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Ecosystem Based Adaptation Approach to Maintaining Water Security in Critical Water Catchment in Mongolia

UNDP PIMS: 4505
UNDP Project ID: 00079875
AF Project ID: MNG/MIE/EBA/201
AF Agency: United Nations Development Programme
Executing Agency: Ministry of Nature, Environment and Tourism
Focal Area: Climate Change

Report of the Terminal Evaluation Mission

October 20, 2017

Dr.Arun Rijal (Independent International Consultant)

Mrs. Narangerel Yansanjav (Independent National Consultant)

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Project Period 2012-2017

Evaluation Team
ArunRijal, Ph.D. (Independent International Consultant)
Mrs. Narangerel Yansanjav (Independent National Consultant)

Terminal Evaluation Report
20 October, 2017

Acknowledgements

We wouldn't be able to produce this report if we had not received support from all the staff and people connected with the Project "Ecosystem Based Adaptation Approach to Maintaining Water Security in Critical Water Catchment in Mongolia" who freely gave their time and ideas to make the evaluation process a success. There are many people to mention by name – and everyone who contributed is included in the lists of names annexed to this report – but special mention must be made of Mr. Batbayar Ts., Vice Minister MET and Chairman of the Project Board, Mr. Yeruult B., Director of Department of Climate Change and International Cooperation and NPD, Ms Javzan V. Senior Officer of Department of Monitoring and Evaluation and Auditing and Project Board Member, Ms. Beate Trankmann, Resident Coordiantor of UN and Resident Representative of UNDP, Ms. Daniela Gasparikova, DRR UNDP and Ms Bunchingiv B., Program Officer on Climate Change, Mr.Batjargal Z., National Focal point of UNFCCC and GCF, Ms Batchuluun Y., professor at University of Pedagogical Science, MR. Jambaljav Ya., Head of Institude of Geography & Geo-Ecology, Ms Gunjidmaa G. Head of Research and Informaton Dept. Press Institute of Mongolia, Ms Kenjegul Kh. Senior Officer Crop Production Policy Implementation Dept., Ms Dulguun E. Officer In-Charge of UNDP project Div. of Debt Management, Ministry of Finance and project board member, Ms Tsendsuren B. Consultant, Ms Munkhchuluun, AHEC Program Manager WWF Mongolia, Mr. Adiya Ya. Director of Institute of General and Experimental Biology, Mr. Batsaikhan D. Governor of Uvs Aimag, Mr Ganbayamba N. Khenti Aimag Governer who provided required information. All of these personnel answered every question we asked and discussed the points raised. Ms. Tuya Ts. National Project Coordinator helped in coordination and finalizing the mission and Ms Khaliun G. Secretary of EbA project office helped in different arrangements and information providing. Finance Staffs of the project provided financial figures of the project. Ms Otgonjargal N., Ms Sumiyasuren J. joined us field visit and provided information and also helped in field coordination. Project coordinators from all project sites helped in arranging meetings, site visits and logistics. Ms.Lkhamdulam helped in interpretation while interacting with different stakeholders.

We are very thankful to Provincial and Soum Governors and staffs of the Project Provinces and local NGOs and CBOs for giving their valuable time to talk to us and also for giving information related to the project activities. Thanks also go to the Project team in Project provinces and Soums and all community members and partner organisation staffs for giving their valuable time to share their experience on the project implementation.

The views expressed in this report are intended to offer an overview of, and some of the lessons learned from this Project as it comes to its conclusion. We have tried to balance our thoughts and to offer fair perspectives of what was observed and learned from people far more knowledgeable about the Project and its context than we will ever be.

And finally, one of the delights of this sort of work remains that of visiting a new and extremely welcoming country and going home again having made new friends, seen new things, and witnessed with great admiration the dedication and enthusiasm that so many people bring to their work in managing natural resources of the Mongolia sustainably addressing water basin issues. We would like to thank them and wish them every success in their continuing endeavours.

Mrs. Narangerel Ya.
National Consultant
Mongolia

Arun Rijal, Ph.D.
International Consultant
Nepal

20th October 2017

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Acronyms and Terms

AF	Adaptation Fund
CBO	Community Based Organisation
CO	Country Office
CPAP	Country Program Action Plan
EA	Executing Agency
EbA	Ecosystem Based Adaptation
GDP	Green Development plan
GEF	Global Environment Facility
GIZ	German Society for International Cooperation
GLD	Great Lake Depression
GoM	Government of Mongolia
HQ	Head Quarters
IA	Implementing Agency
IFAD	International Fund for Agriculture Development
IWRM	Integrated Water Resource Management
IWRMP	Integrated Water Resource Management Plan
LDRR	Land Degradation Risk Reduction
MDG	Millennium Development Goal
M&E	Monitoring and Evaluation
MCUD	Ministry of Construction and Urban Development
MEG	Ministry of Environment and Green Development
MNET	Ministry of Nature, Environment and Tourism
MET	Ministry of Environment and Tourism
MoU	Memorandum of Understanding
MTR	Mid-Term Review
NEX	National Executive Modality
NGO	Non-Government Organisation
NPC	National Project Coordinator
NPD	National Project Director
NRM	Natural Resource Management
PB	Project Board
PIF	Project Information Framework
PIR	Project Implementation Review
PMO	Project Management Office
PIU	Project Management Unit
ProDoc	Project Document
RBA	River Basin Administration
RBC	River Basin Council
ROtI	Review of Outcome to Impact
RRF	Result and Resources Framework
SLM	Sustainable Land Management
SMART	Specific, Measurable, Achievable, Relevant, Time-bound
TE	Terminal Evaluation
TEC	The Nature Conservancy
TNC	Third Nation Communication
UNDAF	UN Development Assistance Framework
UNDP	United Nations Development Programme

US$	United States Dollar
WCS	Wildlife Conservation Society
WWF	World Wildlife Fund

Currency of Mongolia is the Mongolia Tughrik (MNT). At the time of the final evaluation, US$ 1 = MNT 2,422.75

ii. Executive Summary

This Terminal Evaluation (TE) has been conducted as part of the Monitoring and Evaluation plan of the UNDP/GEF Project: "Ecosystem Based Adaptation Approach to Maintaining Water Security in Critical Water Catchment in Mongolia", and will be referred to as the "Project" in the scope of this report. The TE mission to Mongolia was conducted from 1st to 13th October 2017. Extensive consultations with the project partners were also conducted prior and following the mission to ensure a good understanding of the project's results; leading to the submission of the TE report on the date of this report.

Project Summary Table

As per requirements for TE, the Project Summary Table is provided below:

Project Summary Table				
Project Title:	Ecosystem Based Adaptation Approach to Maintaining Water Security in Critical Water Catchment in Mongolia			
AF Project ID:	**MNG/MIE/EBA/201**		**at endorsement (US$)**	**at completion (US$)**
UNDP Project ID:	PIMS 4505	AF Fund:	5,069,124	4,440,778.07
Country:	Mongolia	Government of Mongolia in Kind:	5,000,000	
Region:	Asia Pacific	UNDP (DDC/CO):	500,000	492,062.66
Focal Area:	Climate Change			
Executing Agency:	Ministry of Environment and Tourism (MET)	**Total Project Cost:**	**10,569,124**	**4,932,840.73**
Other Partners involved:	• UNDP • Local Communities	ProDoc Signature (date project began):		**18 Nov 2011**
		(Operational) Closing Date:	Proposed: 31 Dec 2017	Actual: 31 Dec 2017

Brief Description of Project

Mongolia covers 1,564,116 square kilometres (603,909 sq. mi) is the 18th largest county in the world by land mass and has population of around three million people. It is also world's second largest landlocked country. This country has very limited arable land while most of its land area is covered by grassy steppe, mountains to the north and west and the Gobi Desert to the south. Ulaanbaatar is the capital and largest city and is the home of about 40-45% of the total population. The nation has relatively little cultivated land. As per the project document estimate at project development time estimates was 380,000 ha. The primary crop is wheat. The total amount of irrigated land is approximately 43,000 ha, mostly for vegetable production. Cultivation contributes 3% to the nation's GDP.

The country is a globally important watershed with three major water systems: the closed "Central Asian Internal Drainage Basin ("Great Lakes Basin") in the west, the Arctic Ocean Basin in the north, and the Pacific Ocean Basin in the east. The nation has over 5,000 streams and eighty-five percent of the water is fresh. Total surface water resources are estimated at 599 km³ stored in lakes (500 km³), glaciers (62.9 km³) and rivers (34.6 km³). Ground water resources, although not rigorously quantified, are estimated at 10.8 cubic km. In spite of these

resources, Mongolia is water scarce. Classified as semiarid to hyper-arid, precipitation ranges between 50 to 400 mm with highest rainfall in the north and lowest in the south. Approximately 90% of the precipitation evaporates and 10% forms surface runoff with only partial ground water recharge. The pace of glacier loss has quickened in recent years. The total glacier area in Mongolia decreased by approximately 22% over the last sixty years. The total loss from 1940 to 1992 was 12%. Mongolia's glacier's shrunk by an astounding 10% from 1992 to 2002. Surface water is actually increasing in Mongolia's mountainous north and west as climate change quickens permafrost and glacier melt. In these areas, water stores and riparian areas are gaining. This trend will continue for several decades until frozen water reserves are depleted. In the remainder of the country, surface water is already decreasing. The 2007 water inventory reveals that 852 rivers and streams out of a total of 5,128 have dried up; 2,277 springs out of a total of 9,306 have dried up; 1,181 lakes and ponds out of a total of 3,747 have dried up; and, 60 springs out of a total of 429 have dried up.3 Even The entire country relies primarily upon summer rains to provide moisture. From 1940 and 2007, the average annual precipitation decreased by 7 percent. In particular, the amount of precipitation has decreased during the summer months. There is an increasing tendency for precipitation to fall in short heavy bursts, instead of several moderate ones. It is projected that precipitation will decrease in the short term by 4 percent between 2010 and 2039.

Most natural resources management in Mongolia is relatively limited. Grazing is de facto open access. Nearly all of Mongolia's land-base, including pastureland, is publicly owned. Prior to 1991, grazing was regulated by a centralized system that maintained traditional nomadic patterns while regulating herd structures, grazing locations, and times. Approximately 70% of all livestock were owned by the State. After 1991, herds were completely privatized and most grazing regimes collapsed. Grazing is now defined largely by an open access system with retention of some traditional management practices and limited government oversight. Policies promote increased production and herd size.

Regulation and management of water resources is inadequate. Ground water extraction requires only a simple permit from the National Water Authority. Surface water use is largely un-regulated. Many surface water bodies are monitored for both quality and quantity and the Government is moving forward to support IWRM principles and practices. This includes fostering the development of River Basin Councils and supporting water resource use plans for 14 of 29 basins. River Basin Councils were authorized by a 2004 revision to the existing Water Law. The revisions allow for the creation of River Basin Councils to act as stakeholder advisory groups to forward the concept of Integrated Water Resources Management (IWRM). Basin Councils are voluntary and consist of representatives of water users and consumers, government, nongovernmental, and specialized or professional organizations.

Unsustainable agriculture and development practices already maximized Mongolia's natural resource use beyond sustainable limits. Mongolia's ecosystems do not have the resilience and reserves required to cope with any further stress. If current trends continue and unsustainable management practices persist, the vulnerability of Mongolia's rural communities will increase as climate change accelerates the deterioration of land and water resources and associated ecosystem services. The additional impacts represented by climate change will very likely dismantle Mongolia's already vulnerable ecosystem services.

The EBA project is designed to maintain ecosystem functions and water provisioning services addressing the needs of critical for survival of rural communicates and national economy. It aimed to increase climate change resilience at a landscape level. This project attempt to address issues related to maintaining water services and ecosystem functions by Strengthening Institutions at communities and government and increase knowledge on adaptation, enhanced stakeholder participation as well as capacity building of rural communities in decision making.

The project's objective is to maintain ecosystem functions and water provisioning services addressing the needs of critical for survival of rural communities and national economy. The project is implemented in two large landscapes: Turgen/Kharkhiraa sub-river basin in Altai Mountains and Great Lakes Depression (Altai/GLD) eco-

region and the Ulz river basin in the Dornod steppe and Mongol Daurian eco-region achieved through 3 major outcomes plus a project management component.

The project sought to achieve three outcomes:

Outcome 1: Integrated strategies/management plans for target landscapes/river basins developed and under implementation;

Outcome 2: Implementing landscape level adaptation techniques to maintain Ecosystem Integrity and Water Security under Conditions of Climate Change;

Outcome 3: Strengthening capacities/Institutions to support EBA strategies and integrated river basin management, their replication and mainstreaming in sector policies.

The Project Document was approved jointly by Government of Mongolia, AF and UNDP in April 2011 for the duration of Six years. The Project was executed by the Government of Mongolia's Ministry of Nature, Environment and Tourism through Project Implementation Unit (PIU) with support from UNDP Country Office (UNDP CO) in close coordination with various other institutions and local communities. UNDP as implementing agency was responsible for the completion of all activities including procurement, recruitment, monitoring, and financial disbursement. The Project has been executed in accordance with the standard rules and procedures of the UNDP National Implementation Modality (NIM) (in the beginning implementation was through NEX modality). The Project budget is US$ 10,569,124 of which US$ 5,069,124 is the AF Grant and US$500,000 is provided by the UNDP CO. The remaining financing is provided by the Government of Mongolia (US$ 5,000,000).

Rating Table

As per UNDP and GEF's requirements for TE, the Terminal Evaluation Rating Table is provided below:

1. Monitoring and Evaluation	***Rating***	**2. IA& EA Execution**	***Rating***
M&E design at entry	Highly Satisfactory	Quality of UNDP supervision/backstopping	Highly Satisfactory
M&E Plan Implementation	Highly Satisfactory	Quality of Execution by Executing agency	Highly Satisfactory
Overall quality of M&E	**Highly Satisfactory**	Overall quality of Implementation / Execution	**Highly Satisfactory**
3. Assessment of Outcomes	***Rating***	**4. Sustainability**	***Rating***
Relevance	Relevant	Financial resources:	Likely
Effectiveness	Highly Satisfactory	Socio-political:	Likely
Efficiency	Highly Satisfactory	Institutional framework and governance:	Likely
Likelihood of Impact	Highly Satisfactory	Environmental :	Likely
Overall Project Outcome Rating	**Highly Satisfactory**	Overall likelihood of sustainability:	**Likely**
		Stakeholder participation	Highly Satisfactory

Note: Justification of rating is given in Annex XIV.

KEY SUCCESSES

Project has contributed to safeguard livelihood of the farmers and pastoralists by improving management of water and protecting river basins. This also contributed to the United Nations Development Assistance Framework (UNDAF) outcome focusing on supporting development of sustainable livelihoods and employment for vulnerable segments of the Population in Mongolia, through building the capacity of the UNCCD Focal Point,

protecting springs, promoting sustainable agriculture, improving pasture land for increased productivity, reducing economic and gender disparities, strengthening monitoring of glacier, rivers, weather and ground water and reducing environmental shocks and recovery. Similarly, improved management of water, rangeland and forest and decrease in use of coal contributed to greenhouse gas reduction and sequestration to mitigate climate change. Introduction of high value crops and increased production from agriculture and livestock through improvement in farm practices with improved irrigation facilities helped to improve household economy which also increased resilience of community to challenges of worse climate change. Project provided opportunity to develop leadership among women and also provided economic development opportunity through various economic development activities and microenterprises. Cooperation were established at the village level to implement natural resource management (water, agriculture, livestock etc.) resolve conflicts, manage fund for micro-enterprise development and coordination with the government agencies.

The project helped to make provincial government (Aimag) understand the peoples need, integrated and participatory approach of planning and implementation. Project also enhanced capacity of the government (local/national level) by establishing monitoring stations for monitoring glacier, river, ground water and weather and also providing trainings. Capacity of the community groups were also enhanced on various subject including climate change, sustainable agriculture practices, water management, environment protection, enterprise development skills etc. Local governments were assisted to develop green development plans. Similarly, project contributed to develop integrated river basin management plan and also proposals to bring critical catchment areas under protected area system. Success encouraged to develop three more proposals for arranging money to upscale lessons from this project and government has also shown interest to contribute in kin for replication.

The project closely collaborated with the various ministries, Aimags and Soum level government, private sector, research institutes and community groups. Furthermore, through capacity enhancement and establishment of a knowledge base contributed in mainstreaming integrated river basin management, through management and other climate change issues in the development planning process of the Aimag and Soum government. Through the project activities, local communities, community based institutions and government have begun to understand the link between water and land management activities and the potential impact of climate change on those activities, as well as how such activities trigger land degradation. Overall, the project aimed at building Mongolia's capacity to fulfil its commitment under the UNCCD and enabling Mongolia to prevent the progression of desertification in the already vulnerable river basin areas of Mongolia.

KEY PROBLEM AREAS THAT PROJECT AIM TO ADDRESS

Most natural resources management in Mongolia is relatively limited. Grazing is de facto open access. Nearly all of Mongolia's land-base, including pastureland, is publicly owned. Prior to 1991, grazing was regulated by a centralized system that maintained traditional nomadic patterns while regulating herd structures, grazing locations, and times. Approximately 70% of all livestock were owned by the State. After 1991, herds were completely privatized and most grazing regimes collapsed. Grazing is now defined largely by an open access system with retention of some traditional management practices and limited government oversight. Policies promote increased production and herd size.

Regulation and management of water resources is inadequate. Ground water extraction requires only a simple permit from the National Water Authority. Surface water use is largely un-regulated. Many surface water bodies are monitored for both quality and quantity and the Government is moving forward to support IWRM principles and practices. This includes fostering the development of River Basin Councils and supporting water resource use plans for 14 of 29 basins. River Basin Councils were authorized by a 2004 revision to the existing Water Law. The revisions allow for the creation of River Basin Councils to act as stakeholder advisory groups to forward the concept of Integrated Water Resources Management (IWRM). Basin Councils are voluntary and consist of representatives of water users and consumers, government, nongovernmental, and specialized or professional organizations.

Unsustainable agriculture and development practices already maximized Mongolia's natural resource use beyond sustainable limits. Mongolia's ecosystems do not have the resilience and reserves required to cope with any further stress. If current trends continue and unsustainable management practices persist, the vulnerability of Mongolia's rural communities will increase as climate change accelerates the deterioration of land and water resources and associated ecosystem services. The additional impacts represented by climate change will very likely dismantle Mongolia's already vulnerable ecosystem services.

The project will apply the principles of Ecosystem-based Adaptation (EbA) to increase climate change resilience at the landscape level. Ecosystem-based adaptation involves collective action among governments, communities, conservation and development organisations and other stakeholders to pan and empower local action that will increase environmental and community resilience to the changing climate. As per project document, barriers that project has to address succeed this project are:

- Absence of landscape level framework for internalising ecosystem resilience to climate change in coherent land use and water resources monitoring and planning system.
- Inadequate demonstrated experiences in ecosystem based adaptation approaches at the landscape level
- Weak institutional capacity and policy framework to promote ecosystem based adaptation approach.

Main conclusions, recommendations and lessons learned

Conclusion

1. The project was able to accomplish all targeted activities and only approval of Integrated Basin Management Guidelines and proposal of the two protected areas remained to be approved by the cabinet. But as these are very critical issues and are already approved by the local government Ministry has prepared to propose in the coming Cabinet meeting with priority.
2. To address the water related problems, the project intervened in four main areas: review and improvement of policies, awareness generation, infrastructure development with capacity enhancement and improvement of rural household economy. The policy development approaches included revision of policies and plans to incorporate climate change issues and water basin management issues.
3. River basin management guidelines were developed to address climate change issues and also development and green development plans and arrangement in policies water and climate change issues mainstream these in development activities.
4. Policy development and amendments were made for addressing and incorporating climate change issues.
5. To encourage evidence based planning, the project conducted studies on various subject including baseline information generation, economic studies of climate change and adaptation interventions, sustainable water harvest, mapping of glaciers and also strengthened meteorology stations in the field to have regular updates on weather, ground water level and river status and made these available to the local and national government officials.
6. Infrastructures facilities like water reservoirs and weather stations for regular weather information transmission and canal construction/repairing and green houses and well construction for irrigation in extended dry season were completed.
7. To address livelihoods of the people, the project trained farmers in advance irrigation and farming techniques, created reservoir, rain and snow water harvest facilities, protected springs and also provided training on various enterprises together with small grants to initiated income generation activities.
8. To decrease drudgery of women, relief pressure on the forest and to support local economy, project promoted bio-briquettes, solar energy, and water facilities.
9. Project changed concept of the local communities with increased knowledge on the climate change related threats and adaption techniques.

10. Project translocated Marmot, created water bodies for endangered birds and designed protected areas and arranged community protection for biodiversity conservation.
11. The EbA Project was designed with provision for appropriate management arrangements. The project team has managed to deliver a series of interventions that have reduced the threats of desertification.
12. The biggest challenges of absence of landscape level framework for internalising ecosystem resilience to climate change in coherent land use and water resources monitoring and planning system, inadequate demonstrated experiences in ecosystem based adaptation approaches at the landscape level and weak institutional capacity and policy framework to promote ecosystem based adaptation approach. These challenges were addressed through identification of policy gaps and addressing them, enhancing capacity by providing equipment and trainings to local relevant government institutions, establishing grassroots level institution and strengthening them to facilitate program implementation, establishing several demonstration sites and conducting exchange visits to provide first-hand information to community members and also for government representatives.
13. Project practiced adoptive management and lessons and recommendations were addressed on time to strengthen the implementation process. Project has been underpinned by good science and a technical approach of good calibre.
14. To make the outcomes and interventions sustainable, the project formed community groups, trained them in various technologies and on financial management, enhanced knowledge and capacity of local government. The community members and local government were made aware of the benefits of using weather information for farmers and pastoralists' decision making. The project successfully tested participatory planning and implementation approaches.

Recommendation

I. The project target areas have a large numbers of livestock which supply large amounts of dung. The dung could be used for bio-briquette production. Project supported only one bio-briquette. Briquette production program could be supported in all areas of these soum to decrease pressure on wood for energy.
II. The project developed integrated river basin management guidelines and also proposed two protected areas. These are approved by the local government and also approved by ministry. Follow up should be made to approve it from cabinet and thereafter by parliament.
III. It is recommended to upscale and replicate lessons learned from this project by UNDP, Government of Mongolia and other agencies working in similar issues. There could be many potential donors willing to invest in such activities so it is also recommended that lessons learned should be disseminated to a large audience including other areas of the water basin and beyond. UNDP and AF could use its network for dissemination.
IV. It is recommended to promote insurance mechanism in pastoralism and agriculture to safeguard farmers. Due to climate change weather became very unpredictable. If farmers whose economy is not so strong have to take risk of climate change then their situation will further worsened. Hence to encourage farming and pastoralism, insurance mechanisms should be promoted. Considering the economic situation of the farmers, premium of such insurance should not be high or be subsidised.

Lessons Learned

I. Community organisations lack scientific knowledge and are ill-equipped for handling such projects so support to enhance their knowledge and strengthen their capacity will help to encourage them to continue in adapting risk of climate change or desertification and there by facilitate a cooperative approach for reducing damage from land degradation.
II. Local adaptation knowledge is easily adapted by the rural communities. Local knowledge should be promoted together with scientific knowledge to respond to local situation as they are more easily adapted by the rural communities. Local communities were good in identifying signs of land degradation, climate change impact and proposing suitable and feasible mitigation measures. One example observed in project areas was that local community's knowledge regarding constructing dry well and snow water harvest to address prolonged dry season and linking this with resolving pasture and agriculture land issues.

