relevant conventions? (yes /no). If yes, which ones and how: NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, NDCs, etc.

75. The proposed capacity building program is drawn directly from the priorities outlined in Mongolia's NDC submitted in 2015 to UNFCCC, and is highly consistent with and will inform related UNFCCC communications, NAPA and BUR. The NDC is based upon existing national laws, regulations, and policies on issues related to climate change and agriculture and land use including but not limited to:

- *The National Green Development Policy and Implementation Plan (2014-2030).* Mongolia's Green Development policy supports sets out an ambitious goal for resource efficient and environmentally resilient development. Through six strategic goals, the policy and implementation plan define broad commitments to environment management, and sustainable use of natural resources. The CBIT project will be designed to specifically assist identification and address of Mongolia's commitments and contributions to mitigate the negative impacts of climate change, and to develop a well targeted adaptation strategy befitting the socio-economic and environment impact/importance of its agriculture and land use sector.
- *National Action Programme on Climate Change (NAPCC, 2011-2021).* Climate change adaptation is one of four strategic objectives of the program, and CBIT directly strengthens the program's main goals by adapting socio-economic development to reduce vulnerability and risks in the agriculture and land use sector.
- *Mongolia's Sustainable Development Goals (2016-2030).* Mongolia's SDG vision document highlights its vision to reach higher middle income status, its desire for stable/democratic governance, and environment sustainability. The vision includes four goals and 44 targets. One of its three key pillar economic sectors is the agriculture and land use sector. The CBIT project will help to concretize this vision, directly supporting transparency and improved tracking of its indicators.

- *State Policy on Food and Agriculture (2016-2025)*. The policy seeks to increase agriculture and land use GDP contributions from 12% in 2015 to 20% by 2030. This ambitious policy is dependent on agro pastoral management and arable crop farming that are climate resilient. CBIT will be utilized to identify and pinpoint challenges, and inform adaptations, best practices and innovative technologies most suitable to changing agriculture and land use climate and social conditions.
- *Mongolia National Livestock Program (2010-2021)*. A key aim of this program is to develop a livestock sector adaptable and resilient to changing climate, ecological and social conditions. Of five priorities, one specifically seeks to support strengthened risk management capacity. As specifically provided by this CBIT project, the program's four major measures of (i) improving pasture management; (ii) increasing fodder production; (iii) livestock water supply, and (iv) livestock risk management will be addressed.
- *State Policy on Environment and Nature (2016-2030)*. CBIT will be utilized to target and address agriculture and land use sector actions reducing the negative impacts of climate change.
- The project supports sustainable natural resource use agreements, benefit sharing/access potentials as described in Mongolia's *Draft Land Use Law*, and *Land Use fee law*, where sustainable land and forest use benefits and functioning/critical ecosystems are not only maintained but protected by improved ownership, transparency and better defined management practices and responsibilities.
- The project also supports considerations being developed via realization of the *Law on Science and Technology* (overseeing transfer of research and technology to the field) and the *Law on Innovation (2014)* which incentivizes innovation through tax incentives to enable creation of start-up companies and research institutes to develop in-field and business based field applications building agriculture and land use sector climate resilience.

As a result and with respect to efforts to tackle the drivers and impacts of climate change, the proposed capacity building program is highly consistent with the national priorities of Mongolia.

7. *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.

76. The project adopts two core knowledge management approaches: (1) Dissemination and maintenance of on-line based database and learning forums; and (2) Promotion of knowledge sharing culture and coordination, including ETF best practice sharing with other relevant sectors. To successfully implement these approaches, the project will employ national communication specialist who will produce key knowledge products in locally acceptable formats.

77. Knowledge products will be fully translated into local languages for better dissemination and integration. The project aims to promote knowledge sharing culture and coordination for data collection and analysis in both Mongolia, in the region and globally (via related CBIT proposals). Nationally, this includes an enhanced coordination among existing databases of line ministries, local governments, and grass root actors working together towards improved transparency in climate change related data for agriculture and land use.

78. Cost effectiveness is developed in this, and where the intervention draws upon the latest tools and methodologies with regards to GHG emissions measurements/estimation and analytical frameworks for assessing the impacts of adaptation actions for agriculture and land use sectors that have already been developed by FAO and applied to larger national contexts.

79. Institutional mechanisms coordinated by MOET-CCPIU for UNFCCC reporting will build on existing national structures and political processes rather than create new systems. Institutional and technical capacities developed through project components will build upon and target supplement to existing baseline capacity needs assessment to avoid overlaps. Online platforms and MIS will be facilitated to further assist sharing and systematic management of knowledge and information, and with the broader public. Although in-person trainings will be conducted in some places, the project examine suitability of on-line trainings and e-learning platforms for long-term education purposes. Such archiving, communication, and capacity building efforts will be viewed to efficiently/cost effectively help the project reach out to broader stakeholders and partners.

PART III: APPROVAL/ENDORSEMENT BY GEF OPERATIONAL FOCAL POINT(S) AND GEF AGENCY(IES)

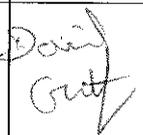
A. RECORD OF ENDORSEMENT⁴² OF GEF OPERATIONAL FOCAL POINT (S) ON BEHALF OF THE GOVERNMENT(S):

(Please attach the Operational Focal Point endorsement letter(s) with this template. For SGP, use this SGP OFP endorsement letter).

NAME	POSITION	MINISTRY	DATE (MM/dd/yyyy)
YERUULT Bayart Director Climate Change and International Cooperation Division	GEF Operational Focal Point, Mongolia	Ministry of Environment and Tourism	MARCH 29, 2017

B. GEF AGENCY(IES) CERTIFICATION

This request has been prepared in accordance with GEF policies⁴³ and procedures and meets the GEF criteria for project identification and preparation under GEF-6.

Agency Coordinator, Agency name	Signature	Date (MM/dd/yyyy)	Project Contact Person	Telephone	Email
Daniel Gustafson Deputy Director-General (Programmes) and Officer-in-Charge for Investment Centre Division		15 May 2017	Kevin Gallagher (Mr), FAO Representative in Mongolia; UNFAO, UN House UN Street N. 12 Ulaanbaatar, Mongolia 14201 kevin.gallagher@fao.org and fao-mn@fao.org	+976-94260248 and +976-11-310248 ext. 4601	Kevin.Gallagher@fao.org and fao-mn@fao.org
Jeffrey Griffin Senior Coordinator FAO GEF Unit Investment Centre Division			Aaron Becker, FAO Regional Office of Asia/Pacific Aaron.Becker@fao.org	+39 06 570 55680	GEF-Coordination-Unit@fao.org; Jeffrey.Griffin@fao.org

⁴² For regional and/or global projects in which participating countries are identified, OFP endorsement letters from these countries are required even though there may not be a STAR allocation associated with the project.

⁴³ GEF policies encompass all managed trust funds, namely: GEFTF, LDCF, SCCF and CBIT

C. ADDITIONAL GEF PROJECT AGENCY CERTIFICATION (APPLICABLE ONLY TO NEWLY ACCREDITED GEF PROJECT AGENCIES)

For newly accredited GEF Project Agencies, please download and fill up the required **GEF Project Agency Certification of Ceiling Information Template** to be attached as an annex to the PIF.