III. The farmer exchange visits promoted farmer to farmer learning and technology transfer from one community to another. This is the best way for transferring technology to farmers as farmers could explain by simplifying the technical terms more appropriately to another farmer making learning more effective.
IV. Working directly through existing government structures brings dividends. The project chose to work directly with the Ministry of Environment and Tourism and local governments, rather than setting up parallel implementation structures. This decision has proved very successful not only in empowering government by providing experience and training, but also in developing effective government "ownership", engagement, participation and motivation, thereby promoting long-term sustainability of the project's achievements.
V. Designing a project linking various institutions from grassroots level institutions, government agencies, local authorities and communities generates huge benefits for sustainability, and through the synergies developed provides the intervention with much greater effectiveness than that which can be achieved by stand-alone projects.
VI. Local communities understand causes of pastureland degradation and environmental problems but due to lack of livelihood alternatives they are forced to continue unsustainable practices so if project designs consider alternatives for betterment of livelihood by improving their practices then locals will cooperate. The local communities understand and appreciate that the livelihood activities like coal and wood burning, overgrazing and poor water and soil management accelerate environmental degradation. They also showed willingness to change their practices if they are provided with alternative environmentally sound practices like water efficient agriculture and bio-briquette which support their livelihoods.
V. Constant contacts with communities are vital to community-based water and land degradation risk management projects. Good communication and regular communication in relation to project activities with the communities helps to promote successful, community-based projects as they built trust and motivation of the targeted local communities.

More on Recommendations and Lessons Learned are given on pages 46-48.

I. Introduction

1.1 Purpose of the Evaluation

As per UNDP's guidance for initiating and implementing terminal project evaluations of UNDP supported projects that have received grant financing from the AF, this Terminal Evaluation (TE) has the following complementary purposes:

- To promote accountability and transparency, and to assess and disclose the extent of project accomplishments.
- To synthesize lessons that can help to improve the selection, design and implementation of future UNDP activities.
- To provide feedback on issues that are recurrent across the UNDP portfolio (E & E unit) and need attention and on improvements regarding previously identified issues.
- To contribute to the overall assessment of results in achieving AF strategic objectives aimed at global environmental benefits.
- To gauge the extent of project convergence with other UN and UNDP priorities, including harmonization with other UN Development Assistance Framework (UNDAF) and UNDP Country Programme Action Plan (CPAP) outcomes and outputs.

The guidance is designed to enhance compliance with both UNDP and AF evaluation policies and procedural requirements, which are consistent and mutually reinforcing, and use common standards. The guidance also responds to AF requirements to ensure that Terminal Evaluations of AF-financed projects should include ratings of project's relevance, effectiveness, efficiency, monitoring and evaluation implementation as well as sustainability of results (outputs and outcomes).

By adopting "UNDP's guidance for Conducting Terminal Evaluations of UNDP-Supported AF-Financed Projects", this Terminal Evaluation responds to both UNDP and AF requirements for Terminal Evaluations.

1.1 Scope & Methodology

This Terminal Evaluation (TE), carried out by independent consultants, was initiated by UNDP Mongolia as the AF Implementation Agency for the "Ecosystem Based Adaptation (EbA) Approach to Maintaining Water Security in Critical Water Catchment in Mongolia" project to measure the effectiveness and efficiency of project activities in relation to the stated objectives, and to collate lessons learned.

The TE was conducted over a period of 27 days between 25th August 2017 and 30th October 2017 by one International and one National consultant. The approach was determined by the terms of reference (Annex I) which were closely followed, via the itinerary detailed in Annex II. Full details of the objectives of the TE can be found in the ToR, but the evaluation has concentrated on assessing the concept and design of the project; its implementation in terms of quality and timeliness of inputs, financial planning, and monitoring and evaluation; the efficiency and effectiveness of activities carried out and the objectives and outcomes achieved, as well as the likely sustainability of its results, and the involvement of stakeholders. The text has been revised to correct factual inaccuracies in the draft or to include additional information. All comments were addressed to ensure a fair hearing to all parties and responses to comments are listed in Audit Trail (Annex XV).

The evaluation was conducted through the following participatory approach to provide it with sufficient evidence upon which to base conclusions:

- extensive face-to-face interviews with the project management and technical support staff. Throughout the evaluation, particular attention was paid to explaining carefully the importance of listening to stakeholders' views and in reassuring staff and stakeholders that the purpose of the evaluation was not to judge performance in order to apportion credit or blame but to measure the relative success of implementation and to determine lessons learned for the wider AF context. Wherever possible, information collected was cross-checked between various sources to ascertain its veracity, but in some cases time limited this. A full list of people interviewed is given in Annex III.

- face-to-face interviews with local stakeholders, particularly the community members, CBOs, local governments authorities, Ministries, NGOs, PIU and project field staffs;
- a thorough review of project documents and other relevant texts, including the Project Document, revised log-frame, and monitoring reports, such as progress and financial reports prepared for UNDP and annual Project Implementation Reviews (PIR), minutes of Project Board meetings, technical reports and other activity reports, relevant correspondence, and other project-related material produced by the project staff or partners; and
- field visits to project sites in Altai Mountains and Great lakes basin, Turgen and Khahiraa river basins and Ulz river basin in Eastern Steppe.

Wherever possible the TE Consultant has tried to evaluate issues according to the criteria listed in the *UNDP Monitoring and Evaluation Policy*, namely:

- Relevance – the extent to which the activity is suited to local and national development priorities and organisational policies, including changes over time, as well as the extent to which the project is in line with the GEF Operational Programmes or the strategic priorities under which the project was funded.
- Effectiveness – the extent to which an objective has been achieved or how likely it is to be achieved.
- Efficiency – the extent to which results have been delivered with the least costly resources possible.
- Results – the positive and negative, and foreseen and unforeseen, changes to and effects produced by a development intervention. In AF terms, results include direct project outputs, short-to medium term outcomes, and longer-term impact including global environmental benefits, replication effects and other, local effects.
- Sustainability – the likely ability of an intervention to continue to deliver benefits for an extended period of time after completion. Projects need to be environmentally as well as financially and socially sustainable.

In general, the baseline indicators are very straight forward but quantitative information on use of surface water extracted for irrigation is lacking. These are consistent with the rationale of the project that there is a considerable knowledge gap, which the project intends to fill, or at least tries to contribute to the build-up of a science-based knowledge system. The objective of the project is to maintain the water provisioning services supplied by mountain and steppe ecosystems by internalizing climate change risks within land and water resource management regimes. The project seeks to achieve three outcomes:

Outcome 1: Integrated strategies/management plans for target landscapes/river basins developed and under implementation.

Outcome 2: Implementing landscape level adaptation techniques to maintain ecosystem integrity and water security under conditions of climate change.

Outcome 3: Strengthening capacities/institutions to support EbA strategies and integrated river basin management, their replication and mainstreaming in sector policies.

The original logframe in the Project Document was revised significantly in June 2012 and amended in the inception report. This new logframe, comprising Three Components and nine Outputs, has been used throughout as the basis for this evaluation (see Annex VI), and the TE has evaluated the project's performance against these according to the current evaluation criteria provided to it by the UNDP. This is reproduced in Annex XIV for clarity. Project results were measured against achievement of indicators guided by evaluation questions (tracking tools, Annex XII).

In addition, other scales have been used to cover sustainability (Annex XIII-ii), monitoring and evaluation, and to assess impacts. The Review of Outcomes to Impacts (ROtI) method also requires ratings to be made for outcomes achieved by the project and the progress made towards the 'intermediate states' at the time of the evaluation. The rating scale is given in Annex XIII- iii while Annex XIII-iv shows how the two letter ratings for "achievement of outcomes" and "progress towards intermediate states" translate into ratings for the "overall likelihood of impact achievement" on a six-point scale. A rating is given a '+' notation if there is evidence of impacts accruing within the life of the project which moves the double letter rating up one space in the six-point scale. Comments/suggestions from reviewers are addressed and changes made are mentioned in the Audit Trail in Annex XIV.

The results of the evaluation were conveyed to UNDP and other stakeholders (Annex III). **Lessons learned** have been placed and further explained in page 46-48.

1.2 Constraints

The program sites within the provinces were very far from each other so it was difficult to visit many farmers' groups. The time given for evaluation was very limited and the TE team was not able to meet all of the Community groups. Financial information was available up to September end and remaining three months expenses was projected. Moreover, detail breakdown of the National Government's contribution for each component and for each year was not available to the consultants and this also limited financial analysis.

1.3 Structure of the Evaluation Report

The TE report is structured in line with UNDP's guidance and covers the following Sections:

- Project description and development context (this includes project design, its rationale and development context, the problems that project sought to address, the objectives, establishment of baseline, key stakeholders and expected results)

- Findings (Results of implementation and comparison with the targets asset)
    - Project Design / Formulation
    - Project Implementation
    - Project Results
- Conclusions, Recommendations & Lessons
- Annexes.

2 Project Description and Development Context

2.1 Project Start and Duration

The Project Document was signed on13 April 2011 for the duration of six years. However, initiation of project implementation was slow in the beginning two years. Project activities were officially launched in November 2011 with the recruitment of a project manager and other staffs. The project was planned to end in October 2017. A Mid-term Evaluation was conducted in December 2014 – February 2015. Final evaluation was conducted between August – October 2017.

The key timelines which were planned for project implementation are shown in the Table below.

Key timelines planned for project implementation.

Key project's milestones	Date
Submission of Concept to AF	September 2010
Approval of the Concept by the AF Board	November 2010
Development of a Full Project Proposal	January-March 2011
Submission to AF of a Full Project Proposal	April 2011
Approval of Full Project Proposal	June 2011
Project activities launched	November 2011
Project Inception Workshop	June 2012
Mid-term Review Date	December2014 – February 2015
Terminal Evaluation Date	August-October 2017
Original Planned Closing Date	October 2017

2.2 Problems that the Project sought to Address

Most natural resources management in Mongolia is relatively limited and grazing is de facto open access. Prior to 1991, grazing was regulated by a centralized system that maintained traditional nomadic patterns while regulating herd structures, grazing locations, and times. Approximately 70% of all livestock were owned by the State. After 1991, herds were completely privatized and most grazing regimes collapsed. Grazing is now defined largely by an open access system with retention of some traditional management practices and limited government oversight. Policies promote increased production and herd size.

Regulation and management of water resources is inadequate. Ground water extraction requires only a simple permit from the National Water Authority. Surface water use is largely un-regulated. Many surface water bodies are monitored for both quality and quantity and the Government is moving forward to support IWRM principles and practices. This includes fostering the development of River Basin Councils and supporting water resource use plans for 14 of 29 basins. River Basin Councils were authorized by a 2004 revision to the existing Water Law. The revisions allow for the creation of River Basin Councils to act as stakeholder advisory groups to forward the concept of Integrated Water Resources Management (IWRM).

Unsustainable agriculture and development practices already maximized Mongolia's natural resource use beyond sustainable limits. Mongolia's ecosystems do not have the resilience and reserves required to cope with any further stress. If current trends continue and unsustainable management practices persist, the vulnerability of Mongolia's rural communities will increase as climate change accelerates the deterioration of land and water resources and associated ecosystem services. The additional impacts represented by climate change will very likely dismantle Mongolia's already vulnerable ecosystem services.

The project will apply the principles of Ecosystem-based Adaptation (EbA) to increase climate change resilience at the landscape level. Ecosystem-based adaptation involves collective action among governments, communities, conservation and development organisations and other stakeholders to pan and empower local action that will increase environmental and community resilience to the changing climate. The project aims to address following barriers to address the management program related to river basin management:

- Absence of landscape level framework for internalising ecosystem resilience to climate change in coherent land use and water resources monitoring and planning system.
- Inadequate demonstrated experiences in ecosystem based adaptation approaches at the landscape level
- Weak institutional capacity and policy framework to promote ecosystem based adaptation approach.

2.3 Immediate and Development Objectives of the Project

The objective of the project is to maintain the water provisioning services supplied by mountain and steppe ecosystems by internalizing climate change risks within land and water resource management regimes. It believes that : i) the policy, regulatory and institutional environment support sustainable land and watershed management; ii) knowledge based planning forms basis for improving land and water management supporting sustainable natural resource use and pastoralism tor sustainable economic development; iii) local economic development facilitated through diversification, value addition and alternative income will increase community resilience to climate change; and iv) effective project management and lessons used to up-scale land and water management.

2.4 Baseline Indicators Established

To measure the achievement of the project, baseline indicators were established and are as follows:

***Objective*:** Maintain the water provisioning services supplied by mountain and steppe ecosystems by internalizing climate change risks within land and water resource management regimes.

***Outcomes and Outputs*:** Project had three Components and 9 outputs together. Outputs under each of the three outcomes are presented in section 2.6 (Expected Results, Page 6-8). To achieve these outputs several activities were identified and activities are described in "Achievement of Project Outcome and Output" (page 25).

2.5 Main Stakeholders

The project development process involved many stakeholders including government agencies and non-environmental organizations that are working in Mongolia. Consultations were held with the Ministries, communities, local governments and other relevant authorities in order to discuss the project concept and the site selection. The communities from the two project sites were also involved in the stakeholders' consultations and community representatives participated in the discussions. As per the project document, the following stakeholders were planned to be included in the implementation process:

Stakeholder	Anticipated roles
Government entities	
Ministry of Nature, Environment and Tourism	Overall conservation of nature and implementing UNFCCC and UNCCD. It is Project implementing and its implementing agencies, Water Agency, Forest Agency, Specially Protected Area Administration will be main counterparts.

Ministry of Food, Agriculture and Light Industry	Main counterpart for pastureland management issues
Ministry of Mineral Resources and Energy	Main counterpart for mining and energy issues
Local Government (aimags and soums in the two target eco-regional landscapes)	Provides implementation support at the local level and ensures mainstreaming of local level policies
Administration for Land Affairs, Construction, Geodesy and Cartography	Main partner in land use planning and management
State Specialized Inspection Agency	Advising on and supporting enforceability aspects of legislations
River Basin Councils	Partner in ensuring water management and conservation activities are in line with watershed/basin management plans
Academia	
Mongolian Academy of Science and research institute	Institutes of Geo-ecology and Institute of Meteorology and Hydrology are partners in baseline and feasibility studies and continued monitoring of indicators
Communities and Private sector	
Communities	Project implementers and direct beneficiaries in the target watersheds.
National Meteorology Association	Potential partners in studies and developing land use and watershed management planning at a landscape level
National media	Information dissemination
Donors and NGOs	
IFAD, World Bank, Swiss Agency for Development and Cooperation, The Nature Conservancy, Wildlife Conservation Society, World Wildlife Fund	Technical inputs into the project formulation and implementation, Ensuring complementarities and synergies with activities of other on-going and future projects.

2.6 Expected Results

The project aimed to achieve its objective through three Components generated by a total of 9 outputs (3output under each Component).

Output level indicators were also developed for each of the output and are summarised as:

Component I: Integrated Strategies/Management Plans for Target Landscapes/River Basins Developed and Under Implementation

Output 1.1.: Ecological and Socio-economic Assessments (Baseline studies) as a basis for the development of Ecosystem-based Adaptation strategies for the target landscapes and for the development of River Basin Management Plans (Kharkhira/Turgen Ulz)

Output 1.2.: Economic Valuations completed comparing the landscape level costs and benefits of EbA.
Output 1.3.: Ecosystem-based Adaptation strategies for the target landscapes and River Basin Management Plans (Khakhira/Turgen, Ulz) completed and operational.

Component II: Implementing landscape level adaptation techniques to maintain Ecosystem Integrity and Water Security under Conditions of Climate Change

Output 2.1. Capacities of rural communities for monitoring natural resources and climate change impacts and for adaptive management in two watersheds strengthened
Output 2.2. Suite of physical techniques to improve ecosystem resilience established in two critical watersheds.
Output 2.3. Regulatory and financial mechanisms for supporting climate change resilient livelihoods strategies.

Component III: Strengthening capacities/Institutions to support EbA strategies and integrated river basin management, their replication and mainstreaming in sector policies.

Output 3.1: Ecosystem-based adaptation approaches/integrated river basin management mainstreamed in national resource use planning and implementation mechanisms in sector policies

Output 3.2.: Institutional structure for river basin management integrating climate change risks (Administration and Council) established and operation in the target areas as model for replication

Output 3.3.: Best practices are identified and program for up-scaling best practices developed and implemented

As per the project document, project activities implemented in i) the Altai Mountains and Great Lakes Basin Eco-region; ii) the Eastern Steppe Eco-region; focusing on the Turgen/Kharkhiraa Sub River Basins – (Turgen, Ulaangom, Sagil, Bukhmurun, Khovd, Tarialan, Naranbulag soums of Uvs Aimag); and the Ulz River Basin – (Chuluunkhoroot, Dashbalbar, Bayandun, Bayan-Uul, Gruvanzagal, Choibalsan, Sergelen soums of Dornod aimag; Bayan-Adarga, Batnorov, Norovlin soums of Khentii aimag).

Table 1: Summary of expected global environmental benefits arising from the project

Component 1: Integrated Strategies/Management Plans for Target Landscapes/River Basins Developed and Under Implementation	• The policy, regulatory and institutional environment supports ecosystem based adaptation to protect globally important watershed and grasslands. This also helps to protect birds and other species of global significances.
Component 2: Implementing landscape level adaptation techniques to maintain Ecosystem Integrity and Water Security under Conditions of Climate Change	• Establishment of community capacity to monitor natural resources and climate change impacts and adaptive management of watershed will support Sustainable Land Management and strategic planning practices for reducing land and water degradation and this will help in environment protection and conservation of ecosystem and biodiversity of global significance. • Developing strategy for knowledge management will support knowledge-based water and land use planning which will form basis for addressing climate change issues and support sustainable economic development. This improves land use and also household economy which will reduce dependency on natural resources of global significance. • Knowledge management and dissemination in wide audience will help effective watershed management in similar situations of different parts of the world which help to address problem related to water, land and biodiversity management of global significances and also address climate change issues. • Comprehensive approach of mainstreaming River basin management in national resource use planning and implementation mechanism of sector

	policies will address global environmental concerns and commitments in national development planning, with emphasis on livelihood improvement and consideration of gender equality issues.
Component 3: Strengthening capacities/Institutions to support EBA strategies and integrated river basin management, their replication and mainstreaming in sector policies.	• Local economic development facilitated through diversification, alternatives and value addition will improve livelihoods of rural communities strengthening resilient capacity. • Country develops and uses communities' support in watershed areas management contributing in environment protection, address climate change issues and conserve biodiversity of global significances.

Baseline indicators were fully established and the latter given in the Project Document ahead of the Project's commencement.

3. Findings

3.1 Project Design/Formulation

The project was designed to address the identified problem by developing strategy documents, generation of knowledge through research on biological, environmental, socio-economic and economic aspects, establishment of institution for river basin management, diversification of income generation and value addition for improving economic return to enhance resilience to climate change, capacity enhancement of communities to monitor natural resource and climate change impact and adaptive management of water sources, mainstream river basin management in national resource use planning, and implementation mechanism in sector policy, support development of water and pasture management and upscaling best practices identified. Project was aimed at reducing climate change risks to farmers and pastoralists by providing weather/climate information through meteorological observations and implementing various adaptation activities. The design of RRF was very clear with clear output milestones, activities for each output and SMART indicators to monitor implementation and achievements. The project was designed to work at both a macro level (national government scale) and a micro level (local government and community level). On the national level, it aimed to identify policy gaps and recommend legislative needs, develop policies for securing river basin and making development activities climate friendly. At the micro level it aimed to work at developing capacity of local government and community groups to address water, weather and livelihood related issues, generating awareness among farmers and pastoralists, facilitating decision making of local government and farmers based on weather forecasts, water harvesting to enhance crop productivity, forestry practices, alternative energy like solar and bio-briquette and diversification of livelihood options to improve household income and sustainable agriculture practices. The sites namely Altai Mountains and Great lakes basin, Turgen and Khahiraa river basins and Ulz river basin in Eastern Steppe were identified based on the information on vulnerability of the land and water resources.

The implementing and executing institutions were involved in the project from the project design phase and the design involved a thorough analysis of capacities of various partners and their interests. Project design incorporated lessons learned from several relevant projects in Mongolia and other countries. The roles and responsibilities of the implementing partners and other institutions were clearly defined in the project design. Hence to address the identified problem, the project was designed to apply the following approaches:

(i) Institutionalize Policy framework and guidelines to address water and land management risk;
(ii) Develop and systematically apply guidelines and criteria for water and land degradation to enable priority allocation of risk reduction efforts and investments;
(iii) Engage with global, regional and national research networks and centres working on water and land issues;
(iv) Develop EbA related knowledge management for supporting evidence based planning.
(v) Establish and strengthen institution for river basin management.
(vi) Strengthen community capacity to monitor natural resources and climate change impacts and adaptive management of watershed.
(vii) Develop land use and pasture management plan.
(viii) Mainstream river basin management in national resource use planning and implementation mechanism in sector policies.
(ix) Strengthen rural economy by diversifying, value addition and addition of alternative income sources for developing climate change resilient livelihood.
Document technical knowledge and project lessons for use in future initiatives; and
(ix) Disseminate project experiences to policy makers and development planners in Mongolia.

3.1.1 Analysis of Logical Framework

The log frame has a single development objective, 3 Components and 5 outcomes. The extensive activities are also listed in full, complete with their own indicators. The objectives, components and outputs are clear and appropriate to the issues and also designed considering the timeframe of the project. The project also utilised lessons from other projects (see in 3.1.3) and also the capacity of executing/implementing agencies was considered while developing project activities (see 3.1.4 & 3.1.8). Project design sufficiently analysed potential risks and assumptions (see 3.1.2) related to the project and it is well articulated in the PIF and PRODOC. Roles and responsibilities of the partners were made clear from the project design phase (see 3.1.8). The logical framework was revised during inception workshop in April 2012 which dropped one output of the component 2 from the original log frame. The revised log-frame includes 3 Components, 9 outputs and 10 main indicators.

The indicators of the log frame are relevant, precise and mostly SMART (Specific; Measurable; Achievable and attributable; Relevant and realistic; Time-bound, timely, tractable and targeted). All are based on sound scientific monitoring protocols using the most relevant measures for a given criteria.

3.1.2 Assumptions and Risks

There were five risks identified in the project document and all of them were ranked between 3 and 4 scale which is medium risk. During inception workshop, all risks were analysed and found that their magnitude is decreased due recent legal and institutional arrangements which created enabling environment for project implementation. All the risks and assumptions outlined in the project document were logical and robust. These helped to identify appropriate activities and required precaution measures to address the risks and assumptions. Arrangements for all risks and assumptions other than related to natural fluctuation were made and with these arrangements, the project was able to implement activities effectively to achieve the targeted results. One assumption that whether there will be government willing and able to finance project activities. Government suggested that user associations would contribute fees t the interventions. Recent amendment to the law on water provides for an institutional basis for integrated river basin management. Project assumed to receive support from government authorities and key stakeholders and involvement of local government authorities and key stakeholders helped project implementation with mutual consensus.

It is assumed that environmental risk from development of the extractive industry on land and open access to grazing lands, use of water and effecting water sources is possible. But government of Mongolia is going to introduce result-based M&E in all sector and this will help to address assumed risks.

3.1.3 Lessons from other Relevant Projects incorporated into Project Design

This project was designed with the lessons from the World Bank supported "Sustainable Livelihoods Program", the GIZ "Mongolia Livestock Adaptation Project/Project for Market and Pasture Management Development" recently approved by GEF. The Livestock Adaptation Project, Green Gold Project, and SLPII contributed to implement activities such as the creation of herder groups, enhancement of fodder production, formulation of pastureland management plans, and opportunities for market improvements. Though this project up-scaled lessons from and coordinate very closely with these other initiatives, this project is the only one that is designed to explicitly focus on maintaining the resilience of ecosystem functions as an adaptation measure.

Within the Eastern Steppe region, three international conservation NGO's (WWF, TNC, and WCS) are implementing a series of programs designed to address climate change and its impacts upon biodiversity values and water provisioning services. The project design consulted these organizations to

make certain the proposed project will be complimentary. These programs have generated substantial data about the region as well as formulated and implemented innovative adaptation techniques that lend themselves to EbA approaches. During the inception and implementation phase, the project worked closely with and benefit from these on-going efforts particularly with the design of EbA strategies, plans and demonstrations. Cooperation continued during implementation of activities of this project.

3.1.4 Planned Stakeholder Participation

At the project development phase, the project development team undertook extensive consultations with a wide range of stakeholders from national government bodies, non-government institutions, INGOs and local government bodies through a series of opinion polls, presentations, interviews, group discussions and workshops. These wide-ranging consultations were undertaken to ensure that stakeholders at all levels are aware of the project and its objectives and that they assist in the identification of threats of land and water degradation and potential institutions that could contribute to various activities of the project. A thorough assessment of relevance, experience and capacity of implementing partners and other stakeholders was also conducted. This assessment helped to utilise the strength of the implementing partners and to also develop capacity enhancement programs. Project design, criteria for potential sites and site selection was carried out with stakeholder participation. The communities from the project sites were also involved in the stakeholder consultations.

The project planned to be implemented following the UNDP National Execution (NEX) modality by Ministry of Nature, Environment and Tourism in close coordination with the other relevant Ministries and UNDP. Latter implementation modality was changed to NIM modality during 2014-15.

3.1.5. Replication Approach

Output activity had included an EbA monitoring, assessment and business planning. The business plan has detail protocols, responsibilities, and long-term financing needs and sources for the sustainable operation of the established monitoring and assessment program. The business plan considered linking the release of national government funding to the completion of Soum level monitoring and assessment. The plan detailed requirements for upscaling and replication to support Component 3. There is high demand of the EbA technique from other parts of the country. Project had collaborated with a press agency to publish its documents for awareness raising on climate change risks on a webpage to disseminate the lessons for further replication.

Mongolia approved a long-term development vision for the country (sustainable development concept of Mongolia till 2030) in February 2016. Its declared objectives are to increase economic growth, eradicate poverty, and reduce inequality; improve the business environment; and build a governance system that is professional, stable, participatory and free of corruption. This vision is anchored in the 2030 Agenda for Sustainable Development. UNDP also approved its country program (2016-2021) in 2016, which is centred on supporting implementation of the sustainable development goals and the realization of sustainable human development in Mongolia by translating the 2030 Agenda and the national development vision into Action. EbA project tested economic development, environment protection and securing environment services through active community participation. This approach is in line with the Agenda 2030 and also UNDP country program and could contribute to the vison. Since up-scaling of lessons from EbA project will help to achieve Agenda 2030's objectives like poverty eradication, increase economic growth, environment sustainability through participatory

approach there is possibility of replication of the lessons from this project in broader scale in Mongolia.

3.1.6 UNDP Comparative Advantage

During the inception workshop, UNDP's project assurance role was presented and discussed in detail. The participants endorsed the assurance role described in the approved project document. Enhancement of capacities at the national and sub-national levels has been considered by UNDP to be essential for promoting sustainable water and land management. Accordingly, and in line with the government's national priorities, support to enhance capacities and make planning evidence based in the fields of River basin management was also a priority area. The sustainable land and water management is deemed to be congruent with these priorities as elaborated in the Millennium Development Goal 7 where ensuring environment sustainability is the first priority programme areas for Mongolia; second, UNDAF priority for improved living conditions through environmental management for Sustainable Development and the third UNDP Country Program Action Plan (2012-2016). The project is in line with the pillars of technical and financial assistance which form the foundation from which risks of land and water degradation can be reduced in the Mongolia. Specifically, the project will help realise four pillars identified by UNDP:

- Development of the capacity of the rural population to adapt best adaptation practices on land and watershed management;
- Knowledge management to encourage evidence based planning;
- Engagement of communities and local government and NGOs to reduce risk of land and water degradation; and
- Networking with national and regional organisations working in the field of Ecosystem based Adaptation.

UNDP has been working in the field of environment protection, disaster risk reduction, SLM, biodiversity conservation, sustainable use of natural resources for economic development and poverty alleviation and adaptation/mitigation. UNDP has a lot experience from these areas. The project has benefited from UNDP's experience during the project development phase through to implementation. This project aimed to encourage national and local authorities and communities in Ecosystem based adaptation by enhancing their capacities for addressing climate change and land and water degradation. In addition, the project also aimed to establish knowledge base and provide economic development opportunity for rural communities. The project also benefited from UNDP in mobilizing additional funds, building capacity at the local level from its past experiences and supporting a policy review.

3.1.7 Linkages between Project and other Interventions within the Sector

The project has collaborated on the following interventions with other projects that share similar objectives and activities to create synergy for overall benefit to the country:

With WWF the project collaborated to organize trainings and awareness raising activities among officers of River Basin Administration on defining the river bed zone as it is requires professional expertise. Provincial and soum level governments were highly appreciated to have the support.

With SPAN (Strengthening Protected Area) of UNDP project collaborated through sharing experiences and information on protected area proposal development and preparing application to the Ministry. SPAN project also supported identifying geographical area when EbA worked on interventions like

relocation of marmots. As it was successfully re-introduced communities now took initiative to protect and manage this particular species.

The project had worked with Ministry of Food, Agriculture and Light Industry to support small farmers to obtain tractors under soft loan agreement. Also seed for community greenhouse such as strawberry was identified and distributed to the local pilot areas was collaborated with the same ministry using their expertise and outreach services.

With TNC and WWF, the project collaborated on conducting the assessment of wetlands. The assessment aimed to amend to the "long named law" which is law on Prohibiting Mineral Exploration and Extraction near Water resources, Protected Area and Forests.

More particularly, with TNC the project collaborated to conduct the assessment of identifying the areas that need to be protected under internationally significant biodiversity (KBA). With the scope of work TNC worked in close collaboration with Mongolian National land Agency and UNDP. As a result of it over 1,1 million hectares of area in the Kharkhiraa and Turgen subriver basins was registered into the Land data base as a locally protected area, where no more exploration licenses will be given.

Best practices and experiences of EbA project is already being shared and taken into account by different newly proposed projects. For instance, UNDP/GEF, ENSURE (Ensuring Sustainability and Resilience of Green landscapes in Mongolia) project at its PPG stage is highly considering to use some of the approaches and activities used by EbA. For instance, the local communities got strong awareness raising through on-site activities about CBNRM and learned by doing that through conserving the local nature using different adaptation technologies can have an economic gain on harvest and yield animals in return.

The other newly emerging projects such as BIOFIN and 'Improving the Adaptive Capacity and Risk Management of Rural Communities in Mongolia' project of UNDP are learning from EbA project for their successful implementation.

For the use of alternative energy source in rural areas the solar water collector was installed at local hospital of Bukhmurun soum, Uvs aimag that is abled providing warm water for shower and washing rooms. In this case women are benefited more since most of hospital workers are women and most of users of shower room are baby expecting mothers.

3.1.8 Management Arrangements

UNDP National Execution Modality (NEX) was applied in the beginning but due to political transition during 2014-15 again it is switched to National Implementation Modality (NIM) to ensure broad stakeholder participation and to create both high flexibility and an enabling environment for innovation. The Ministry of Environment and Tourism (MET) was responsible for implementing UNDPCCC and water resource management and had the responsibility of senior supplier. MET was responsible for the timely delivery of inputs and outputs and coordinate with other responsible partners including line ministries, NGOs and local government authorities. The MET had also appointed the National Project Director. The ministry's name was also change twice. In the beginning it was Ministry of Nature, Environment and Tourism (MNET), then it was changed to Ministry of Environment and Green Development (MEG) and then it was changed again to Ministry of Environment and Tourism (MET)

Project had a Project Board (PB) with responsibility of making management decisions for the project and play a critical role in project monitoring and evaluations to assure quality of process and products and use finding from the M&E for performance improvement, maintain accountability and upscale

learnings. The PB was composed of designated senior-level representatives of MET, Ministry of Food and Agriculture, UNDP and local Governor's Offices.

The project had a Project Management Unit headed by the Programme Manager who was responsible for the preparation of work plans and budgets and for supervising implementation of activities to deliver project results. The procurement of major inputs was directly done by UNDP on behalf of the project. Project had a National Project Manager with responsibility of ensuring the effective implementation for producing results specified in the project document without compromising quality within the specified time and budget.

Regular meetings were conducted to discuss progress and the constraints faced by the project. UNDP maintained quality technical and financial implementation of the project through its local office in Mongolia. UNDP CO also assured activity implementation, monitoring and ensured proper use of AF funds to assigned activities, timely reporting of implementation progress as well as undertaking of mandatory and non-mandatory evaluations. All services for the procurement of goods and services, and the recruitment of personnel were conducted in accordance with UNDP procedures, rules and regulations.

Project established technical committee which provided continuous technical feedback filling the technical gaps. Excellent reputation of NPC and PIU among all stakeholders was blessing to the project. Appreciation from the local government and presence of local coordinators was helpful in facilitating inter-sectoral collaboration and capacity enhancement on climate change adaptation.

The Project's management and implementation focused on the revised log-frame throughout. The project team made an effort to raise awareness and develop capacity amongst stakeholders to provide a solid baseline of understanding the project's main goals and activities. The roles and responsibilities of executing and implementing parties were made clear and negotiated prior to signing the project document. A thorough review of relevant legislations was carried out to assure an enabling environment for the project implementation. Similarly, agreement on co-funding was made before signing the project document and staff, equipment and logistics arrangements were in place by the time of initiation of the project.

3.2 Project Implementation

Two project sites Altai Mountains and Great lakes basin, Turgen and Khahiraa river basins and Ulz river basin in Eastern Steppe were selected by the project to implement policies, plans and investments that prevent soil degradation, maintain ecological integrity and support economic development of local communities.

3.2.1 Adaptive Management

The Project's adaptive management was good. The project was driven by the capable management team, backed by good decision-making by the Project Board, support and advice from the UNDP-CO. Adaptive management has operated effectively at both the strategic level and the tactical level.

As suggested in the inception report, economic valuation of the ecosystem based adaptation strategies was conducted. Also activities like EbA approaches were introduced in ongoing planning of Soum level land-use and annual pasture management plan.

A change in circumstances due to new amendment to the Law on Water led to further revision of Component 3. As the new legislation calls for establishment of Administrations and Councils for the river basins in Mongolia, and revised logframe adjusted to support the establishment and strengthening

of these institutions and enhance capacity of staff/member. Some minor adjustments to indicators were made during inception workshop.

The MTE made 22 recommendations (see 3.2.4) and positive responses were made to all of them Recommendation to modify few target indicators was approved by the project board and forwarded to UNDP which sent it to UNDP-AF Regional Coordination Unit.

Most of the project activities including baseline study on biophysical and socio-economic situation were conducted within planned timeframe as this was stressed in Inception workshop. The project was designed to pilot in two areas based on the recommendation of the vulnerability assessments. Adoption of inception report recommendations and the recommendation from MTR by the project management is described under the heading "Feedback from M&E activities used for adaptive management".

No major change was made in the project design and no new outputs were added but one output of component 2 was dropped and prioritisation of outputs was done according to recommendations from the MTR.

3.2.2 Partnership Arrangements

The UNDP CO provides technical and financial support and also fulfils the role of monitoring. The Ministry of Nature, Environment and Tourism is the lead implementing partner. It has the clear technical mandate related to EbA strategies, including knowledge of the international developments and networks related to EbA.

Ministries (Food, Agriculture and Light Industry, Mineral Resources and Energy) Local Government (Aimags and Soums in the two target eco-regional landscapes), Administration for Land Affairs, Construction, Geodesy and Cartography, State Specialized Inspection Agency, River Basin Councils, Mongolian Academy of Science and research institutes, Communities, National Meteorology Association, National Media are key partners of the project. Similarly, donors and NGOs like IFAD, World Bank, Swiss Agency for Development and Cooperation, The Nature Conservancy, Wildlife Conservation Society, World Wildlife Fund.

The project focussed efforts on building local capacity for Monitoring Natural Resources and Climate Change Impacts and adaptive management of river basin. The research findings and experience from working with local stakeholders provided the project with information for the formulation and amendment of legislations, development of guidelines for river basin management, EbA strategy document, knowledge management strategy and also increase household economy. Awareness generation, networking between community groups, exchange visits for knowledge sharing, involvement of various organisations specialised on specific technical fields related to the subject and involvement of local government staffs have significantly contributed to creating an enabling environment for the progress of the project. These capacity enhancements, commitment from government agency and policy back up is likely to make the project intervention sustainable in the long-term.

The project reached a wider audience through awareness generation through brochure distribution, media coverage, web-pages of UNDP and Ministry of Environment and tourism. The TECs found that stakeholder engagement and participatory approaches have been of good order throughout.

The project has worked closely with many stakeholders throughout and the active engagement of stakeholders has been vital to fulfilling its achievements, hence stakeholder participation is evaluated as **Highly Satisfactory**.

3.2.3 Gender

Women and children are the ones who are most vulnerable to climate change impacts. Baseline studies accounted gender in baseline studies. Project incorporated activities to address economic need of women particularly the women-headed households were properly addressed through enhancing and diversifying income generation from processing product and from horticultural products. Women were also provided opportunity to bring their voice and thoughts by involved in all committees and improved their skills in business planning. There are still room for further improvement of women's income level by improving access to more lucrative income generation activities. Similarly, assessing current incomes of women under current conditions and stock-taking exercise of income generation opportunities for women in rural areas would be helpful in developing and future implementation.

As already pointed out in MTR that vulnerability of women to low temperature was not adequately addressed by the project

3.2.4 Feedback from M&E Activities used for Adaptive Management

The project's adaptive management has been good throughout but monitoring technical aspects of the project was weak and feedback on such areas was weak.

The MTR made 22 recommendations and positive responses were made to all of them – the management response, justifications and actions were taken as follows:

3.2.5 Project Finance

The total project cost as per project document was US$10,569,124 which includes US$5,569,124 in cash and US$5,000,000 in kind. Of these, the AF contribution was expected to be US$5,069,124 in cash, UNDP contribution US$500,000 in cash, and Government of Mongolia's (GoM) contribution US$5,000,000 in kind. But as per the balance sheet provided by the UNDP, the total project cost (revised) was US$13,674,108.74 including US$5,569,091.74 in cash and US$8,105,017 in kind (Table 2 and 3). Of these, US$4,792,069.34 was as AF contribution with a UNDP contribution of US$499,999.66 in cash. In-kind contribution from the Government of Mongolia was increased in the project document i.e. US$8,105,017. If project spending is used as a basis of measure of the progress of implementation, then the Project has achieved most of the progress originally envisaged, only approval of one guidelines and two proposal (PA extension) were left and was on the process. Co-financing was well planned and clearly mentioned in the project document. Co-financing ratio and amount was changed latter while revising project finance. There was difference between committed contribution and actual contribution from the AF, UNDP as well as GoM. The UNDP as well as AF contribution was same as committed. Similarly, committed amount from UNDP was US$5000,000 but actual spent amount was and US$499,999.66. The committed amount of Government of Mongolia was US$5,000,000 while the actual contribution was US$8,105,017 i.e. 62.1% more than committed amount. The executing and implementing agencies made close monitoring of financial transactions and program implementation.

- Project management costs were proposed at US$480,000 and funded by AF, but actual cost covered by AF was 557,232.67 (97%) and UNDP US$22,191.93(3%) while actual amount spent by Govt. of Mongolia in Management is not clear and it is believed that 100% contribution of the GoM was for management. AF contribution to management was increased and UNDP also contributed in management though it was not committed earlier. The actual management cost (US$576,424.6) of the project was more than projected i.e. increased by nearly 20%;

- Project management costs comprised about 4.1% of the total spend. Original closing date of the project was October 2017 but it is going to be December 2017 as closing of some activities and administrative and financial work need some time. But this is not increasing any cost to the project.
- The project was co-financed by the UNDP and GoM. The final AF co-finance ratio in terms of monies spent was 1:1.7 (US$5,069,092.08 (AF)) to US$8,681,016.68 (UNDP+GoM), This is a very good result as AF requirement is at least 1:1 ratio;
- Spending on Component 1, 2 and 3 (US$ 1,000,203.21, US$3,194,769.5 and US$796,694.43) accounted for 7.3%, 23.4% and 5.8% of the total spend respectively, while management costs (US$8,681,441.6 i.e. 63.5%) was much higher than component 1,2 and 3. Government contribution was mainly management type so calculated in management cost.
- AF funding was distributed among all four components while UNDP funding was mainly allocated to component 1, 2 and 3 (Table 2) earlier but latter some contribution made for component 4 also. GoM support was through in-kind contribution and for implementation of activities (management). Of the total AF fund, 13.6% was spent on component 1, 61% on component 2, 15% on component 3 and 11% on component 4. UNDP funds were allocated mainly for component 1, 2 and 3 and small amount for 4 and of these comparatively less was spent on project management.

Table 2: Total disbursement of funds by output (projected to end December 2017) (US$) against full project budget as per Project Document.

	AF			UNDP CO			Govt. Of Mongolia (co-financing in kind)			Total		
	Budget	Actual	%	Budget	Actual	%	Budget	Actual	%	Budgeted	Actual	%
Component 1	500,000.00	687,246.2	137.45	394,000.00	313,957.01	79.68				894,000.00	1,000,203.21	111.99
Component 2	3,390,000.00	3,081,910.2	90.91	46,000.00	112,859.3	245.35				3,436,000.00	3,194,769.5	92.98
Component 3	699,124.00	742,703.01	106.23	60,000.00	52,991.42	89.99				759,124.00	796,694.43	104.95
Component 4 (Management)	480,000.00	557,232.67	116.09	0	19,191.93					480,000.00	576,424.6	120.09
Total	**5,069,124.00**	**5,069,092.08**	**100**	**500,000.00**	**499,999.66**	**100.00**	**5,000,000.00**	**8,105,017.00**	**162.1**	**10,569,124.00**	**13,674,108.74**	**129.38**

Source: UNDP CO MONGOLIA

Analysis of budgeted and actual expenditure shows difference in all components. Similarly, it is also observed that in some components (component 1 and 2, Table 3) less expenses made than budgeted but in some it exceeded. In the initial two years, due to slow implementation expenses was less than budgeted but in the following years covered some of the activities of the previous years and in some cases though activities started in the initial years payment was made in the latter years so latter years showed exceeded expenses than budgeted amount. The planned management cost as per project document was US$480,000 and as per revised budgeted amount was US$529,104.37while actual management cost was US$8,681,441.6. The cost increase a lot compared to budgeted in project document or revised budget.

Tables 3-5 show the disbursement of AF and UNDP funds. Breakdown of the GoM was not available but it was learned that GoM contributed in kind i.e. technical manpower for management of project implementation. GoM's in-kind contribution covers cost of office rooms in field offices and in center, cost of electricity, telecommunication, government staffs' salary, and costs of the time contribution by NPD and chair of the project board and district board members. UNDP's in-kind contribution covers costs of vehicles, fuel and maintenance of vehicles, PMU staff salary, office equipment, office running expenses including stationary, internets, board meetings and monitoring costs.

Personnel from all ministries involved in this project, local government and research institute, NGOs, UNDP CO, community based organisations and community members were found satisfied with some reservations and they were advocating achievement of the project. Ministry officials, local government

authorities, UNDP CO and local communities also expressed commitment to continue support to the project activities. Similarly, they also noted that the ministry as well as UNDP already has some projects which will complement some of the activities under this project and also replicate lessons learned. UNDP and government is also working on new project proposals to replicate lessons from these piloting.

TABLE 3: Total disbursement of AF funds (US$) by Component by year against budget as per Project Document

	2012			2013			2014		
	Budget	**Actual**	**%**	**Budget**	**Actual**	**%**	**Budget**	**Actual**	**%**
Component 1	235,000.00	166,664.92	70.92	86,500.00	7,834.98	9.06	42,750.00	251,626,.71	588.6
Component 2	400,000.00	58,071.00	14.52	1,107,000.00	237,432.39	21.45	771,000.00	891,785.77	115.67
Component 3	92,000.00	119,409.01	129.79	142,500.00	116,613.01	81.83	123,000.00	241,697.49	196.5
Component 4	96,500.00	77,771.87	80.59	83,500.00	101,114.42	121.1	74,500.00	122,202.03	164.03
Total	**823,500.00**	**421,916.8**	**51.23**	**1,419,500.00**	**462,994.8**	**32.62**	**1,011,250.00**	**1,507,312.00**	149.05

TABLE 3: CONT..

	2015			2016			2017			Total		
	Budget	**Actual**	**%**	**Budget**	**Actual**	**%**	**Budget**	**Actual**	**%**	**Budget**	**Actual**	**%**
Component 1	43,500.00	54,322.2	124.88	43,500.00	109,297.39	251.26	48,750.00	97,500.0	200	500,000.00	687,246.2	137.45
Component 2	585,000.00	1,022,334.88	174.76	264,000.00	548,766.16	207.87	263,000.00	323,520.0	123.1	3,390,000.00	3,081,910.2	90.91
Component 3	118,000.00	59,308.47	50.26	106,000.00	72,675.03	68.56	117,624.00	133,000.00	113.07	699,124.00	742,703.01	106.23
Component 4	75,500.00	103,760.11	137.43	74,000.00	78,090.24	105.53	76,000.00	74,294.00	97.76	480,000.00	557,232.67	116.09
Total	**822,000.00**	**1,239,725.66**	**150.82**	**487,500.00**	**808,828.82**	**165.91**	**505,374.00**	**628,314.00**	**124.33**	**5,069,124.00**	**5,069,092.08**	**100**

SOURCE: UNDP CO MONGOLIA

TABLE 4: Total disbursement of Government of Mongolia Co-financing (US$)

	2012			2013			2014		
	Budget	**Actual**	**%**	**Budget**	**Actual**	**%**	**Budget**	**Actual**	**%**
Component 1									
Component 2									
Component 3									
Component 4									
Total								**8,105,017.00**	

TABLE 4 (CONTD.)

	2015			2016			2017			Total		
	Budget	**Actual**	**%**	**Budget**	**Actual**	**%**	**Budget**	**Actual**	**%**	**Budget**	**Actual**	**%**
Component 1												
Component 2												
Component 3												
Component 4												
Total		**2,628,973**			**2,368,872**			**1,756,474**		**5,000,000.00**	**8,105,017.00**	**162.7**

Source: UNDP CO MONGOLIA

TABLE 5: Total disbursement of UNDP funds (US$) by Component by year against budget as per Project Document

	2012			2013			2014		
	Budget	**Actual**	**%**	**Budget**	**Actual**	**%**	**Budget**	**Actual**	**%**
Component 1	177,000.00	145,537.53	82.22	46,500.00	167,419.48	360.04	42,000.00		0
Component 2	5000.00	22,011.28	440.23	11,500.00	89,848.02	781.29	6,500.00		0
Component 3	7000.00		0	12,500.00	52,991.42	423.93	9,500.00		0
Component 4		3,367.76			2,702.81			-7,815.64	
Total	**189,000.00**	**170,916.57**	**90.43**	**70,500.00**	**312,961.73**	**443.92**	**58,000.00**	**-7,815.64**	-13.48

Source: UNDP CO MONGOLIA

Table 5: Cont..

	2015			2016			2017			Total		
	Budget	**Actual**	**%**	**Budget**	**Actual**	**%**	**Budget**	**Actual**	**%**	**Budget**	**Actual**	**%**
Component 1	34,500.00		0	43,000.00	0	0	51,000.00	1000.0	1.96	394,000.00	313,957.01	79.68
Component 2	6,500.00		0	6,500.00	0	0	10,000.00	1000.0	10.0	46,000.00	112,859.3	245.35
Component 3	15,500.00		0	6000.00	0	0	9,500.00	1000.0	10.53	60,000.00	53,991.42	89.99
Component 4		16,000.00						4,937.00			19,191.93	
Total	**56,500.00**	**16,000.00**	**28.32**	**55,500.00**	**0**	**0**	**70,500.00**	**7,937.00**	**11.26**	**500,000.00**	**499,999.66**	**100.00**

Table 3 shows the actual funds spent for each component by year for the AF funds. These show clearly that the management cost from AF i.e. component 4 exceeded budgeted amount in the years 2013 to 2016. UNDP didn't had provisioned management cost but except the year 2016, it contributed some in management. Component 1 funded by AF, peaked disbursement in 2014 and Component 2 in 2015. Component 3 funding by AF peaked disbursement in 2014 and component 4 peaked in the year 2014. UNDP funding for component 1, 2 and 3 were not made in years from 2014 to 2017 but only in year 2012 and 2013. Component 1, 2 and 3 funding by UNDP peaked disbursement in 2013, component 3 fund was not spend in 2012. No detail breakdown figures for GoM contributions for each components were available and assumed it is only for management i.e. component 4 and started from 2014. These expenses correspond to the work accomplishment in respective years.

Financial planning was not able to provide a real figure for each of the activities for different years. At all times, the chair of the Project Board has been kept abreast on the project's progress though good reporting and this has allowed the necessary budget revisions to be made on a sound basis. Similarly, the link between Ministry of Environment and Tourism and the UNDP-CO has been efficient in ensuring that budget replenishments have been timely.

Table6: Co-financing the project.

Co-financing (type/source)	**UNDP own financing (mill. US$)**		**AF (mill. US$)**		**Govt. of Mongolia (mill. US$)**		**Total (mill. US$)**	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
Grants	500,000.00	499,999.66	5,069,124.00	5,069,092.08			5,569,124.00	5,569,091.74
Loans/Concessions								
• In-kind support					5,000,000.00	8,105,017.00	5,000,000.00	8,105,017.00
• Other								
Totals	**500,000.00**	**499,999.66**	**5,069,124.00**	**5,069,092.08**	**5,000,000.00**	**8,105,017.00**	**10,569,124.00**	**13,674,108.74**

Source: UNDP CO Mongolia

3.2.6 Monitoring and Evaluation: Design at Entry and Implementation

M&E Design

The project design included good monitoring and evaluation (M&E) plan which is comprehensive in its depth and scope. The project had a log-frame to monitor achievement and the log-frame had clear objectives, components and appropriate to the issues and also designed considering the timeframe of the project. Output targets were realistic to the budget and timeframe. A detailed survey was conducted following the standard scientific methods to identify the most vulnerable sites which helped to judge impact of interventions. Roles and responsibilities of the partners were made clear from the project design phase. The indicators of the log-frame were all Specific; Measurable; Attributable; Relevant, Achievable Realistic and Time-bound. At the stage of the inception, clarifications and updates were made to the M & E plan but no major change was made. MTR also did not make any changes to the outputs. All activities were listed and explained, and a table was included determining responsibilities, budgets and timeframe for each. M&E budgets were not set realistically, with a total proposed amount of US$90,000 (Ninety Thousand) being set aside specifically for M&E activities. Baselines were already set in the Project Document. The inclusions of indicators for each activity were appropriate and useful for evaluation and also good for management purposes.

The design of M&E included fully itemised and costed plan in the Project Document covering all the various M&E steps including the allocation of responsibilities; but provision for monitoring of technical aspects and feedback mechanisms need improvement. Similarly targets were appropriate and realistic for the time frame, hence monitoring and evaluation design has been evaluated as **Highly Satisfactory**.

M&E Implementation

Monitoring and evaluation of project activities has been undertaken in varying detail at three levels:

i. Progress monitoring
ii. Internal activity monitoring
iii. Impact monitoring

Progress monitoring has been good and was being done through quarterly and annual reporting to the UNDP-CO. The annual work plans have been developed at the end of each year with inputs from Project staff and the UNDP-CO. The annual work plans have been developed at the end of each year with inputs from project staff and the UNDP-CO. The annual work plans were then submitted for endorsement by the Project Board, and subsequently sent to UNDP for formal approval. The implementing team has also been largely in regular communication with the UNDP-CO regarding progress, the work plan, and its implementation. The indicators from the logframe were effective in measuring progress and performance. Project management has also ensured that the UNDP-CO received quarterly progress reports providing updates on the status of planned activities, the status of the overall project schedule, deliverables completed, and an outline of the activities planned for the following quarter. The reports' format contained quantitative estimates of project progress based on financial disbursements. The UNDP-CO generated its own quarterly financial reports from Atlas. These expenditure records, together with Atlas disbursement records of any direct payments, served as a basis for expenditure monitoring and budget revisions, the latter taking place bi-annually following the disbursement progress and changes in the operational work plan, and also on an *ad hoc* basis depending upon the rate of delivery.

From the quarterly reports, the UNDP-CO has prepared Quarterly Operational Reports which have been forwarded to UNDP/AF Regional Coordination Unit, and also uploaded all the information in ATLAS. The major findings and observations of all these reports have been given in an annual report covering the period July to June, the Project Implementation Review (PIR), which is also submitted by the Project Team to the UNDP-CO, UNDP Regional Coordination Unit, and UNDP HQ for review and official comments, followed by final submission to the AF. All key reports were presented to the Project Board members ahead of their half-yearly meetings and through these means, the key national ministries and national government have been kept abreast of the project's implementation progress.

The Project Management Office (PMO) and the UNDP-CO have maintained a close working relationship, with project staff members meeting, or talking with, CO staff on an almost daily basis to discuss implementation issues and problems.

The project's risk assessment has been updated quarterly by the UNDP-CO with the main risks identified along with adequate management responses and person responsible (termed the risk "owner"), who in most cases differs from the person who identified the risk.

A Mid-term Review (MTR) was undertaken in December-February 2015. The MTR made 22 recommendations (status discussed in adaptive management chapter of this report, page 14). The report contains formal ratings for different review elements. The report has also discussed efficiency, effectiveness, and sustainability, cost-effectiveness and replication aspects. A complete reading of the report returns an overview that the Project was considered to be on track in most of the activities.

Internal activity monitoring undertaken by UNDP CO, Ministry of Nature, Environment and Tourism and the Project Manager appears to have been good comprising a range of mechanisms to keep informed of the situation and to respond quickly and effectively to any areas of concern. These comprised many of the methods used to track progress, and implementation has been guided by the Annual Work Plan and the quarterly plans submitted to release funds. Generally the project was not in need of formalised communication or monitoring procedures as members being in almost daily contact. Unusually, impact monitoring has been well-developed, with formal protocols in place to measure the change in level of functioning of improved population of wildlife and coverage of forest, level of water and condition of pasture, increased in production and income from income generation activities, and change in awareness among community members. Undoubtedly this has arisen from the scientific background of the project design team, enhanced by the same of its technical staff and managers. As is most often the case, adaptive management of the project has been influenced to a much greater extent by external variables and overcoming the problems (or taking opportunities) that these have presented than by responding to internal monitoring.

M&E implementation has been satisfactory, with progress monitoring and internal activity monitoring. Responses have also been made to the mid-term review and the risk assessments (though some room for improvement in technical aspects of the activities remains) and the TECs considers it to be "best practice", hence the implementation of monitoring and evaluation has been evaluated as **Highly Satisfactory**.

3.2.7 UNDP and Implementing Partners Implementation / Execution, Coordination and Operational Issues

Project Oversight

The project was implemented following National Implementation Modality (NIM) to ensure broad stakeholder participation and to create both flexibility and an enabling environment for innovation. The project execution was coordinated by the Ministry of Nature, Environment and Tourism in close coordination with UNDP. There was very good communication and coordination between implementing and executing agencies. Regular meetings were conducted to discuss progress and constraints of the project. UNDP had ensured high-quality technical and financial implementation of the project through its local office in Mongolia. UNDP CO was responsible for monitoring and ensuring proper use of AF funds, timely reporting of implementation progress as well as undertaking of mandatory and non-mandatory evaluations. All services for the procurement of goods and services, and the recruitment of personnel were conducted in accordance with UNDP procedures, rules and regulations. The project Management Unit was formed to coordinate and manage project activities and it facilitated the achievement of targeted results on time, adequate and appropriate management practices, program planning and proper implementation and timely reporting. PIU had one National Project Director, National Project Manager, Technical Advisor and support staffs (admin/finance staff, driver and office helper). A risk management strategy was developed involving all partners and experts through detailed analysis of issues and was effectively implemented. Local government provided office spaces in the field and also nominated Project Board members representing the local governments involved in the project. The project hired qualified experts to conduct studies and conduct demonstrations at sites levels.

The capacity of the communities and Institution established to manage river basin was enhanced for strengthening performance. Since MNET (now MET), other ministries and local governments institutions' involvement was on behalf of Government of Mongolian government ownership in the project was assured.

The technical management of the project was of the highest standards. The project has deployed expertise of the highest calibre, whether international or national, and 9 outputs/deliverables which have been developed have also been excellent, whether these were specialist material, e.g. various study reports, EbA strategy, knowledge

management strategy, development of land-use and pasture management plan, river basin management plan, database, brochures or legal documents, Policy Recommendations and EbA Guidelines.

The Project has been planned and managed (except in some cases which were delayed and remained incomplete) providing products of good quality and within budget, while responding effectively to several internal and external challenges through good adaptive management, hence the implementation approach has been evaluated as **Satisfactor**

UNDP Supervision and Backstopping

UNDP supervision was accomplished through standard procedures and undertaken competently. Terminal Evaluator received no complaints from interviewees about excessive UNDP bureaucracy or delays in procurement, and UNDP's heavy requirements for reporting.

Key aspects of supervision were made through UNDP's involvement in communication with the Ministry of Finance, Economic Development and Planning and other stakeholders. Members of the Energy and Environment Cluster of UNDP CO were heavily involved in regular issues such as the review and approval of work plans and budgets, review of progress and performance against such work plans, and completion of the tracking tools. It appears that the CO was helpful and supportive throughout the implementation period, responding adequately to provide good guidance, honest and constructive criticism, and help to overcome particular problems as necessary. UNDP support was focused towards achieving targeted results and support was appropriate, adequate and timely and the project staffs were satisfied by the quality of UNDP support. Annual planning was done on time with active participation of stakeholders. Similarly, risk management options were identified in close consultation of partners and experts and the project was able to manage risk efficiently. To avoid long bureaucratic process that delayed payment disbursements, and therefore delayed activity implementation, alternative ways to pay directly were made. The project was slow in the beginning but by changing the Project Manager improved implementation. Despite the slow start in the initial year, project accomplished all its targeted activities without compromising quality.

UNDP has provided an adequate level of supervision and backstopping to the project, and its performance has benefitted as a direct result, hence UNDP's supervision and backstopping role is evaluated as **Highly Satisfactory**.

3.3 Project Results

3.3.1 Overall Results

Attainment of Objectives:

The project continued to reducing land and water degradation risk by addressing policy gaps, enhancing capacity of the local government and community based institutions, generating awareness among community members from the project sites and supporting evidence based planning and mainstreaming river basin management in national resource use planning in sector policies. The following EbA related outputs were delivered:

- Developed 22policies and plans including 3 IWRMPs and 2 EbA strategies.
- Mainstreamed IWRM plan in all key sectors and intitutions (both public and private) involving water users at all levels.
- Facilitation of community-level adaptation planning.
- Facilitation of community participation in construction of physical structures like water reservoir, protection springs, construction of dams, well, canals, greenhouses, meteorological stations etc. Such direct involvement helped communities to have first-hand experience and therefore better understand what is required to address land and water degradation.
- Influenced National Climate Change Adaptation Programs for Agriculture, water and forest sectors.
- Contributed in establishment of River Basin Administration (RBA).
- Conducted studies on various subjects related to water basin management, sustainable utilisation of natural resources, capacity assessment (to develop capacity enhancement strategy), status and distribution of glacial, economy of EbA etc.
- Developed guidelines for management of water resources.
- Capacity of 9soum units of the project were strengthened in the field of climate change, EbA, environmental monitoring and evaluation.
- Capacity and knowledge of 8 different fields of the local staffs was strengthened.
- Established various community groups on subjects like water user groups, sustainable agriculture groups, herders groups etc.
- Promoted inter-sectoral collaboration and also strengthened River Basin Councils (RBC).
- 44 natural springs were rehabilitated contributing 450,000ha pasture land improvement and decreased localised grazing pressure.
- 15 tree nurseries established. Forest management activities covered 811.4ha in Kharkhiraa, Turgen river basin and 1359ha in Ulz river basin.
- 23 engineered wells were repaired in Ulz river basin. These also contributed to endangered species such as White-necked Crane and Mongolian Gazelle in the eastern region. Of the repaired wells, 5 were equipped with solar pump.
- Water reservoir with various capacity were constructed, canals repaired/constructed dry well constructed/repaired, snow and rain water harvesting structure developed to support irrigation of agriculture, improvement of pasture land and providing water for livestock.
- Provided training on various enterprises and skill development and also provided small grant to initiate income generation activities.
- Implementation of activities that increase food productivity and income generation supported improved livelihood of local communities and contribution to poverty reduction that is often exacerbated by and leads to land and water degradation.
- Establishment of knowledge base (database) with access to planners to supports evidence based planning which helps to mainstream EbA.
- Policy gap analysis was conducted and recommendations for policy review to incorporate NRM and Climate Change issues were made.
- Strengthening institutional capacities to implement policies and to support evidence based planning.

- Construction of rooftop water collection and reservoirs for community water harvest helps to address drought problem and help to reduce drudgery of women and improve production from livestock and agriculture.
- The availability of updated weather information will facilitate informed decision-making.
- Support to increased awareness among local communities and formation of community groups at local levels for supporting implementation of EbA will increase the sustainability of project outcomes and impacts.
- Piloted some rooftop solar heater in some houses.

A Summary of the Project's achievements is given below, followed by an outline of the attainment of objectives. This is followed by a Review of Outcomes to Impacts in Table 7 and a brief discussion on the verifiable impacts. A summary evaluation of Project Outputs is given in Table 8 followed by a more detailed description. A detailed evaluation of the level of achievements made against the indicators of success contained in the log frame is given in Annex IV.

Summary of Achievements

Project results were measured against achievement indicators guided by evaluation questions (tracking tools, Annex XI). The EbA Project has been well designed, managed and implemented. The project team has managed to deliver a series of interventions that have reduced the threats of pasture land degradation and water scarcity and contributed to the improved livelihoods of local communities from the project provinces of Mongolia. In the process, the project has demonstrated some innovative approaches particularly in improved agricultural practices, water harvesting, weather monitoring, bio-briquette production for energy and income generating activities that could be expanded within the region or be replicated elsewhere in the country. One of its biggest strengths has come about through a design-decision to work directly with the community groups through the local government institutions rather than parallel project structures. Since the project is implemented by Ministry of Environment and Tourism (MET) involving ministry of Finance, Agriculture and Provincial and Soam governments, all government agencies are taking full ownership for most of the project's outputs/outcomes. Some very good work in the pilot sites brought benefits to many community members thereby laying a foundation for improved understanding of, and cooperation on, river basin management. As will be seen below, the achievement of the outputs and activities under each of the three Outcomes has been evaluated as **Highly Satisfactory**, and the evaluation of achievements against indicators (provided in Annex IV) show that all of the activities have been accomplished. The project helped to address threats to local communities from land and water degradation, and climate change through awareness-raising, strengthening capacity of relevant communities groups and institutions, promoted the use of weather information, water harvesting technologies, improved sustainable cultivation practices and supporting evidence based development planning.

Overall, the project has achieved many of its major global and local environmental objectives, and yielded substantial global environmental benefits, with minor shortcomings. The project can be presented as "good practice", and hence its attainment of objectives and results is evaluated as **Highly Satisfactory**.

Key project achievements include:

The major outcomes of the project is generation of awareness or change in thinking (transformation) from local to the national level regarding issues climate change and seriousness of the impact and various solutions to address them, mainstreamed EbA in development planning through developing provincial level Green Development plans, created a knowledge base and facilitated access to it for promoting evidence based planning and development of policy framework to support EbA. Other Outputs are as follows:

A. Institutional and Financial Arrangements for Community Based DISERTIFICATION RISK REDUCTION (DRR):

1. Community groups established in both project provinces.
2. Enhanced knowledge and capacity of the local governments.
3. Enhanced knowledge and capacity of community groups.
4. Established separate women's groups in villages of both provinces.
6. Provided financial support to groups to initiate various enterprises that increase household income and strengthen resilience to climate change impacts.

B. Adaptation Structures in selected areas for Sustainable Natural Resource Management:

1. Water reservoirs constructed.
2. Rooftop rain water harvest and reservoir for rainwater harvest.
3. Bio-briquette production supported.
4. Solar technology for fruits drying introduced.
5. Green houses constructed for sustainable agriculture practices.
6. Dry well and engineered Wells constructed for extended drought situation. 5 of them were equipped with solar pump.
7. Irrigation canals constructed.
8. Snow and rain water harvesting structures constructed.
9. Meteorological stations established, equipped and staffs trained.
10. Permanent glacier monitoring station established and equipped.
11. Existing meteorological stations upgraded.

C. Non-structural interventions: (awareness raising, exposures, trainings, linkages development etc):

1. Conducted various trainings for awareness raising.
2. Conducted training programs to train locals on skills on various enterprises.
3. Various training for bio-briquettes production.
4. Awareness programs on climate change impact for decision makers and local communities.
5. Exposure visits to various sites to provide first-hand information to community members on various efficient water management and agriculture practises.

6. Conducted studies on various subjects related to Climate change, agriculture, economic aspects of adaptation programs, water harvest, glacier, protected areas, surface and ground water status etc.

7. Developed Green Climate Development plan for Provinces.
8. Several linkages development meetings were conducted with NGOs and line organisations followed by exposure visits to target project sites.
9. Conducted biophysical and socio-economic baseline studies at the project sites.

10. Conducted several capacity building activities (training on financial management, provided knowledge on water management, sustainable agriculture, marketing and also provided equipment) for women and men.

12. Supported eco-clubs of the local schools with awareness materials and also practical activities to generate awareness.

INTERVENTION AT THE LOCAL AND NATIONAL LEVEL

A. Activities with local, and National Stakeholders:

1. Conducted several coordination/consultation meetings.

2. At the beginning of the project to improve project component for implementation an inception workshop was conducted which refined indicators, approaches and also outlined specific activities.

4. Organised capacity needs assessment studies.

5. Strengthened Provincial and Soum level Local Government Environment Cells in project district offices.

6. Strengthened community groups.

7. Organised exposure visits (in country) for representatives of community groups and government representatives.

8. Prepared Provincial level and Soum level Green Development Plan for both project provences.

9. Project manager participated in 23rd COP in Poland and also in Workshop on developing guidelines on flood prevention based on natural approaches in Netherlands and shared lessons from EbA project.

B. Intervention at the Policy Level:

1. Reviewed land conservation, land and water use and agrculture policies and recommendation developed.

C. Awareness, Communication and Documentation:

1. Awareness programs on local FM Radio and TV and in webpages.

2. Used print/electronic media for conducting campaign through news clips, articles etc.

3. Uploaded program information on websites of UNDP, MET and other agencies involved in the project.

4. Lessons learned is being developed for distribution.

5. Produced project brochure and other publications and disseminated to various audiences/stakeholders.

The main problem areas identified by the TECs are:

- Ministries and Local Governments of both provinces expressed their support to project activities but funds were not committed to replicate lessons from this project to other areas;
- At the time of conducting the TE, no guaranteed commitment from any non-governmental/development partners was available to replicate lessons from this project to other vulnerable areas of Mongolia. But three proposals were being developed to upscale lessons from this project.

Objective Indicators

A single "Project Objective" was articulated in the log frame with a development objective. The overall project objective is to maintain the water provisioning services supplied by mountain and steppe ecosystems by internalizing climate change risks within land and water resource management regimes. The project aims to achieve its stated objective through three Components. Furthermore, during the log-frame's revision, a series of 10 indicators were defined for 9 outputs. Full details and an evaluation of achievements against targets are provided in Annex IV. Project was able to accomplish most of the targeted activities (leaving few incomplete). The TECs believes this to be a creditworthy performance.

3.3.2 Relevance

EbA project is relevant with the Mongolia's national policies and programmes. It contributes to manage and protect of pastureland, water and forest resources, rain and snow water harvesting and basin-based integrated water resources management. With the ecosystem based integrated approach contribute to sectoral programs and policies covering climate change adaptation, water management, forest management, biodiversity conservation, and combating desertification. The importance of these two landscapes are also stated in programme documents such as NAPCC, NAPCD and National Programme on water.

The 2010 State Policy on herders specially requires that Government to improve national preparedness to natural disasters and climate-related emergencies. MDD Goal 7 of Mongolia state to ensure environmental sustainability. The 2005 MDG-based National Development Strategy Section 3.5calls for the creation of "a sustainable environment for development by promoting capacities and measures on adaptation to climate change, halting imbalances in the country's ecosystems and protection them". Strategic Objective 6 states: "promote capacity to adapt to climate change and desertification to reduce their negative impacts". Mongolia also ratified the Kyoto protocol in 1993 and to fulfil its commitment government of Mongolia has initiated some activities. The National Action Programme for Climate Change was also updated whose objective 2 ask to ensure ecological balance and reduce socio economic vulnerabilities and risks step by step through strengthening of national adaptive capacity to climate change. EbA programs are in line to these commitments and also support achievement of the 2010 National Programme on Water Section 3.2.10 which states "Determine impacts of climate change and land use to the water ecosystem in large river basins, ecosystem biological indicators and monitor according to the international standards". Project is also in line with the 2010 NAP for combating desertification, the Alai Mountains Biodiversity Conservation Strategy and the Eastern Steppe Biodiversity Conservation Strategy, the Government Plan of Action, the National Adaptation Strategy and the National Biodiversity Strategy and Action Plan.

The project intervenes to reduce land degradation, contribute to human lives and property and safeguard critical river basin of Mongolia and is congruent with GEF and national priorities, and remains pertinent in light of the current levels of threats; hence it is evaluated as **Relevant**.

3.3.3 Effectiveness and Efficiency

Cost-effectiveness

The UNDP Guidance for Conducting Terminal Evaluations of UNDP-supported projects defines the criteria of "efficiency" as:

> "*The extent to which results have been delivered with the least costly resources possible; also called cost effectiveness or efficacy*."

The project has not exceeded the budgeted figures and all of the planned deliverables were completed by the time of terminal evaluation so the cost-effectiveness is satisfactory. Activities of all three components were accomplished without exceeding the budgeted amount and achievement indicates no lack of quality. Publication of few good practices, approval of Integrated Water Resource Management (IWRM) plan and proposal of two protected areas are due but project personnel have done their job efficiently and completed all preparation and submission of guidelines and proposals and lobbing for approval is done well and as a result it is in the priority list of the coming parliament session. Overall management cost is more than initially budgeted and this could be due to shortcoming in calculation of some management costs. Total expenses of the project were 100% of the total budgeted amount and some additional expenses (US$3,104,984.74) also took place mainly in management but this is due to additional management expenses which is born by the GoM and beard by the GoM. Hence project is highly cost effective.

Project generated support from the government which helped to reduce cost of project office space in the field and the project also used national consultants to provide technical advice, helping to reduce the cost of project management that otherwise could be very high. Involvement of local communities in implementing project activities helped to increase their knowledge and skills. Income from project activities and water harvesting improved the livelihood of communities comfortable. Construction of rooftop and reservoir water harvest and replacement of coal and wood use by bio-briquette reduced drudgery of women and herders that helped to generate interest of government and other like-minded institutions to be involved in such activities.

The project was able to achieve several of expected outputs, and cost-effectiveness has been a priority of the implementing agency throughout, amongst their priorities. This, combined with significant levels of additional co-financing leveraged by the project's activities, means the overall cost-effectiveness of the project has been Highly Satisfactory, hence it is evaluated as **Highly Satisfactory**.

The project was able to achieve expected outcomes and objectives. Evaluation team evaluated the achievements following the log frame indicators (revised indicators) and judged achievement effectiveness in activities and efforts made by the project team efficiently. The initial delays in implementation were caused by initial preparations. Stakeholders expressed satisfaction with the accomplishments of the project and are of the view that the project will have significant impact and will meet its objectives.

The project has facilitated changes in management practice and development planning processes and has increased the level of awareness about the long term positive impacts of EBA, especially in the context of climate change. Similarly, project delivery modalities have been efficient and project has been able to contribute to the AF and UNDP objectives and also to national priorities. Since some of the interventions of the project showed impact (impact on planning processes, impact in policy amendment and formulation, development of green development plan (GDP) by provincial governments, increase in household income, increased availability of water during drought periods, increased awareness on cause of environmental problems, reduced use of firewood, development and approval of local managed protected areas, increased in population of the translocated Marmet etc.) while others are yet to show impact, the effectiveness of the project is rated as **Highly Satisfactory**.

The project followed standard scientific methods and used qualified, experienced and dedicated technical manpower which made implementation of activities efficient and helped to achieve many targets on time and with quality outcomes.

The project maintained good relations with all stakeholders and worked in close cooperation and this helped to execute activities efficiently with their cooperation and also made impact effective.

3.3.4 Impacts

Table 7 provides a review of the likelihood of outcomes being translated into intended impacts.

TABLE 7: Review of outcomes to impacts at the end of project situation

Component	Findings	Review of Outcomes to Impacts
Site Level Outcomes		
Component 1: Landscape level integrated land use and water resources monitoring and planning system focused upon reduction of ecosystem vulnerability to climate change.	• EbA strategic priorities implementing in Eastern Steppe and Great Lakes Depression ecoregions -2 (includes Eastern and Western target sites) • IWRM plans -3 (Ulz river basin, Uvs lake Tes river basin and Kharkhiraa Turgen sub river basins) • 10 agencies in total (2 River basin administrations, 3 Meteorological Agencies, 3 Environment and Tourism Agencies, 2 Protected Area Administration at Aimag level) • The project developed an amendment reflecting CC trends, its vulnerability and risks to the existing guidance "Methodological guidance to develop IWRM plan" and submitted to Ministry of Environment and Tourism (MET) for further discussion in 2015. The issue was discussed at National workshop of RBAs which was held on 25-26 May, 2016. • Total areas: 2,150,530.71 ha • 1. Proposals to include 3 areas mostly covering upstream of rivers and lake into protected areas network under State protection (567,433.22ha) were submitted to MET in 2014. The proposals were discussed and approved by the Counsel of MEGDT in May, 2016. (it is expected to submit soon to Parliament for approval) • 2. Proposals of 19 areas under local protection (1,015.665.17 ha) were developed and approved by Local Parliament of 15 soums and registered in a State database. As a result of protection, no mining is permitted in protected areas, including areas surrounding any source or future source of water supply that have been protected by regulation. • Altai Mountains / GLB: 1,022,981.17 ha • Dornod steppe: 95,403.0 ha • Ulz river basin: 102,563.32 ha	AB: Likely

Component	Findings	Review of Outcomes to Impacts

Component 2: Landscape level adaptation techniques maintaining ecosystem integrity and water security under conditions of climate change.	• Under the consideration of soum specific characteristics of ecology and socio-economic conditions, EbA Plans for target 17 soums were developed in cooperation with local representatives in order to include in the plans adaptation measures to increase disaster preparedness to and reduce loss and consequences of natural disaster and more in generally adapt to CC and maintain ecosystem resilience.
	• 17 soum level EbA action plans are in implementation.
	• Totally 44 springs rehabilitated in target river basins
	• Water flow Length of rehabilitated springs was increased by 0.5-1.5km in average.
	• Fuel consumption was decreased by 20% through the instalment of monitoring system (manometer, thermometer, safety valve) on 65 heat-only boilers in target 17 soums.
	• Decreased by 20-40% in average in 23 pilot sites covering 41.5 ha.
	• +Accumulated water in reservoir/ catchments-31854 cubic meter
	• b)Monitored/efficient wells as of 2017:
	  • Western sites (Kharkhiraa/Turgen)-14
	  • Eastern sites (Ulz)- 20 wells respectively
	  • Engineered water harvesting structure-1,
	  • Traditional water harvesting structure-2,
	  • Rehabilitated channels-2,
	  • Dry well-1
	
	b)Total hectares restored riparian/wetland as of Sep 2017:
	  • Kharkhiraa, Turgen: 1,310ha
	  • Ulz:2,270ha
	  • Kharkhiraa, Turgen: 20ha
	  • Ulz: 24ha
	c)Total hectares with EBA grazing practices as of Sep 2017:
	  • Kharkhiraa, Turgen: 155,000 ha
	  • Ulz: 1,995,000 ha
	  • 290 ha as of Sep 2017.
	• 20 household's annual income from the 102 poor families was increased up to above living standards. It constitutes 19.6% decrease in number of households below living standard (Monthly income increase)
	
	• Currently 102 Small Grantees and 60 community groups engaging tree nurseries, wool & wood production, ecologically oriented farming etc. are cooperating with the project.
	• Hydrological monitoring strengthened by:
	  • Establishing Glacier monitoring post -1
	  • Establishing Surface water monitoring posts -3
	  • Establishing Ground water monitoring posts -3
	•
		AB: Likely

Component	Findings	Review of Outcomes to Impacts

Component 3: Institutional and policy capacity strengthened to support Ecosystem-based Adaption replication, planning, monitoring, and enforcement for critical watersheds	• Glacier and snow depth monitoring system introduced & operational -1
	• Uvs lake-Tes RBA & Ulz RBA established & strengthened - 2
	• RBCs established& strengthened - 3
	• Trained staffs of relevant relevant agencies in 21 Aimags, and members of existing river basin councils, and staff of newly established river basin administrations-645 in overlapping number
	• 25 policy documents revised and amended to consider mainstraing EBA:
	  • EbA strategic priorities-2,
	  • IWRMP-3,
	  • EbA soum action plan-17
	  • Proposal on extension PA -3
	• Since 2014, the government spent 1,781,000US$ for implementing IWRM and EbA measures in 2 target river basins.
	• EbA strategic priorities-2, IWRMP-3,
		BB: Likely

TECs found local people very much aware of the climate change impact and also sustainable management of water resources. Also the local and central government officials were very much sensitized on the issues of water basin management and made future plans and programs to address water basin management and green development. Awareness generated among the community members was resulted in them planting trees, protecting springs, proper management of water, practicing sustainable agriculture methods and participation in sustainable and environment friendly activities. This project also helped to initiate coordination between different government agencies and community organisations which is very important for promoting an integrated approach and helps to bring together expertise from diverse fields. Similarly, TECs observed that water saving techniques were helping to reduce use of water and becoming adopted by many households, water harvesting helped to resolve water scarcity and reduced localized grazing by livestock and yielded and income increased from the sustainable agriculture practices and handicrafts promotion helped to improve household economy, livelihoods and also built leadership among the women. These indicate that the expected impact is taking place in the project areas.

Implementation of SLM activities in each project site, increased awareness among the local government and community based organisations and helped to initiate evidence based management (using information on weather and information from baseline study) that help to address water related problems, degradation of pasture lands and risks to agriculture practices. During field visits, TECs observed awareness among local communities and local government and CBOs conforming impact of these interventions to improve status of sustainable was and ecosystem management.

Implementing EbA activities through communities increases awareness and builds capacity and improves the likelihoods of sustainability of initiatives.

Documentation and dissemination of information on EbA best practices helped to share knowledge for benefit of large population from various countries with water related risks. Similarly, improvement in legislation addressing water basin management issues will help to mainstream EbA in development practices for mitigation of such risks.

As a result of the review of outcomes to impacts, the overall likelihood of impacts being achieved is all **Likely**, hence the project is expected to achieve most of its major environmental objectives, and yield satisfactory environmental benefits by managing land degradation risk and its effectiveness is evaluated as **Highly Satisfactory**.

3.3.5 Achievement of Project Output & Outcome

This section provides an overview of the main achievements of the project. Considering the results achieved under each of the outcomes, and the progress towards the overall objective, the project effectiveness is rated as Highly Satisfactory. The EBA project generated numerous significant results, meeting several of the planned accomplishments. The project objective was stated as *"Ecosystem Based Adaptation Approach to Maintaining Water Security in Critical Water Catchments in Mongolia"*

Based on the respective indicators and overall level of progress toward the three outcomes, the outcomes rating are as follows:

TABLE 8: Evaluation of the end of project situation as per the revised log frame

Component	Evaluation*					
	HS	S	MS	MU	U	HU
Component 1: **Integrated Strategies/Management Plans For Target Landscapes/River Basins Developed And Under Implementation**						
Output 1.1: Ecological and Socio-economic Assessments (Baseline studies) as a basis for the development of Ecosystem-based Adaptation strategies for the target landscapes and for the development of River Basin Management Plans (Kharkhira/Turgen Ulz)						
Output 1.2 Economic Valuations completed comparing the landscape level costs and benefits of EbA.						
Output1.3: Ecosystem-based Adaptation strategies for the target landscapes and River Basin Management Plans (Khakhira/Turgen, Ulz) completed and operational.						
Component 2: Implementing landscape level adaptation techniques to maintain Ecosystem Integrity and Water Security under Conditions of Climate Change						
Output 2.1 Capacities of rural communities for monitoring natural resources and climate change impacts and for adaptive management in two watersheds strengthened						
Output 2.2 Suite of physical techniques to improve ecosystem resilience established in two critical watersheds.						
Output 2.3: Regulatory and financial mechanisms for supporting climate change resilient livelihoods strategies.						
Component 3: Strengthening capacities/Institutions to support EbA strategies and integrated river basin management, their replication and mainstreaming in sector policies.						
Output 3.1 Ecosystem-based adaptation approaches/integrated river basin management mainstreamed in national resource use planning and implementation mechanisms in sector policies						
Output 3.2 Institutional structure for river basin management integrating climate change risks (Administration and Council) established and operation in the target areas as model for replication						
Output 3.3 Best practices are identified and program for up-scaling best practices developed and implemented						

* Note: HS = Highly satisfactory; S = Satisfactory; MS = Moderately satisfactory; MU= Marginally unsatisfactory; U = Unsatisfactory; HU = Highly unsatisfactory.

The project supported community based- river basin management and climate change risk management by incorporating activities like policy reform, evidence based planning, infrastructure development, awareness generation, capacity enhancement of institutions involved in EbA, reducing energy consumption, increasing agricultural yields and improving household economy and decreased land degradation. It also applied in three pilot provinces (aimags) and successfully demonstrated a participatory approach of implementation with cooperation from government staff and local to national institutions. Most the project outputs are ranked individually as **Highly Satisfactory**; hence overall the achievement of outputs and activities is evaluated as **Highly Satisfactory**. Many of the project outcomes are also achieved as per planned, hence achievement of outcomes of the project is also rated as **Highly Satisfactory** and overall project is also rated as **Highly Satisfactory**.

Component1: Landscape Level integrated land use and water resources monitoring and planning system focused upon reduction of ecosystem vulnerability to climate change:

To achieve the component 1, project had identified three outputs. Activities and achievements of outputs are listed below

Output 1.1.: Ecological and Socio-economic Assessments (Baseline studies) as a basis for the development of Ecosystem-based Adaptation strategies for the target landscapes and for the development of River Basin Management Plans (Kharkhira/Turgen Ulz).

Project completed all the planned baseline studies. The following are the assessments, studies conducted and guidelines developed by the project:

- Baseline inventory/assessment (ecological and socio-economic) in the Ulz river basin and Kharkhiraa, Turgen sub-river basin
- Feasibility study for establishing water harvesting catchment for glacier melt.
- Soum level capacity assessment
- Assessment of Institutional Capacity of key agencies
- Climate change-vulnerability and risk assessment in the Eastern steppe landscapes, Mongol Daguur and Great Lakes Depression, Altai Mountains
- Feasibility study on ecosystem based adaptation measures to be undertaken in the Ulz river basin and Kharkhiraa, Turgen sub-river basin
- Study on Permafrost distribution of Mongolia (1:1 000 000)
- Design drawing and budget of traditional water harvesting structure
- Design drawing and budget for engineered small scale water harvesting catchment
- Design drawing for roof water collecting
- Guideline to spring protection
- Guidebook for WUG (Water users groups)

Main findings of these assessments were used to develop proposals for the application to establish new protected areas. The proposed protected areas and their areas are as follows:

- Khukh lake (95,403.9 ha),
- Upper stream of Tes river, Kharkhiraa and Turgen sub river basin (41,771 ha),
- Upper stream of Ulz river (102,563.32 ha).

In cooperation with MEGD this project developed a science-based “Permafrost distribution map” with scale 1:1000 000.

Output 1.2.: Economic Valuations completed comparing the landscape level costs and benefits of EbA.

The economic valuations comparing costs and benefits of EbA is completed for Stage I and II study and Stage III study report will be submitted within this month and review will complete in the remaining time of the project. The project is expected to receive the final product by October, 2017.

- Economic valuation; Stage I: Economic valuation of the ecosystem services and natural resources under climate change conditions in the Kharkhiraa, Turgen and Ulz river basins (phase I)
- Economic valuation; Stage II: Cost and benefit analyses (CBA) to assess impacts of ecosystem based adaptation measures
- Economic valuation; Stage III: Methodological guidance of identifying environmental, social and economic impacts of EbA measures in project in target eco-regions and mainstreaming best practices

Output 1.3.: Ecosystem-based Adaptation strategies for the target landscapes and River Basin Management Plans (Khakhira/Turgen, Ulz) completed and operational.

22 policy plans were developed and are operational, including 3 IWRMPs and 2 EbA strategies for 2 target basins and 17 Soum. EbA programs were developed providing plans for adaptation measures on the landscape level for each target areas.

The project mainstreamed IWRM plans in all key sectors and institutions (both public and private) involving water users at all levels, so that one Integrated Water Resource Management (IWRM) plan was officially adopted by all three target Aimags. The IWRM plan of Uvs lake – Tes River is approved by the Ministry of Environment and Green Development (MEGD) in compliance with the Article 4.8 of the "Law on Water" and submitted to cabinet for approval. After cabinet approval this will be send for approval by the parliament. Furthermore, concrete legal, institutional, financial and technical measures were defined for ensuring water security.

The outputs has achieved almost all of its major targets, and yielded some global environmental benefits, without shortcomings. These outputs can be presented as "best practice" and is rated as **Highly Satisfactory**. The project has accomplished most of the activities that were required to make EbA management sustainable by providing a viable long-term security to livelihoods and local ecology from climate change impacts; hence the outcome achievement is rated as **Highly Satisfactory**.

Component 2: Implementing landscape level adaptation techniques to maintain Ecosystem Integrity and Water Security under Conditions of Climate Change

To achieve the component 2, project had identified three outputs. Activities and achievements of outputs are listed below:

Output 2.1. Capacities of rural communities for monitoring natural resources and climate change impacts and for adaptive management in two watersheds strengthened

Capacity of local coordinators from 9 Soum units of the project was strengthened in the fields of climate change, EBA, environmental monitoring and evaluation. This helped to prepare human resource to work as environment expert at the local level.

Capacity and knowledge of the local staffs was strengthened in 8 different fields through 36 trainings. Similarly, more than 60 journalists also received this kind of training and joined advocacy events and received knowledge on climate change adaptation, EbA measures, IWRM, effective and efficient water use and water resource increase. After training and other events, journalist disseminated knowledge to general public through electronic and printing Medias.

Established Water User Groups (WUG) to establish sustainable means of protection, use and management of water resource in Ulaangom, Tarialn, Naranbulag soums of Uvs aimag and BayanDun Soum of Dornod aimag.

Output 2.2. Suite of physical techniques to improve ecosystem resilience established in two critical watersheds.

Spring protection: Total of 44 natural springs were rehabilitated with the project support. It helped to make clean water available for the local community and also livestock. This also helped herders to move back to their previous locations as this helped to abandon almost 450,000ha pasture land with flow of clean water. Approximately 10,000 rural population with 490,000 livestock benefitted from this activity. This helped to protect approximately 120,000ha important riparian zones from excessive grazing impact. Regular monitoring on streams, water quality, vegetation and use of springs, water points and wild animals is being conducted since 2014.

Agriculture activities: 15 small scale tree nurseries covering 25ha areas were established in cooperation with local EbA community groups. More than 300 locals trained though series of on-site trainings on tree and strawberry planting, greenhouse farming, irrigation technologies etc. The project trainers and local adaptation groups actively involved in these programs. Similarly, several reforestation and forest management activities covering 811.4ha in Kharkhiraa, Turgen river basin and 1359ha in Ulz river basin were conducted in target areas with the State funding.

Rehabilitation of wells: A total 23 engineered wells were repaired in Ulz river basin. Wells for repairing were selected based on their location of importance for endangered species such as White-naped Crane and Mongolian Gazelle in eastern region. Through repaired wells, a total of 10,000 ha of abandoned and remote pasture emerged to be re-used for livestock husbandry and a total of 138,000 ha were freed for grazing of wild animals. The number of beneficiaries are more than 103 herders.

Surface water accumulation: Small scale water reservoir with the volume of 18854cubic meters was constructed in Bayandun Soum of Dornod to irrigate 10ha of agricultural lands. The rain and snow water harvesting small reservoirs contracted on the west bank of Turgen River which can provide water for livestock in dry season. Water channel in Sagil soum of Uvs aimag was repaired for efficient water supply and this provide water to over 20,000 livestock of 80 households and also helped to improve 3400ha of degraded pasture land. Similarly, an innovative water reservoir called “dry well” with capacity of 55tonnes was established in Naranbulag soum of Uvs aimag to collect snowmelts and rain water. This (dry well) will be used to address water shortage during intensive irrigation period for 3 households (~3 ha). A traditional water reservoir of 9000 cubic meters capacity was constructed in Batnorov soum of Khentii aimag in Ulz river basin with local co-funding for snow and rain water harvesting and irrigating 12ha agricultural area during extended dry season without affecting its natural flow.

Output 2.3. Regulatory and financial mechanisms for supporting climate change resilient livelihoods strategies.

Project conducted 21 trainings on processing wool and making woolen products to enhance skills of 300 local women. Similarly, project also conducted 7 trainings on handicrafts and small household items making (device for ritual milk and tea offering, pastry mold etc.) from wood and 205 people benefited from this training.

Project also initiated small grand program to improve and diversify the local livelihoods of local communities through income generation in all target soums and surrounding areas during 2014-2017. Similarly, 102 small projects are being implemented by local institutions including adaptation groups, cooperatives, environmental

NGOs to improve agricultural production and increasing water use efficiency and restoring ecosystem resilience through rehabilitation of riparian area and reforestation.

Value added-eco felt product "Sonohon" brand was newly released.

Greenhouses with the area of 45x120m^2 were built with support from the project. Mainly women headed households were given priority in this program. With introduction of strawberry and other vegetables income of the household compare to past increased by 7-8 times. 10,000 locals were involved in this training.

The outcome of Knowledge based natural resource use planning for improving sustainable economic development is achieved to some extent and the outcome is rated as **Highly Satisfactory**. Similarly, outputs under this outcome have achieved all of its targets, and yielded substantial environmental benefits of local and global value through capacity enhancement and knowledge based planning, without shortcomings. The outputs can be presented as "best practice", hence is evaluated as **Highly Satisfactory**.

Component 3: Strengthening capacities/Institutions to support EbA strategies and integrated river basin management, their replication and mainstreaming in sector policies.

To achieve component 3, the project had identified 3 main outputs that need to be achieved. Activities and achievements of outputs are listed below.

Output 3.1: Ecosystem-based adaptation approaches/integrated river basin management mainstreamed in national resource use planning and implementation mechanisms in sector policies

Recommendation from EbA strategic priorities were reflected in the draft National Climate Change Adaptation programs for Agriculture, Water resource & Forest sectors. Mainly strategy of supporting socio-economic activities and ecological goods and services from rivers and wetlands, forest and rangeland ecosystems are reflected in these policies. Riverbed reforestation is highlighted as one of the emerging issues in Forest national program in relation to maintaining water services. In addition, data and information of the Risk and Vulnerability assessments reports of 2 ecoregions and Economic valuation of natural resource in context of climate change were used in the Mongolia's second assessment report on climate change-2014 (Chapter II&III of MARCC-2014).

EbA principles & concepts were disseminated to Soum Governors through the EbA policy document distributed during National workshop of Soum Governors held in 30 October, 2014 in the Parliament House of Mongolia. Similarly, strategic priorities of EbA measures were disseminated through guidelines and advocacy materials during the national discussions of Governor's administration offices of target Soums and Aimags and capacity building trainings organized for local stakeholders between 2014-2017.

Project organized several training, meetings/discussions to strengthen the capacity building of different stakeholders and also support EBA strategies and integrated river basin management, future replication and mainstreaming. All together more than 500 individuals were participated in these trainings. The types of training and number of participants were as follows:

- Regional trainings on "Adaptation to Climate Change" with involvement of secondary school teachers (84 participants of which 90% female).
- Training on introduction and, guidance to map natural borderlines wetlands around lakes (30 participants).
- 1st level national training for experience sharing of wetland coordinators (52 participants).
- Regional trainings for officers of the Eastern River basin administrations (68 participants).
- Capacity building training for River basin councils and River basin administrations (182, 125male/57female).

- Trainings on building and strengthening the capacity of Water Users Association members (110, male-88, female-22)

Output 3.2.: Institutional structure for river basin management integrating climate change risks (Administration and Council) established and operation in the target areas as model for replication

In 2014 a set of environmental laws were amended which also included establishment of River Basin Administration (RBA). RBA management plans introduced in the Law on Water and Law on Water Pollution.

Capacities of the RBAs have been improved through the development of Integrated Water Resource Management (IWRM) plan, trainings on water harvesting, water use efficiency and software skills and equipment support. Integration of IWRM plan development and the formation of water user associations RBAs has been effective in the western areas to resolve the serious conflict (violent) among vegetables growers regarding use of water resources. Since IWRM has been successfully integrated as a planning method at governmental levels, institutions are also now capacitated to handle upcoming water conflicts in future.

IWRM itself promoted inter-sectoral collaboration, which hardly existed on Aimag levels before. Since inter-sectoral collaboration is also essential for the implementation of climate policies and other projects will also benefit from the structures established by this project.

The project strengthened River Basin Councils (RBC) to ensure civil society participation in water management monitoring.

Output 3.3.: Best practices are identified and program for up-scaling best practices developed and implemented

The best practices are identified by the project and the dissemination of it is under process as some of the printed materials are still under editing process. Some of the best practices are as follows:

A. A total of 13 springs were rehabilitated applying an innovative so called "double protection" techniques for recovery of overgrazed and degraded areas near springs. For the double protection, portable fences with wooden poles were constructed around the springs surrounding all degraded water catchment zone, in order to ensure natural regeneration of soil and vegetation. Within the fences, bushes and trees including Caragana (Caragana sp.) and willow (Salix sp) are planted to serve as a biological fences. Once the bushes and trees grow and reach certain height, the portable fences and wooden poles will be removed and used for other area. In addition, the construction techniques of established fences are considered as environmentally safe and sound. Three legged poles are placed on the subsoil without digging or making any damages to the earth. On the other hand, established legs are very tolerant to freezing and melting of snow and spring water.

   As a result of spring protection, water flow improved making water available for local community and their livestock. This enabled herders to move back to their previous locations. Through this activity, almost 40,000 ha of abandoned pasture land is being utilized through improved water flow. Approximately 6600 rural populations with 184,000 livestock benefitted. Most importantly, a total of 80,000 ha of essential riparian zones became free of excessive grazing impact. Rehabilitated natural springs and creeks are starting to flow and feed Ulz River water discharge, which is essential for the eastern steppe. Volume of four lakes has increased as well. The activity encouraged local people to learn the rehabilitation method and protect other springs. In addition, it triggered behavior change towards pasture use, including rotational use of pasture and promoting investment in implementing similar measures to improve their resilience.

B. Technology transfer site on ecological oriented agriculture/small scale tree nurseries with water saving and soil conservation techniques. With support of the project, local adaptation groups established 10 small scale tree nurseries covering 28.5 ha areas. The community members were involved in series of on-site trainings including tree and strawberry planting, greenhouse farming, irrigation technologies etc. In addition, several reforestation and forest management activities were conducted in target areas with the government funding covering 811.4 ha in Kharkhiraa, Turgen river basin and 1359 ha in Ulz river basin.
C. *Rehabilitation of Engineered wells:* 20 wells were repaired since 2013. Wells for repairing were selected based on their location and importance for endangered species such as White-necked Crane and Mongolian Gazelle in eastern region. Through repaired wells, a total of 147.000 ha of abandoned and remote pasture land improved to use for livestock husbandry and a total of 138.800 ha were freed for grazing of wild animals. 103 herders benefited from this activities.
D. Within the scope of piloting water saving techniques, an innovative water reservoir called "dry well" to potentially collect snowmelts and rain water of about a volume of 55 tons was established in Naranbulag soum of Uvs aimag. The dry well will be used to overcome water shortage during extended drought period for at least 3 households' lands (~3 ha).
   Based on the assessment on usefulness of the facility, this simple "dry well" is identified as good practice to replicate in other areas. All these practical approaches show benefits of overcoming water shortage, collecting water, increase of water efficiency following watering norms on types of plants and in return get economic gain on harvest and yields from animals. This also provided opportunity for locals to learn from each other, who obtained knowledge and skills and local governments to support replication of best practices within its Soums or beyond. Total area of irrigated is 3-4 ha.
E. Two traditional rain and snow melts catchments were constructed in Turgun soum according to the pilot design and drawings developed in 2014 which is not required to be approved by the Technical Committee of Ministry of Construction and Urban Development (MCUD).
   The established catchments with the total volume of 3000m^3 is estimated to provide 10 thousand heads of livestock with drinking water for 2 months during the extended dry season.

The project was able to achieve the outcome of Local economic development strengthened through diversification, hence outcome is rated as **Highly Satisfactory**. Similarly, the outputs under this outcome have achieved all of the targets, and yielded substantial environmental benefits by establishing community enterprises, establishing water reservoirs, supporting sustainable bio-briquette production and sustainable Agriculture. The outputs can be presented as "best practice", hence it is evaluated as **Highly Satisfactory**.

3.3.6 Country Ownership

This project was developed with the lessons from several projects related to Climate Change and water managements. The project was implemented by the Ministry of Environment and Tourism (MET). Besides, other ministries like Ministry of Mineral Resources and Energy, Local Government, Administration for Land Affairs, construction, Specialized Inspection Agency and River Basin Councils. These government agencies were not only executing and implementing project activities but also involved from the project development stage. Moreover, the project outcomes and outputs identification was also carried out involving relevant government agencies. The result of the project complemented Government of Mongolia's priorities and development strategy. Therefore Government of Mongolia has ownership in this project. Local Governments and national government have expressed their commitments to support continuation of the outcomes of this project.

Finally, the project will contribute to safeguarding the ecosystem and environment by enforcing Ecosystem Based Adaptation and addressing risks related climate change by creating an environment for economic development in the area. The project outcomes will bring Mongolia a step closer to achieving MDG Goal 7: Ensure environmental sustainability.

3.3.7 Mainstreaming

The mainstreaming of River basin Management in natural resource use planning and implementation mechanism in sector policies is one of the main output of the project. Enhancing knowledge and involving local government and community based institutions in project implementation has helped to mainstream climate change and river basin management. Development of a knowledge base and information supports evidence based planning. Enhancing knowledge and making communities aware of climate change impacts help in decrease risks and safeguard livelihoods and is in line with the UNDP Country Program Action Plan (CPAP).

As per project document, the project development process involved analysis of various options of management by utilising scientific knowledge, indigenous knowledge and lessons learned from past projects. The project's efforts were focused on identifying policy gaps and recommending policy needs, enhancing capacity of local's to monitor natural resources and climate change impacts and management of river basins, establish institution for river basin management, networking with like-minded national, regional and international institutions for fostering EBA mainstreaming in resource planning and sector policies. The EbA approach to address land and water management was relevant as people had a clear vested interest due to the direct contribution to their livelihoods.

The fundamental principle of the project was to address policy gaps, knowledge management, economic development of local communities and mainstreaming river basin management into development planning.

3.3.8 Sustainability

The project results are likely to be sustainable beyond the project life. As will be seen below, the sustainability at the project level is actually very strong and it is difficult to see what more those involved could have done.

Financial: The outlook for the long-term financial sustainability of the project appears unusually good but it is connected to the interest of the local government and the national government. MNET mentioned that they are committed to continue their support to these project activities. Similarly, the local government mentioned that they will continue their support and will utilise information in planning exercises help to mitigate risks from climate change and River basin management. There are several other projects being implemented in these areas which will be utilising the community groups formed by this project to implement their activities so this will directly or indirectly support the continuation of some of the project activities. Similarly, some projects are in the pipeline or being developed. These also assure financial sustainability at project site level. Financial sustainability is therefore **Likely**.

Socio-economic: The social sustainability of the project appears very promising. The awareness-raising activities have certainly been beneficial and undoubtedly changed people's minds at the community level and at local and national government levels as regards river basin management and climate change impacts. The empowerment of local communities through awareness raising and involvement in river basin management and monitoring of natural resources and climate change impacts has been one of the lynchpins upon which all behavioural change has occurred. For many others, this has been matched by provision of safety measures and knowledge base establishment directly linked to land and water degradation risk management and these arrangements are particularly strong. This has created a supportive environment and as a result enjoys a very wide support base which is being used to help in replicating the approach in other vulnerable areas. As a result, the socio-economic sustainability is adjudged to be **Likely**.

Institutional and Governance: The institutional sustainability of the project is good. Those agencies directly involved appear strongly committed towards its aims and the impacts that it has had. Clearly, the decision to route all activities directly through local government institutions and local communities has paid dividends in this respect, and the local government officials at the pilot sites are not only extremely supportive of what has been accomplished but are also strong advocates of its achievements. Project also contributed to establish institution and enhanced their capacity and activities was to support legal provision made in the new laws of the government of Mongolia. Moreover, government authorities are sensitised on land and water degradation issues and also river basin management is mainstreamed in natural resource use planning in sector policies so they may prioritise future outputs of this project. Therefore, the institutional sustainability is ranked as **Likely**.

Environmental: Environment sustainability is one of the important elements of the project strategy. The project achievements will directly reduce vulnerability of life and property and also ecological resources of Mongolia. The capacity development, policy formulation and evidence based planning to mainstream river basin management and climate change will make project outcomes sustainable. Moreover, involvement of local communities and community based organisations assures adaptation to river and land degradation and makes the project achievements sustainable. Possible precautions are taken to safeguard water harvesting and manage catchments The activities of this project address potential environmental risks so there is less possibility of environmental risks associated with the sustainability of this project, hence the environmental sustainability is deemed to be **Likely**.

The overall sustainability of the regional component is ranked as **Likely**.

3.3.9 Catalytic Role and Replication

Discussion of replication in relation to the EbA Project has to be undertaken at two levels – the macro-level of replicating it as a national-scale project to cover a wide area, and the micro-level with regard to replication at site-based interventions. Success of EbA in addressing environmental and water related issues in the project sites has indicated that the approach can work in Mongolia and could be replicated in broad area including all other vulnerable parts of the country. The integrated nature of the policy-level mainstreaming, awareness generation on EbA, climate change and river basin management and generation of knowledge among local communities and development planers, promotion of increased enforcement, research and monitoring provide a solid model of success and that it may influence future project design in the country.

At the micro-level, the project's performance was good. Most outputs of the project fall under the middle two levels of catalytic role, i.e. demonstration and replication. It also creates environment for economic development in these areas. Creation of environment for economic development will also provide incentives for mainstreaming EbA into National Development Plans.

Lessons learned with up-scaling needs to be replicated in other vulnerable areas of Mongolia. The project contributed to development of legislation and trained local government staffs and community members. These will help to strengthen EbA efforts and also make replication easier.

Government agencies, local government institutions and community based organisations and local communities expressed interest to replicate lessons from this project in wide areas.

Besides Mongolia, the learning from this project could be useful for other countries with similar land degradation problems. Hence for the benefit of projects and for replication in other areas, the project disseminated lessons learned to a wide audience through various means like report distribution, information sharing through different networks, shared with other AF and UNDP projects, international networks and other institutions.

The project conducted meetings and workshops with government officials and other stakeholders. Similarly, exposure visits were conducted for line departments and stakeholder representatives. The awareness generation among line department, government agencies and other stakeholders will play a catalytic role to replicate lessons in other vulnerable areas. In addition, three projects are being developed to submit to GEF, AF and GCF and expected to build on the outcomes of this project, especially to support issues around River basin management. The project also developed an exit strategy.

3.3.10 Ratings

104. As per UNDP guidelines, the TE ratings are consolidated in Table 9 below.

Table 9: Terminal Evaluation's Rating Project Performance

Criterion	Comments	Rating
Monitoring and Evaluation		
Overall quality of M&E	The design of M&E was up to standard with a fully itemised and cost plan included in the Project Document covering all the various M&E steps including the allocation of responsibilities.	Highly Satisfactory
M&E design at project start up	As above.	Highly Satisfactory
M&E Plan Implementation	M&E implementation was satisfactory in case of internal monitoring and progress and impact monitoring except few cases.	Satisfactory
IA & EA Execution:		
Overall Quality of Project Implementation/Execution	The Project implementation was slow at the first year as it has to make arrangements and also field sites selections has to be done. But it went smoothly n the following years. Technical feedback was over all satisfactory.	Satisfactory
Implementing Agency Execution	MET integrated team exhibited drive to meet the targets and able to do so. They showed their desire to communicate their knowledge to others. Still room for scaling up activities and technical upgrading.	Satisfactory
Executing Agency Execution	The Ministry of Environment, the implementing agency linked very well with UNDP; and was very actively involved in project guidance especially at the project board level and project implementation and provided supervision and backstopping to the Project.	Satisfactory
Outcomes		
Overall Quality of Project Outcomes	Overall quality is of the high order.	Highly Satisfactory
Relevance	The project intervenes to conserve globally important biodiversity rich area, critical watershed area and livelihood of the communities affected by climate change impacts is congruent with GEF and national priorities, and remains pertinent in light of the current levels of threats.	Relevant
Effectiveness	A review of outcomes to impacts (ROtI) shows the overall likelihood of impacts being achieved is Likely.	Highly Satisfactory
Cost-effectiveness (Efficiency)	Project management costs were higher than the allocated budget and expected outcomes were achieved by the time of terminal evaluation. so efficiency was strong.	Highly Satisfactory
Sustainability:		
Overall likelihood of risks to Sustainability	There are some minor risks but since stakeholders are aware, strengthened and committed it is assumed that these risks will not take place or could be handled.	Likely

Financial resources	Good – Central government, local government and community based groups showed long-term commitment to the area and there is evidence of considerable technical, policy and some financial commitments from the government.	Likely
Socio-economic	Solid – beneficiaries showed increased awareness and changed behaviours linked to climate change risk management.	Likely
Institutional framework and governance	Institutionally good through strengthened capacity and support from senior staff in the government both at local and central levels. Community institution and local government strengthened.	Likely
Environmental	The project itself is designed to address environmental risks and other than unpredictable ones there are no evident risks. Some risks related to climate change exist but that is beyond control of project. The project had activities to address water related issues and maintaining water basin.	Likely
Impact:		
Environmental Status Improvement	Improved was management; generation of information on soil, weather, water and other natural resources and practicing of sustainable agricultural practices and development of knowledge base and enhancing of capacity of government and other agencies for evidence based planning was satisfactory. Similarly, policy recommendation on river basin management and development of Integrated River Basin Management Guidelines, bringing critical water basin under protected area management and development of green development plans by local governments will support long term management of water and other natural resources.	High
Environmental Stress Reduction	Construction of physical structures like water reservoir and well for water supply to livestock, human consumption and agriculture practices and capacity enhancement of local government and community based organisations reduces environmental stress. Similarly, energy efficient technology like solar, bio-briquette will decrease pressure on forests and also reduce use of coal. Moreover, awareness generation on local communities and at government level also creates an environment for proper management of water basin.	High
Progress towards stress/status change	Generally good – construction of water reservoir and well helped to address water scarcity which was affecting livestock which is main economy of the locals and also affecting agriculture practices, enhancing knowledge on water management and efficient use helps to decrease pressure on water resources and also on pasture land. Establishment of weather stations helps to address damage to livelihood and property of local community and also help to adopt proper measure to bear the situation. Community management arrangements, increased interest of the government bodies, local political bodies and NGOs, increased awareness of planners progressed and expected level of stress and status change was made.	High
Overall Project Results		**Highly Satisfactory**

4. Conclusion, Recommendation & Lessons Learned

4.1 Conclusion

The project was able to accomplish all targeted activities and only approval of Integrated Basin Management Guidelines and proposal of the two protected areas remained to be approved by the cabinet. But as these are very critical issues and are already approved by the local government Ministry has prepared to propose in the coming Cabinet meeting with priority. To address the water related problems, the project intervened in four main areas: review and improvement of policies, awareness generation, infrastructure development with capacity enhancement and improvement of rural household economy. The policy development approaches included revision of policies and plans to incorporate climate change issues and water basin management issues. Similarly, River basin management guidelines were developed to address climate change issues and also development and green development plans and arrangement in policies water and climate change issues mainstream these in development activities. Likewise, policy development and amendments were made for addressing climate change issues. To encourage evidence based planning, the project conducted studies on various subject including baseline information generation, economic studies of climate change and adaptation interventions, sustainable water harvest, mapping of glaciers and also strengthened meteorology stations in the field to have regular updates on weather, ground water level and river status and made these available to the local and national government officials. Infrastructures facilities like water reservoirs and weather stations for regular weather information transmission and canal construction/repairing and green houses and well construction for irrigation in extended dry season were completed. Without addressing livelihoods of the people it is not possible to address natural resources management issues it is related to each other. Hence, the project trained farmers in advance irrigation and farming techniques, created reservoir, rain and snow water harvest facilities, protected springs and also provided training on various enterprises together with small grants to initiated income generation activities. Similarly, promotion of bio-briquettes, solar energy, and water facilities also improved helped to decrease drudgery of women, decrease pressure on the forests and also supported the local economy. Translocation of Marmot, creation of water bodies for endangered birds and designation of protected areas and arrangement of community protection contributed in biodiversity conservation. To reach a large audience, the information generated by the project was uploaded in websites of the implementing Ministry and UNDP and also networking with like-minded institutions within the country was facilitated by the project.

The EbA Project was designed with provision for appropriate management arrangements. The project team has managed to deliver a series of interventions that have reduced the threats of desertification. This has been achieved through generation of awareness from local to the national level, mainstreaming EbA in development planning through developing provincial level Green Development plans, creating a knowledge base and facilitating access to it, as well as construction of physical structures to combat drought. Due to political transition, approval of Integrated River basin Management Guidelines and proposals to create two protected areas by the cabinet were delayed but has been approved by local government and Ministry already placed them on high priority. Indicators of most of the activities were seen by the evaluation team. Project practiced adoptive management and lessons and recommendations were addressed on time to strengthen the implementation process. Though the project has been underpinned by good science and a technical approach of good calibre, there is still room for further technical improvement. It has enhanced capacity to incorporate ground information related to ground water, river water status, glacier situation, weather, local practices and climate change issues into the development planning process of the local government in the pilot areas; and improved environmental awareness and raised concerns about desertification risk at the local communities and government.

To make the outcomes and interventions sustainable, the project formed community groups, trained them in various technologies and on financial management, enhanced knowledge and capacity of local government. The community members and local government were made aware of the benefits of using weather information for

farmers and pastoralists' decision making. The project tested participatory planning and implementation approaches. Since these approaches showed very positive impact, the lessons learned from this should be replicated in other catchment areas and pasturelands.

4.2 Recommendations

Corrective actions for the design, implementation, monitoring and evaluation of the project

I. The project provided support to rural schools to establish rain water harvest. But most of the water running from the roof was dropping down due to low height of the collecting canal. Similarly, to store collected water only one drum was available. School had big roof and that could help to collect large quantity of water and for that they need bigger reservoir. Also the height of the canal on which water from the roof drop need to be height then the edge of the roof.

II. The project target areas have a large numbers of livestock which supply large amounts of dung. The dung could be used for bio-briquette production. Project supported only one bio-briquette. Briquette production program could be supported in all areas of these soum to decrease pressure on wood for energy.

III. Solar technology was used for meteorology activities, food drying, water pumping and heating. Out of 23 well only 5 were equipped with solar pump and few household heating piloted using solar technology so using these experience future replication should give more priority to solar technology. Use of solar generator reduce cost of fossil fuel. Introducing solar generator and training locals on maintenance of them will reduce cost for irrigation and also provide income generation opportunity by repairing generators.

IV. Snow water collection and rain water collection canals are not cemented so water loss from seepage is high. Such canals should be made concrete using locally available stones and pebble.

V. In some areas, within 100m distance from the irrigation canal, farmers were irrigating agriculture field by pumping water using fossil fuel. Extension of irrigation canal in such areas could help to improve agriculture and also reduce farmers farming cost by reducing cost of fossil fuel.

Actions to follow up or reinforce initial benefits from the project

V. The project developed integrated river basin management guidelines and also proposed two protected areas. These are approved by the local government and also approved by ministry. Follow up should be made to approve it from cabinet and thereafter by parliament.

Proposals for future directions underlying main objectives

V. It is recommended to upscale and replicate lessons learned from this project by UNDP, Government of Mongolia and other agencies working in similar issues. There could be many potential donors willing to invest in such activities so it is also recommended that lessons learned should be disseminated to a large audience including other areas of the water basin and beyond. UNDP and AF could use its network for dissemination.

XI. It is recommended to promote insurance mechanism in pastoralism and agriculture to safeguard farmers. Due to climate change weather became very unpredictable. If farmers whose economy is not so strong have to take risk of climate change then their situation will further worsened. Hence to encourage farming and pastoralism, insurance mechanisms should be promoted. Considering the economic situation of the farmers, premium of such insurance should not be high or be subsidised.

4.3 Lessons Learned

Best and worst practices in addressing issues relating to Relevance, Performance and Success

Lessons learned are arranged under project-related headings. Further discussions and key points for future projects have been added in this section. Some of the lessons learned listed below have arisen from discussions with persons interviewed during the evaluation and the team thank them for their insights.

Strategic

- *Community organisations lack scientific knowledge and are ill-equipped for handling such projects so support to enhance their knowledge and strengthen their capacity will help to encourage them to continue in adapting risk of climate change or desertification and there by facilitate a cooperative approach for reducing damage from land degradation.*
  Lack of knowledge has been seen as a drawback in many projects limiting communities from taking precaution. Similarly, lack of knowledge, literacy and lack of capacity affect their ability to manage risk. Awareness generation on risk of climate change and its potential impacts, available adaptation measures and availability of appropriate technology helps to reduce damage. Moreover, linking them with weather monitoring to minimise risk related to weather. Increased economic benefits from sustainable agriculture practices and other income generation activities encourage communities to conserve their resources.
- *Local adaptation knowledge is easily adapted by the rural communities.* Local knowledge should be promoted together with scientific knowledge to respond to local situation as they are more easily adapted by the rural communities. Local communities were good in identifying signs of land degradation, climate change impact and proposing suitable and feasible mitigation measures. One example observed in project areas was that local community's knowledge regarding constructing dry well and snow water harvest to address prolonged dry season and linking this with resolving pasture and agriculture land issues.
- The farmer exchange visits promoted farmer to farmer learning and technology transfer from one community to another. This is the best way for transferring technology to farmers as farmers could explain by simplifying the technical terms more appropriately to another farmer making learning more effective.

Design

- *Working directly through existing government structures brings dividends*
  The project chose to work directly with the Ministry of Environment and Tourism and local governments, rather than setting up parallel implementation structures. This decision has proved very successful not only in empowering government by providing experience and training, but also in developing effective government "ownership", engagement, participation and motivation, thereby promoting long-term sustainability of the project's achievements.
- *Designing a project linking various institutions from grassroots level institutions, government agencies, local authorities and communities generates huge benefits for sustainability, and through the synergies developed provides the intervention with much greater effectiveness than that which can be achieved by stand-alone projects.*
  The project chose to work with various institutions at different levels and local communities. This helped in empowering these institutions by providing experience, training and equipping in a well-funded and well-equipped environment and also in developing effective "ownership", engagement, participation and motivation, thereby promoting long-term sustainability of the project's achievements at community levels. It also helped to generate local guardianship (from community organisations or groups, local authorities and National Government's relevant sectors) that made project implementation efficient and effective.
- *Community participation in the project design, formulation of implementation modality, implementation and monitoring is very important.* This will help to implement projects effectively and also make activities sustainable. In this project, the inclusion of local communities, through the small grants approach helped local communities to

identify environmental issues that need to be addressed and enabled them to innovate a wide range of adaptation measures and livelihood improvement strategies.

- *Local communities understand causes of pastureland degradation and environmental problems but due to lack of livelihood alternatives they are forced to continue unsustainable practices so if project designs consider alternatives for betterment of livelihood by improving their practices then locals will cooperate.* The local communities understand and appreciate that the livelihood activities like coal and wood burning, overgrazing and poor water and soil management accelerate environmental degradation. They also showed willingness to change their practices if they are provided with alternative environmentally sound practices like water efficient agriculture and bio-briquette which support their livelihoods.

Project Management

- *Constant contacts with communities are vital to community-based water and land degradation risk management projects.* Good communication and regular communication in relation to project activities with the communities helps to promote successful, community-based projects as they built trust and motivation of the targeted local communities. To achieve this, the quality and commitment of those employed at the sites are key attributes of a project. This project has been benefited from efficient site coordinators and technical staff. But what the evaluation team believes to be the most important factor is the almost constant contact that they have had with the communities throughout the project's lifetime. This frequency of contact has undoubtedly enabled the project to build high levels of trust, capacity, and motivation which in turn has facilitated the change in people's mind-sets and behaviours and brought about the success of the EbA schemes. The role of the National Project coordinator is very vital in motivating field staffs.
- *High participation of women in groups and forming women's groups will assure more success.* Women were found more serious in EbA activities. It was observed that the groups with more women and women groups were more efficient in implementation and functioning and able to generate expected results. This also helped to generate leadership and develop decision making authority among them and also increased income through income generating activities (handicrafts making, sustainable and water efficient agriculture, livestock, cottage industry etc., also see outputs) improving their livelihoods. Women were found to be more engaged in EbA activities. This could be because they are the one who most interact with natural resources through activities like water collection, livestock grazing, cooking and working in agriculture field. The community groups with domination of women and women's group were most successfully implementing project activities and able to achieve desired results.

Annex I: Terms of Reference for Terminal Evaluation

TERMINAL EVALUATION TERMS OF REFERENCE

INTRODUCTION

In accordance with UNDP and AF M&E policies and procedures, all regular sized UNDP supported AF financed projects are required to undergo a terminal evaluation upon completion of implementation. These terms of reference (TOR) sets out the expectations for a Terminal Evaluation (TE) of the "Ecosystem Based Adaptation Approach to Maintaining Water Security in Critical Water Catchments in Mongolia" (MON/12/301) project (PIMS #4505).

The essentials of the project to be evaluated are as follows:

PROJECT SUMMARY TABLE

Project Title:	"Ecosystem Based Adaptation Approach to Maintaining Water Security in Critical Water Catchments in Mongolia" (MON/12/301) project			
AF Project ID:	MNG/MIE/EBA /2011/1		*at endorsement (Million US$)*	*at completion (Million US$)*
UNDP Project ID:	00079875	AF financing:	5,069,124	4,440778.07
Country:	Mongolia	IA/EA own:		
Region:	Asia-Pacific	Government: In kind contributions	5,000,000	
Executing Agency:	Ministry of Environment and Tourism (MET)	Other: UNDP	500,000	492,062.66
Other Partners involved:	UNDP	Total co-financing:		
		Total Project Cost:	10,569,124	4,932,840.73
		ProDoc Signature (date project began):		18 Nov 2011
		(Operational) Closing Date:	Proposed: 31 Dec 2017	Actual: 31 Dec 2017

PROJECT BACKGROUND INFORMATION

Mongolia is witnessing significant alterations to water and ambient air temperatures and precipitation patterns. Both the frequency and severity of extreme weather events are increasing. From 1940 to 2007, the annual mean air temperature in Mongolia increased by approximately 2.14^0C. This is three times higher than the global average. Warming is projected to further increase up to 5^0C by the end of the 21st century.

To address the additional ecological challenges presented by climate change, there is still an urgent need to conserve and rehabilitate the ecosystem services upon which Mongolia's rural economy, traditional culture, and rich biodiversity depend. This required a paradigm shift to ensure that the very foundation of human livelihood - ecosystems and their services - is sufficiently resilient to climate change pressure, and to enable communities to adapt to climate change.

The project was designed to maintain ecosystem functions and water provisioning services addressing the needs of critical for survival of rural communities and national economy. The project is implemented at two large landscapes: **the Turgen/Kharkhiraa sub-river basin** in Altai Mountains and Great Lakes Depression (Altai/GLD) eco-region and **the Ulz river basin** in the Dornod steppe and Mongol Daurian eco-region.

The target landscapes represent a significant portion of Mongolia's water resources and encompass an array of representative ecological, social and economic samples in the country, with potential for generating a variety of experiences and lessons. Both eco-regions and watersheds are emblematic of Mongolia's resilience barriers and concrete adaptation challenges, e.g., over-grazing, riparian disturbance, and over-appropriation. The specific locations were selected because they are: (1) "distinct", offering two very different ecological zones for establishing EBA practices; (2) "representative" of key climate change challenges; (3) appropriately scaled both in terms geographic size and population to allow for substantial, landscape level improvements within budget constraints; and, (4) strategic in that the locations are priorities for government action and allow for building upon and/or coordinating with on-going programming.

Based on these studies Ecosystem based adaptation (EbA) guidance was prepared on adaptation measures for current and future climate change and variability and associated disaster risks. Adaptation practices and technologies for sustaining social, economic, cultural services provided by ecosystem are introduced in accordance with these recommendations aimed to maintain regional ecosystem resilience at present and in the future.

The main objective of the project is to maintain the water provisioning services supplied by mountain and steppe ecosystems by internalizing climate change risks within land and water resource management regimes. The project is implemented between 2012 and 2017. Geographically, the project covers i) the Altai Mountains and Great Lakes Basin Eco-region; ii) the Eastern Steppe Eco-region; focusing on the Turgen/Kharkhiraa sub-river basin – (Turgen, Ulaangom, Sagil, Bukhmurun, Khovd, Tarialan, Naranbulag soums of Uvs Aimag); and the Ulz River Basin – (Chuluunkhoroot, Dashbalbar, Bayandun, Bayan-Uul, Gruvanzagal, Choibalsan, Sergelen soums of Dornod aimag; Bayan-Adarga, Batnorov, Norovlin soums of Khentii aimag).

The project has three interconnected components:

(i) Landscape Level integrated land use and water resources monitoring and planning system focused upon reduction of ecosystem vulnerability to climate change developed and under implementation;
(ii) Implementing landscape level adaptation techniques to maintain ecosystem integrity and water security under conditions of climate change;
(iii) Strengthening institutional capacities to support integrated river basin management, its replication and mainstreaming in sector policies;

Upon the request of the Government of Mongolia, UNDP is the Multilateral Implementing Agency (MIE) for this project. The Project is implemented following UNDP's National Implementation Modality (NIM). The designated Implementing Partner of the project is the Ministry of Environment and Tourism (MET). MET is responsible for implementing UNFCCC and water resource management and holds the responsibility of the senior supplier. MET is ultimately responsible for the timely delivery of inputs and outputs and for coordination of all other Responsible parties including other line ministries, relevant agencies, and local government Authorities. The MET appointed the National Project Director, the chair and members of the Project Board (PB), responsible for making management decisions for the project and plays a critical role in project monitoring and evaluations by quality assuring these processes and products, and using evaluations for performance improvement, accountability and learning.

OBJECTIVE AND SCOPE

The project was designed to maintain ecosystem functions and water provisioning services addressing the needs of critical for survival of rural communities and national economy. The project is implemented at two large landscapes: the Turgen/Kharkhiraa sub-river basin in Altai Mountains and Great Lakes Depression (Altai/GLD) eco-region and the Ulz river basin in the Dornod steppe and Mongol Daurian eco-region.

The TE will be conducted according to the guidance, rules and procedures established by UNDP and GEF as reflected in the UNDP Evaluation Guidance for GEF Financed Projects[1].

The objectives of the evaluation are to assess the achievement of project results, and to draw lessons that can both improve the sustainability of benefits from this project, and aid in the overall enhancement of UNDP programming.

EVALUATION APPROACH AND METHOD

An overall approach and method[2] for conducting project terminal evaluations of UNDP supported AF financed projects has developed over time. The evaluation should include a mixed methodology of document review, interviews, and observations from project site visits, at minimum, and the evaluators should make an effort to triangulate information. The evaluator is expected to frame the evaluation effort using the criteria of **relevance, effectiveness, efficiency, sustainability, and impact,** as defined and explained in the UNDP Guidance for Conducting Terminal Evaluations of UNDP-supported, GEF-financed Projects. A set of questions covering each of these criteria have been drafted and are included with this TOR (*fill in Annex C*) The evaluator is expected to amend, complete and submit this matrix as part of an evaluation inception report, and shall include it as an annex to the final report.

The evaluation must provide evidence-based information that is credible, reliable and useful. The evaluator is expected to follow a participatory and consultative approach ensuring close engagement with government counterparts, in particular the AF operational focal point, UNDP Country Office, project team, UNDP GEF Technical Adviser based in the region and key stakeholders. The evaluator is expected to conduct a field mission to Mongolia, including the following project sites: **the Turgen/Kharkhiraa sub-river basin** and **Ulz river basin**. Interviews will be held with the following organizations and individuals at a minimum:

1. Ministry of Environment and Tourism
2. Ministry of Food, Agriculture, Light Industry
3. Ministry of Finance
4. Local Government (aimags and soums in the 2 target eco-regional landscapes)
5. Administration of Land Affairs, Geodesy and Cartography
6. National Agency for Meteorology and Environment Monitoring
7. The Nature Conservancy
8. World Wildlife Fund
9. Mongolian Academy of Science and research institutes
10. River basin administrations
11. River basin councils/ Water user groups
12. Communities
13. National media etc.

[1] The guidance document for UNDP-supported GEF financed projects can be used for AF financed projects as well. The document is available via this link.
[2] For additional information on methods, see the Handbook on Planning, Monitoring and Evaluating for Development Results, Chapter 7, pg. 163

The evaluator will review all relevant sources of information, such as the project document, project reports – including Annual PPR, project budget revisions, midterm review, progress reports, AF tracking tools, project files, national strategic and legal documents, and any other materials that the evaluator considers useful for this evidence-based assessment. A list of documents that the project team will provide to the evaluator for review is included in Annex B of this Terms of Reference.

EVALUATION CRITERIA & RATINGS

An assessment of project performance will be carried out, based against expectations set out in the Project Logical Framework/Results Framework (see Annex A), which provides performance and impact indicators for project implementation along with their corresponding means of verification. The evaluation will at a minimum cover the criteria of: **relevance, effectiveness, efficiency, sustainability and impact.** Ratings must be provided on the following performance criteria. The completed table must be included in the evaluation executive summary. The obligatory rating scales are included in Annex D.

Evaluation Ratings:			
1. Monitoring and Evaluation	***rating***	**2. IA & EA Execution**	***rating***
M&E design at entry		Quality of UNDP Implementation – Implementing Agency (IA)	
M&E Plan Implementation		Quality of Execution - Executing Agency (EA)	
Overall quality of M&E		Overall quality of Implementation / Execution	
3. Assessment of Outcomes	***rating***	**4. Sustainability**	***rating***
Relevance		Sustainability of Financial resources	
Effectiveness		Sustainability of Local initiatives/cooperation	
Efficiency		Socio-political Sustainability	
Overall Project Outcome Rating		Institutional framework and governance	
		Environmental	
		Overall likelihood of sustainability	

PROJECT FINANCE / COFINANCE

The Evaluation will assess the key financial aspects of the project, including the extent of co-financing planned and realized with consideration of the parallel complementary measures within the similar contexts taken by the Government. Project cost and funding data will be required, including annual expenditures. Variances between planned and actual expenditures will need to be assessed and explained. Results from recent financial audits, as available, should be taken into consideration. The evaluator(s) will receive assistance from the Country Office (CO) and Project Team to obtain financial data in order to complete the co-financing table below, which will be included in the terminal evaluation report.

Co-financing (type/source)	UNDP own financing (mill. US$)		Government (mill. US$)		Partner Agency (mill. US$)		Total (mill. US$)	
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual
Grants	500,000				5,069,124		5,569,124	
Loans/Concessions								

• In-kind support			5,000,000				5,000,000	
• Other								
Totals							10,569,124	

MAINSTREAMING

UNDP supported AF financed projects are key components in UNDP country programming, as well as regional and global programmes. The evaluation will assess the extent to which other UNDP priorities, including poverty alleviation, improved governance, the prevention and recovery from natural disasters, and gender were successfully mainstreamed into the project. The evaluation will examine this project's contribution to the UNDP's Country Programme Document.

IMPACT

The evaluators will assess the extent to which the project is achieving impacts or progressing towards the achievement of impacts. Key findings that should be brought out in the evaluations include whether the project has demonstrated: a) verifiable improvements in ecological status, b) verifiable reductions in stress on ecological systems, and/or c) demonstrated progress towards these impact achievements.[3]

CONCLUSIONS, RECOMMENDATIONS & LESSONS

The evaluation report must include a chapter providing a set of **conclusions**, **recommendations** and **lessons**. Conclusions should build on findings and be based in evidence. Recommendations should be prioritized, specific, relevant, and targeted, with suggested implementers of the recommendations. Lessons should have wider applicability to other initiatives across the region, the area of intervention, and for the future.

IMPLEMENTATION ARRANGEMENTS

The principal responsibility for managing this evaluation resides with the UNDP CO in Mongolia, in terms of per diem, it goes as a part of the financial offer and the payment is proposed as lump sum payable in installments. With regard to travel arrangements within the country, it falls under the responsibility of the Project team to arrange transportation in UB and field visits by covering travel costs. For more information on duration of staying in UB and countryside please refer to Draft mission agenda. The Project Team will be responsible for liaising with the Evaluators team to set up stakeholder interviews, arrange field visits, coordinate with the Government etc.

TENTATIVE MISSION AGENDA FOR INTERNATIONAL CONSULTANT ON TERMINAL REVIEW

This schedule shall be undertaken from July 30 to August 10, 2017.

No	Activity	Date	Responsible parties/persons
1.	Arrival in UB	30 July 2017	IC
2.	Briefing at UNDP CO, Mongolia (also security briefing)	31 July 2017	IC/NC, PO UNDP CO
3.	Meet at PIU	31 July 2017	IC/NC, PIU

[3] A useful tool for gauging progress to impact is the Review of Outcomes to Impacts (ROtI) method developed by the GEF Evaluation Office: ROTI Handbook 2009

4.	Interview with relevant parties in Ulaanbaatar city	31 July -1 August 2017	PIU/IC/NC
5.	Field trip to eastern target area, Ulz river basin.	2-6 August 2017	PIU will be responsible for trip and meeting arrangements to and at target sites
6.	Field trip to eastern target area, Kharkhiraa/Turgen sub river basin	7-10 August 2017	PIU will be responsible for trip and meeting arrangements to and at the target sites
7.	Mission wrap up meeting	10 August 2017	IC/NC/PIU (All relevant parties)
8.	Debriefing UNDP CO, Mongolia	10 August 2017	IC/NC, PO UNDP CO
9.	Departure	11 August 2017	IC

EVALUATION TIMEFRAME

The total duration of the evaluation will be 27 working days over a time period of 10 weeks according to the following plan:

Activity	Timing/ Number of working days	Completion Date
Preparation	3 days:	3-5 July 2017
Evaluation Mission	12 days:	30 July -10 August 2017
Draft Evaluation Report	10 days:	22-31 August 2017
Final Report	3 days:	6-8 September 2017

EVALUATION DELIVERABLES

The evaluation team is expected to deliver the following:

Deliverable	Content	Timing	Responsibilities
Inception Report	Evaluator provides clarifications on timing and method	No later than 2 weeks before the evaluation mission: *17 July 2017*	Evaluator submits to UNDP CO
Presentation	Initial Findings	End of evaluation mission: *10 August 2017*	To project management, UNDP CO
Draft Final Report	Full report, (per annexed template) with annexes	Within 3 weeks of the evaluation mission: *31 August 2017*	Sent to CO, reviewed by RTA, PCU, AF OFPs
Final Report*	Revised report	Within 1 week of receiving UNDP comments on draft: *8 September 2017*	Sent to CO for uploading to UNDP ERC.

*When submitting the final evaluation report, the evaluator is required also to provide an 'audit trail', detailing how all received comments have (and have not) been addressed in the final evaluation report.

TEAM COMPOSITION

An evaluation team will be composed of one international and one national evaluator. The consultants shall have prior experience in evaluating similar projects. Experience with AF/GEF financed projects is an advantage. The evaluators selected should not have participated in the project preparation and/or implementation and should not have conflict of interest with project related activities.

Terminal evaluation:

International Consultant/ Team Leader

The Team Leader will have overall responsibility for the work and operation of the evaluation team, including the coordination of inputs from national team member. The Team Leader is responsible and accountable for the production of the agreed deliverables.

The Team Leader is responsible for the following:

- Desk research of existing management plans, survey/research/reports and databases;
- Conduct fieldwork and interview stakeholders, and communities to generate authentic information and opinions;
- Write and compile the information and reports as needed;
- Make a presentation of key findings highlighting achievements, constraints, and make practical recommendations to decision makers and stakeholders;
- Draft and finalize the Evaluation Report.

National Consultant

The national consultant will assist and collaborate with the Team Leader in all e tasks mentioned above including fieldwork, logistic arrangement in cooperation with PIU. Specific tasks are as following:

- Desk review of project materials and databases;
- Fieldwork together with international consultant. Carry out stakeholders' interview as requested by the team leader and do interpretation work (if necessary);
- Write brief notes or certain parts of the evaluation report as agreed with the team leader;
- Provide inputs either by written or verbally to the presentation, highlighting key findings, achievements and constraints;
- Contribute to draft and final Evaluation Reports;
- Translate the draft and final reports into Mongolian.

International Consultant/ Team Leader Required Experience:

Education:

- A post-secondary/advanced degree (Masters level or higher) in nature& environment science, management and or other closely related field.

Experience:

- Minimum 10 years of relevant professional experience in climate change adaptation and EbA
- Minimum of 5 years experience evaluations (with UNDP and/or GEF-financed projects is an advantage)
- Experience with results-based monitoring and evaluation methodologies

- Technical knowledge in the targeted focal area(s): biodiversity, land use and water management in context of similar climate condition
- Excellent communication skills
- Demonstrable analytical skills

National Consultant/ Team Specialist Required Experience:

Education:

- A higher education degree (Masters level or higher) in in nature& environment science, management and or other closely related field.

Experience:

- Minimum 5 years of relevant professional experience in in climate change adaptation and EbA
- Experience with results-based monitoring and evaluation methodologies
- Technical knowledge in the targeted focal area(s): land use and water management in context of climate change
- Excellent communication skills
- Demonstrable analytical skills

EVALUATOR ETHICS

Evaluation consultants will be held to the highest ethical standards and are required to sign a Code of Conduct (Annex E) upon acceptance of the assignment. UNDP evaluations are conducted in accordance with the principles outlined in the UNEG 'Ethical Guidelines for Evaluations'.

PAYMENT MODALITIES AND SPECIFICATIONS

%	Milestone
10%	At submission and approval of inception report
50%	Following submission and approval of the 1ST draft terminal evaluation report
40%	Following submission and approval (UNDP-CO and UNDP RTA) of the final terminal evaluation report

APPLICATION PROCESS

Applicants are requested to apply online (http://jobs.undp.org) by 26th May 2017. Individual consultants are invited to submit applications together with their CV for these positions. The application should contain a current and complete C.V. in English with indication of the e-mail and phone contact. Shortlisted candidates will be requested to submit a price offer indicating the total cost of the assignment (including daily fee, daily allowance and international travel costs). Travel cost for the evaluation mission to target river basins shall be covered by the Project Implementing Unit.

UNDP applies a fair and transparent selection process that will take into account the competencies/skills of the applicants as well as their financial proposals. Qualified women and members of social minorities are encouraged to apply.

ANNEX A: PROJECT LOGICAL FRAMEWORK

Objective and Components	Indicator	Baseline				Midterm evaluation % of Target Fulfilled	Targets/End of Project	Source of verification	Risks and Assumptions
Project objective: Maintain the water provisioning services supplied by mountain and steppe ecosystems by internalizing climate change risks within land and water resource management regimes. Main indicator is Mean annual in-stream flow.	Mean annual in-stream maintained or increased in two project sites[4] 1. 30 day average of minimum discharge in warm period 2. Long term mean discharge and annual average discharge in selected year,(.m3/s)	Kharkhiraa River: 1.58 m^3/sec Turgen River: 0.78 m^3/sec Ulz River: 0.00 m^3/sec (at Chuluunkhoroot) Kharkhiraa River: 5.15 m^3/sec Turgen River: 2.55 m^3/sec Ulz River: 5.88 m^3/sec (at Chuluunkhoroot)				No, situation worse than baseline[5] Situation improved for Ulz	Kharkhiraa River: 1.58 m^3/sec Turgen River: 0.78 m^3/sec Ulz River: 0.01 m^3/sec (at Chuluunkhoroot)	Hydrological data reported by existing and new monitoring station	Hydrological reporting stations remain operational (The project will provide support strengthening analysis and monitoring capacity) Impacts of climate change do not outpace project adaptation responses (this will be alleviated
	Ground and surface water quality is meeting Mongolian standards in two project sites[6]		Turgen	Kharkhira	Ulz	In all cases overfulfilled	Meeting Mongolian standards	Surface water monitoring reports submitted by national and target site stakeholders Project reporting and evaluation	
		Suspended solids MNS4586:1998/ 35mg/l	16.0	40.0	8.5	Not fulfilled for Turgen and Ulz, overfulfilled for Kharkhira			
		Permanganate COD MNS4586:1998/ 10 mg/l	1.4	7.0	5.28	Overfulfilled in Turgen and Kharkhira, not fulfilled in Ulz			
		NH+4 MNS4586:1998 0.5mg/l	0.42	0.54	0.083	Overfulfilled everywhere			
		Total mineral P MNS4586:1998/0.2 mg/l	0.34	0.45	0.79	Overfulfilled in Turgen and Kharkhira, not fulfilled in Ulz			
		Total Fe MNS4586:1998/ 0.1 mg/l	0.23	0.14	0.0	In all cases overfulfilled			
		Decreased soil compaction, g/cm^3 Changes of aggregates, % (at the layer 0-10cm, 10-20cm)	TBD TBD	TBD TBD	TBD TBD				
		Water temperature (Celsius)	7.4	5.8	14.4	14/ 12.5 / 19			

[4] In-stream base flow is a portion of stream flow that comes from the deep subsurface flow and delayed shallow subsurface flow during the summer (un-frozen) period.

5 The indicators are not feasible, therefore, not fulfilling them does not mean that project did not perform. (compare also recommendations)

[6] Basing on explanatory note in the Annex, in-stream of Ulz river at Chuluunkhoroot water monitoring post has been trapped in recent years. In project year one, water resource is determined in detail and indicators and targets will be revised.

			As of 2012	As of 2014			by the project's

Objective and Components	Indicator	Baseline	Midterm evaluation % of Target Fulfilled	Targets/End of Project	Source of verification	Risks and Assumptions
Component 1: Landscape Level integrated land use and water resources monitoring and planning system focused upon reduction of ecosystem vulnerability to climate change	1. Number of integrated strategies/management plans for river basins approved and adopted by National and Aimag Governments[7]	Operational integrated strategies/management plans for river basins(or sub-basins): **0**	**More than 100%**, One IWRM plan adopted by all 3 target Aimags (and implementation initiated from the 2015. Seventeen EbA programs developed for each target soum in Kharkhiraa-Turgen and Ulz river basins and endorsed to 17 soum's Parliament.	Operational integrated strategies/management plans for river basins: at least **2**	MEGDT and Project reporting and evaluation	Protected area expansion is approved by government structures (this will be alleviated through the participatory planning processes implemented in Component One)
	2. Number of Aimag governments monitoring, assessing, and reporting to MEGDT and relevant agencies (water authority, National Climate Change Coordination Office) on integrated river basin management measures	Number of Aimag Governments implementing integrated strategies/management plans for river basins: **0**	**More than 100%, Two** Ulz RBA and Uvs lake – RBA **Three** Meteorology offices of Dornod, Uvs and Khentii aimag, **Five** Governor's Offices of Dornod, Uvs, Khentii, Zavkhan and Khuvsgul aimag	Number of Aimag Governments implementing integrated strategies/management plans for river basins: at least **3**	National, provincial and district legislation	
	3. Guidelines for IWRM address climate risks and vulnerability and integrate adaptation measures and EBA approaches	Current guidelines do not address adaptation and EBA issues explicitly	**More than 100%,** Guidelines for IWRM address climste risks and landscape level Soum EbA Plans are also in support of the implementation of IWRM plans for RBs.	Guidelines for IWRM that address climate change risks	National, provincial and district legislation	
	4. Total hectares included within protected areas system in the two project sites[8]	Altai Mountains / GLB: **3,742,000 ha** Kharkhiraa,Turgen watershed: **80,000 ha** Eastern Steppe: **4,267,600 ha** Ulz watershed**:** **312,000 ha**	**Fulfilment rate about 7%. Not fulfilled.** Good progress has been made in enlarging the network of protected areas: 2014 The protected area has increased almost of 6,000 km2 (600,000 hectares). It's 13% of Ulz, Kharkhiraa-Turgen river basins area.	Altai Mountains / GLB: **3,942,000 ha** Kharkhiraa,Turgen watershed: **100,000 ha** Eastern Steppe: **4,467,600 ha** Ulz watershed: **375,000 ha**		

Outputs:

- Ecological and socio-economic Assessments (Baseline studies) as a basis for development o f Ecosystem-based Adaptation strategies for the target landscapes and River Basin Management Plans (Kharkhira/Turgen,Ulz river basin)
- Economic valuations completed comparing the landscape level costs and benefits of EBA.
- Ecosystem-based Climate Change Adaptation strategies for landscapes and river basins (Kharkhiraa/Turgen and Ulz river basins) are developed

[7] These indicators are uncontrollable however, which does not mean disapproval of the project implementation
[8]By project close, the National Government and each Aimag within the Altai/GLB and Eastern Steppe landscapes will have adopted the EBA strategic process as formal policy

Objective and Components	Indicator	Baseline	Midterm evaluation % of Target Fulfilled	Targets/End of Project	Source of verification	Risks and Assumptions
Component 2: Implementing Landscape level adaptation techniques to maintain ecosystem integrity and water security under conditions of climate change	1. Number of Soums in target area integrating EBA measures/IW RM into their annual land-use planning and in Soum development plans and strategies.	Total number of Soums in target area considering integrated River Basin Management in their annual land-use planning and in Soum development plans and strategies: **0**	**100% - Target fulfilled.** 17 soums	Total number of Soums in target area considering integrated River Basin Management in their annual land-use planning and in Soum development plans and strategies: **17**	Project reporting and evaluation Monitoring and reporting by national and local authorities and project stakeholders	Capacity of Aimag and Soum level stakeholders will match project activity demands (this will be alleviated by a project capacity building strategy, including national/local mentoring program) Proposed interventions are able to deliver EBA results (this will be alleviated by strategic and participatory planning implemented under Component One that will identify and prioritize actions based upon local needs.)
	2. Number of EbA interventions for which current and future costs and benefits have been calculated: a. Number of rehabilitated springs b. Increased length and discharge of rehabilitated springs	0 TBD	n/a for 2014, since the indicator has been newly integrated into the Results framework in April 2015 following up the recommendations of the MTR conducted between November 2014 and January 2015.	5		
	3. Decreased fuel consumption by local public service buildings for heating, %	Average coal consumption for heating of public buildings in each soum: 1.Governor's office along with cultural center 200 tonn/year 2.Hospital 40 tonn/year 3.Kindergarden 30 tonn/year 4.School 100 tonn/year As of 2014 of 2013	n/a for 2013, since the indicator has been newly integrated into the Results framework in April 2015 following up the recommendations of the MTR conducted between November 2014 and January 2015. Currently, 68 public buildings (soum administration offices, schools, hospitals, indergartens) have been equipped with several automatic instruments including thermometers and manometers to ensure and monitor proper heating mode of central systems for fuel efficiency. According to the latest assessment made by the National consultant, fuel consumption was approximately decreased by 15 percent.	15% decrease		
	4. Improved use of surface water resources in replacement of ground water:		a)Drip irrigation systems with water meters were installed in 2 project sites in order to improve efficiency of water usage for	a) Total extraction for:	Monitoring by national and	

	a) Amount of surface water extracted for irrigation in project sites (cubic meter) b) Number of monitored wells increasing ground-water consumption efficiency in project sites[9] c) Number of Small scale Rain and snow melt Water harvesting	a) Total extraction for: • Kharkhiraa,Turgen: 3000 tonn/ha for potato • Ulz: 2400 tonn ha for potato **0** b) Monitored/efficient wells: • Kharkhiraa/Turgen: **0** • Ulz: **0** **(not been used since was broken)** c) No water harvesting activities	agricultural irrigation. Site responsible water users are keeping records on water consumption in order to compare efficiency of drip and regular irrigation systems. Collected data will be used for further replication. National consultant's assessment shows drip irrigated lands used 3.1-3.3 times less water as used to be. b) **Less than 10%** In 2014, a total of 6 wells were repaired. The project is intending to equip established boreholes with relevant measuring devices and train local hydrological officers. **c) 100%** In 2014, 2 simple water harvesting structure were constructed in Turgun soum with the volume of 4000 cubic meters. In 2015, small scale engineering water catchment facility with the volume of 18854.0 cubic meters was constructed in Bayandun soum of Dornod aimag. Water reservoir called "dry well" to potentially collect snowmelts and rin water of about a volume of 55 tonnes was established in Naranbulag soum of Uvs aimag. In 2016, Traditional water catchment facility with the volume of 9000 cubic meters for snow and rain water harvesting was constructed in Batnorov soum of Khentii aimag.	• Kharkhiraa,Turgen: 960 tonn/ha for potato • Ulz: 720 tonn/ha for potato (Approx. 3.1-3.3 times decreased) (while maintaining sustainable agricultural practices through appropriate irrigation technology) b) Monitored/efficient wells: • Kharkhiraa/Turgen: **14** • Ulz: **20** (Approx. 10% increase) c) Number of small water harvesting reservoirs	local authorities and project stakeholders EBA strategies and plans Project reporting and evaluation	

[9]Indicator may include national, provincial, and/or district designated protected areas.

	5. Land use practices and climate change resilience improved as indicated by: a) Total hectares of riparian and wetland habitat restored with native vegetation within project sites b) Springs protected with livestock enclosures, Livestock watering and access to creeks managed with appropriate facilities/fencing c) Total area with improved pasture land management (rotational use, pasture irrigation, carrying capacity)[10] d) Areas with Reforestation and improved forest management in Western target areas	a) Total hectares restored riparian/wetland: • Kharkhiraa,Turgen: **0 ha** • Ulz: **0 ha** b) – c) Total hectares with EBA grazing practices: • Kharkhiraa,Turgen: **0 ha** • Ulz: **0 ha** d) 226 ha as of 2012	**a) Less than 1%. Not fulfilled** Small scale tree nurseries in Kharkhiraa, Turgen and Ulz river basins covering 10 ha of riparian area. In 2014, a total of 5 hectares of area have been rehabilited along the river Ulz and Kharkhiraa **b) 100%** A total of **12 springs** were protected in 2014 applying. As a result, a total of 117.000 hectares[11] of pasture land were supplied with required water resources. The protected springs have been providing more than 500 rural populations as well as 69.500 livestocks with drinking water. **c) More than 100%** 117000 ha **d) More than 100%** 254 ha	a) Total hectares restored riparian/wetland: • Kharkhiraa,Turgen: **1,250 ha** • Ulz: **2,250 ha** **b) Approx. 30% increase** c) Total hectares with EBA grazing practices: • Kharkhiraa,Turgen: **150,000 ha** • Ulz: **1,200,000 ha** d) **294 ha** (Approx. 30% increase)	Monitoring by national and local authorities and project stakeholders EBA strategies and plans Project reporting and evaluation	

[10] Determined by total hectares not exceeding annual carrying capacity limits as measured by the national carrying capacity network. Project will ground-truth findings using finer-scale vegetation plots and water course investigations to appraise pasture biomass and water resources integrity at grazing management improvement sites. Total watershed area: Ulz project site (37,962 km2), Kharkhiraa/Turgen project site (5,264 km2)

[11] It is not clear, how the figures were calculated

	6. Number of increased income of households engaged with local adaptation measures in 17 soums 7. Number of Small Enterprises established and operating successfully (tourism, processing dairy/ livestock products, agriculture, fuel efficiency, building blocks etc.) 8. Hydrological monitoring is strengthened	Number of households below living standard: TBD **0** Monitoring posts for glacial run-off in Western project area: **0**	6. Not measured. Not to be measured during MTR 7. **Fulfilment less than 50%** 558 **8. 100%** One Glacier Observation Post was established in Turgen Mountains. In total, 3 surface water monitoring posts (1 in Kharkhiraaa, the west, 2 in Ulz, eastern target area) newly established with support of the project in addition to existing ones (in the west 3, in the east 3) in 2013.	Number of households below living standard: Approx. 10% average decrease At least **160** **At least 1** more monitoring post for glacial run-off in established Water resources monitoring network expanded (at least 2 more gauges) in project target areas	Aimag annual reports Soum statistics data Project reporting and evaluation	

Outputs:

- Capacities of rural communities for monitoring natural resources and climate change impacts and for adaptive management in two watersheds strengthened
- Suite of physical techniques to improve ecosystem resilience established in two critical watersheds.
- Regulatory and financial management techniques for improving climate change resilient livelihood strategies

Objective and Components	Indicator	Baseline	Midterm evaluation % of Target Fulfilled	Targets/End of Project	Source of verification	Risks and Assumptions
Component 3: Strengthening Capacities/Inst	1. Glacier and snow depth monitoring system introduced& operational	Kharkhiraa, Turgen river basin: No monitoring system of glacier and snow depth: **0**	1.**100%**, 1	Glacier and snow depth monitoring system introduced& operational: **1**	Hydrological data reported by existing and new monitoring station	Implementation of River basin management plans is included in budget

itutions to support EBA strategies and integrated river basin management, their replication and mainstreaming in sector policies	2. Number of River Basin Administrations established and strengthened in target areas 3. River Basin Councils and sub-councils established and strengthened in target areas 4. Number of staffs of relevant agencies and local governments trained in river basin management guidelines	Operational RBAs: **0** River Basin Councils established and strengthened in target areas: **0** Number of staff s of relevant agencies and local governments trained in river basin management guidelines: **0**	2.**100%** 2 3.**100%** More than 3 4.**More than 100%** 110	Operational RBAs: **2** River Basin Councils established and strengthened in target areas: **at least 3** Number of staff of relevant agencies and local governments trained in river basin management guidelines: at least staff of relevant agencies in 21 Aimags, and members of existing river basin councils, and staff of newly established river basin administration	Project reporting and Evaluation	planning and allocation (The GOM budget has and will likely increase significantly over the project period).
	5. National mainstreaming of EBA as indicated by: • Number of official government policy documents adopting EBA principles/practices • Amount of annual government spending to support application of EBA principles and practices nationally • Number of National Climate Change Authority EBA policy documents mainstreaming EBA within sectoral decision-making frameworks.	Number of sector policy documents revised and amended to consider mainstreaming EBA, landscape level integrated water resources and land-use management: **less than 5** Total national annual investment in EBA: **$0** Number of National Climate Change Authority Policy Documents: **0** (2 documents (National Programme and Action Plan on Climate Change) exist, but do not explicitly address EBA (in this terminology)	5**. Less than 30%**, The main EbA policy-Strategic priorities to implement EbA measures for 2 target eco regions was referenced to National MARCC policy document developed in 2014. Moreover the published EbA policy document was distributed to participants of National workshop of soum Governors held in 30 October, 2014 in the Parliament House of Mongolia. **More than 100%,** The target aimag and soums committed a total of USD 3.3 million (2.8 for Ulz, 0.5 in Kharkhiraa/Turgen) for implementation of EbA pilot measures reflected in the IWRM Plans. These amounts constitute 2.8% and 19.1% of the total proposed budget of IWRM Plans for Kharkhiraa, Turgen sub-river basin and Ulz river basin respectively. **0,** Three series of national workshops to discuss the draft National Climate Change Adaptation program for Agriculture, Water resource& Forest sector was held in 2014 co-organized with CCCO and PIU with the involvement of key decision makers& experts of 3 development sectors above. During the workshops, the NPC& all 3 experts of PIU gave their comments to reflect EbA concepts& measures into the programmes. Also the main EbA policy-	Number of sector policy documents revised and amended to consider mainstreaming EBA, landscape level integrated water resources and land-use management: considering priority actions, **at least 7** (including pasture, agriculture) Total national annual investment in EBA: **$100,000** Number of National Climate Change Authority Policy Documents (Adaptation Strategies) **at least 3**	National government budget analysis conducted as part of the project support valuation of ecosystem services studies. May include re-alignment of existing spending to support EBA implementation. NCCA reports Project reporting and evaluations	

			Strategic priorities to implement EbA measures for 2 target eco regions were delivered to the workshop participants.			

Outputs:

- Ecosystem-based adaptation approaches/integrated river basin management mainstreamed in national resource use planning and implementation mechanisms, and sector policies
- Institutional structure for river basin management integrating climate change risks (Administration and Council) established and operational in the target areas as model for replication
- Best practices are identified and program for up-scaling best practices developed and implemented

ANNEX B: LIST OF DOCUMENTS TO BE REVIEWED BY THE EVALUATORS

1. AF Concept and/or Proposal, Project Document, and Log Frame Analysis (LFA)
2. UNDP Environmental and Social Screening results
3. Project Implementation Plan
4. Implementing/Executing partner arrangements
5. List and contact details for project staff, key project stakeholders, including Project Boards, and other partners to be consulted
6. Project sites, highlighting suggested visits
7. Project Inception Report
8. Mid Term Review (MTR) Report
9. Annual Project Performance Reports (PPR)
10. Project budget and financial data
11. Audit reports
12. Project Tracking Tool, at the baseline and at the mid-term
13. UNDP Development Assistance Framework (UNDAF)
14. UNDP Country Programme Document (CPD)
15. UNDP Country Programme Action Plan (CPAP)
16. Oversight mission reports
17. All monitoring reports prepared by the project
18. The following documents will also be available:
19. Project operational guidelines, manuals and systems
20. Minutes of the Ecosystem-based Adaptation Approach to Maintaining Water Security in Critical Water Catchments in Mongolia project Board Meetings and other meetings (i.e. Project Appraisal Committee meetings)

ANNEX C: EVALUATION QUESTIONS

(Note: This is a generic list, to be further detailed with more specific questions by CO and UNDP GEF Technical Adviser based on the particulars of the project. Refer to Annex 4 of the TE Guidance for a completed, sample evaluation criteria matrix)

This Evaluation Criteria Matrix must be fully completed by the consultant and included as an Annex to the TE report.

Evaluative Criteria Questions	Indicators	Sources	Methodology
Relevance: How does the project relate to the main objectives of the AF, and to the environment and development priorities at the local, regional and national levels?			
•	•	•	•
•	•	•	•
•	•	•	•
Effectiveness: To what extent have the expected outcomes and objectives of the project been achieved?			
•	•	•	•
•	•	•	•
•		•	•
Efficiency: Was the project implemented efficiently, in-line with international and national norms and standards?			
•	•	•	•
•	•	•	•
•	•	•	•
Sustainability: To what extent are there financial, institutional, social-economic, and/or environmental risks to sustaining long-term project results?			
•	•	•	•
•	•	•	•
•	•	•	•
Impact: Are there indications that the project has contributed to, or enabled progress toward, reduced environmental stress and/or improved ecological status?			
•	•	•	•
•	•	•	•

ANNEX D: RATING SCALES

Ratings for Effectiveness, Efficiency, Overall Project Outcome Rating, M&E, IA & EA Execution	***Sustainability ratings***	***Relevance ratings***
6. Highly Satisfactory (HS): no shortcomings 5. Satisfactory (S): minor shortcomings 4. Moderately Satisfactory (MS): moderate shortcomings 3. Moderately Unsatisfactory (MU): significant shortcomings 2. Unsatisfactory (U): major shortcomings 1. Highly Unsatisfactory (HU): severe shortcomings	4. Likely (L): negligible risks to sustainability 3. Moderately Likely (ML): moderate risks 2. Moderately Unlikely (MU): significant risks 1. Unlikely (U): severe risks	2. Relevant (R) 1. Not relevant (NR)
Additional ratings where relevant: Not Applicable (N/A) Unable to Assess (U/A)		

ANNEX E: EVALUATION CONSULTANT CODE OF CONDUCT AND AGREEMENT FORM

Evaluators:

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people's right not to engage. Evaluators must respect people's right to provide information in confidence, and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals, and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study imitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Evaluation Consultant Agreement Form[12]

Agreement to abide by the Code of Conduct for Evaluation in the UN System

Name of Consultant: _____

Name of Consultancy Organization (where relevant)**:** _____

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.

Signed at *place* on *date*

Signature: _____

[12] www.unevaluation.org/unegcodeofconduct

ANNEX F: EVALUATION REPORT OUTLINE[13]

i. Opening page:

- Title of UNDP supported AF financed project
- UNDP and AF project ID#s
- Evaluation time frame and date of evaluation report
- Region and countries included in the project
- Implementing Partner and other project partners
- Evaluation team members
- Acknowledgements

ii. Executive Summary

- Project Summary Table
- Project Description (brief)
- Evaluation Rating Table
- Summary of conclusions, recommendations and lessons

iii. Acronyms and Abbreviations
(See: UNDP Editorial Manual[14])

1. Introduction

- Purpose of the evaluation
- Scope & Methodology
- Structure of the evaluation report

2. Project description and development context

- Project start and duration
- Problems that the project sought to address
- Immediate and development objectives of the project
- Baseline Indicators established
- Main stakeholders
- Expected Results

3. Findings
(In addition to a descriptive assessment, all criteria marked with (*) must be rated[15])

3.1 Project Design / Formulation

- Analysis of LFA/Results Framework (Project logic /strategy; Indicators)
- Assumptions and Risks
- Lessons from other relevant projects (e.g., same focal area) incorporated into project design
- Planned stakeholder participation
- Replication approach
- UNDP comparative advantage
- Linkages between project and other interventions within the sector
- Management arrangements

3.2 Project Implementation

[13]The Report length should not exceed *40* pages in total (not including annexes).
[14] UNDP Style Manual, Office of Communications, Partnerships Bureau, updated November 2008
[15] Using a six-point rating scale: 6: Highly Satisfactory, 5: Satisfactory, 4: Marginally Satisfactory, 3: Marginally Unsatisfactory, 2: Unsatisfactory and 1: Highly Unsatisfactory, see section 3.5, page 37 for ratings explanations.

- Adaptive management (changes to the project design and project outputs during implementation)
- Partnership arrangements (with relevant stakeholders involved in the country/region)
- Feedback from M&E activities used for adaptive management
- Project Finance
- Monitoring and evaluation: design at entry (*), implementation (*), and overall assessment (*)
- Implementing Agency (UNDP) execution (*) and Executing Agency execution (*), overall project implementation/ execution (*), coordination, and operational issues

3.3 Project Results

- Overall results (attainment of objectives) (*)
- Relevance (*)
- Effectiveness (*)
- Efficiency (*)
- Country ownership
- Mainstreaming
- Sustainability: financial resources (*), socio-economic (*), institutional framework and governance (*), environmental (*), and overall likelihood (*)
- Impact

4. Conclusions, Recommendations & Lessons

- Corrective actions for the design, implementation, monitoring and evaluation of the project
- Actions to follow up or reinforce initial benefits from the project
- Proposals for future directions underlining main objectives
- Best and worst practices in addressing issues relating to relevance, performance and success

5. Annexes

- ToR
- Itinerary
- List of persons interviewed
- Summary of field visits
- List of documents reviewed
- Evaluation Question Matrix
- Questionnaire used and summary of results
- Evaluation Consultant Agreement Form
- *Annexed in a separate file:* TE audit trail
- *Annexed in a separate file:* Terminal AF Tracking Tool, if applicable

ANNEX G: EVALUATION REPORT CLEARANCE FORM

(to be completed by CO and UNDP GEF Technical Adviser based in the region and included in the final document)

Evaluation Report Reviewed and Cleared by

UNDP Country Office

Name: _____

Signature: _____ Date: _____

UNDP GEF RTA

Name: _____

Signature: _____ Date: _____

ANNEX H: TE REPORT AUDIT TRAIL

The following is a template for the evaluator to show how the received comments on the draft TE report have (or have not) been incorporated into the final TE report. This audit trail should be included as an annex in the final TE report.

To the comments received on (8 Aug 2017) from the Terminal Evaluation of ("Ecosystem Based Adaptation Approach to Maintaining Water Security in Critical Water Catchments in Mongolia" (MON/12/301) project) (UNDP PIMS #4505)

The following comments were provided in track changes to the draft Terminal Evaluation report; they are referenced by institution ("Author" column) and track change comment number ("#" column):

Author	#	Para No./ comment location	Comment/Feedback on the draft TE report	TE team response and actions taken

Prepared by:

_____ Date:_____

Ts. Tuya, National Project Coordinator

Agreed by:

_____ Date:_____

B.Bunchingiv, Programme officer, UNDP CO

Approved by:

_____ Date:_____

Daniela Gasparikova, DRR, UNDP CO

Annex II: Itinerary of Activities TE Mission

Date/time	Activity	Responsible parties/persons	Pl
October 2, Monday 10.50	Arrival in Ulaanbaatar (UB) Pick up arranged with support of Project implementing Unit (PIU)	Mr. Arun Rijal, International Consultant Ms. Khaliun G., Secretary/translator (TS) PIU Mr. Enkh Amgalan D., Driver	Chir Int
13.00-14.00	Lunch		
14.00-15.15	Briefing at UNDP Country Office, Mongolia Ms. Beate Trankmann, UN RC/UNDP RR Ms. Bunchingiv B. Program Officer on Climate change	DRR, PO, NPC	U
15.30-16.15	Mr. Batbayar Ts. Vice Minister of MET and Chairman of Project Board		
16.15-17.00	Ms. Javzan V., Senior Officer, Department of Monitoring and Evaluation and Internal auditing, Project Board member	IC, NC, PIU, all relevant parties	In of sta
17.15-18.00	Mr. Batjargal Z., National focal point of UNFCCC and Green Climate Fund in Mongolia,		
October 3, Tuesday 08.30-09.00	Security briefing meeting	UN security staff	U
09.00-10.30	Batchuluun Y., Professor, University of Pedagogical Sciences Mr. Jambalija Ya., Senior researcher, Institute of Geography & Geo-Ecology Gunjidmaa G., Head of Research and Information department, press Institute of Mongolia	IC, NC, PIU, all relevant partners	
10.50-12.00	Meeting at PIU Ms. Tuya Ts., National Project Coordinator (NPC) Mr. Enkhbat M., Administrative and Finance Officer	PIU staffs, NC, IC	P
12.00-13.00	Mr. Tsognasarai D., Community outreach, rural conservation and development expert Ms. Sumiyasuren J., Strategic planning expert Ms. Otgonjargal N., Natural resource policy Expert Ms Khaliun G., Secretary and translator Mr. Enkh Amgalan D., Driver		
15.00-16.00	Lunch Ms. Kenjegul Kh. Senior Officer, Crop Production Policy Implementation Department, Ministry of Food, Agriculture and Light Industry, Project Board Member	IC, NC, PIU, all relevant parties	Mee
16.15-17.00	Ms. Dulguun E., Officer in Charge of UNDP Projects, Division of Debt management, Ministry of Finance, Board Member	IC, NC, PIU, all relevant parties	Mee
October 4, Wednesday			
09.00-10.20	Ms. Tsendsuren B. Freelance consultant on climate change Ms. Munkhchuluun B., AHEC program manager, WWF Mongolia Ms. Adiya Ya., Director of Institute of General and Experimental Biology, collaborator of TNC and WCS on biodiversity research	IC, PIU, all relevant parties	U

10.30-11.30 14.20-20-20	Lunch Flight to Ulaangom city, Uvs aimag		

Field Mission to West sites: Uvs aimag

Time	Activity	Specifics	R
Day 1-October 4 (Wednesday)			
17:00 20:25	Depart for Ulaangom city, Uvs aimag (flight) Arrival in "Deglii tsagaan" airport of Uvs aimag (Ulaangom city) Leave the airport for Ulaangom city *(15km, 20 minutes)* Check in the "Achit nuur" hotel Dinner in Ulaangom city	Hunnu Mongolia airline Destination: Ulaangom city Departure time-17:00 Arrival time-20:25	Pick Uvs loca
Day 2-October 5 (Thursday)			
09:00~10:30	Meeting with relevant Aimag stakeholders: Aimag Governor's Office, River Basin Administration, Hydro-Meteorological Office ***/Please refer to Appendix. List of participants/*** *Coffee and tea will be served at the meeting.* Meeting with relevant stakeholders of Uvs Aimag: - Mr.Batsaikhan.D, Governor of Uvs aimag - Mr.Bat-yeruult.B, Director of Development Policy Division of Governor's Administration Office and Project Board member - Mr.Ganbold.Z, Senior officer of Development Policy Division of Governor's Administration Office - Mr.Ankhbayar.M, Head of Uvs Lake-Tes River Basin Administration (RBA) - Mr.Batbayar.B, Head of Environment, Nature and Tourism Office - Ms.Purevsuren.B, Head of Hydro-Meteorological Office		Miss men
10:40~11:40	Visit "Chuluut" protected spring in Ulaangom city *(3 km from the center of Ulaangom city) (Coffee and tea will be served)*	• Spring rehabilitation techniques (method by double protection)	Mr. Loca Uvs
11:50~12:50	Visit the Technology transfer site for ecologically oriented agriculture and meet "Dasan zohitsokhui/ Adaptation" community group in Ulaangom soum *(5 km from the center of Ulaangom city)*	• Water saving techniques and drip irrigation system are introduced and monitored • Strawberry planting is introduced • Tree planting as wind breaker and soil protection • Vegetable seed production only	Mr. of " zokh com Mr. Env insp city
13:00~14:00	*Lunch in Ulaangom city*		
14:10~15:00	Visit Uvs Lake-Tes River Basin Administration Office in Ulaangom city *(Coffee and tea will be served)*	• Briefing on Project support&cooperation, implementation status of and improved reporting and	Mr. Hea RBA
15:10~16:10	Visit Hydro-Meteorological Office in Ulaangom city	• Briefing on Project support&cooperation, and Climate change and its	Ms. Hea Met
16:20~17:20	Visit and meet with eco club members in "Chandmani" eco-school in Ulaangom city /*Coffee and tea will be served*/	Eco initiatives by Eco school members • Introduction on activities of Eco clubs and EbA and CC curriculum, exhibition of products made by school	Eco teac

Time	Activity	Specifics	R
17:30~18:20	*Dinner in Ulaangom city*		
Day 3-October 6 (Friday)			
09:00~11:00	Leave Ulaangom city for Tarialan soum *(35 km from Ulaangom city, will take approx. 1 hour)* Visit Water distribution channel in Tarialan soum constructed in cooperation with Soum and Aimag Water User Groups. Visit technology transfer site for fodder planting applying sprinkling irrigation and meet "Altan tevsh" community group members. /*Coffee and tea will be served*/	• The channel length is 1400 meter. It contributed to the limitation of uncontrolled and unsustainable water use practices. • Water saving technology transfer, fodder planting for Dzud disaster risk reduction	Rep Tari Gov Mr. Lead "Alt com
11:00~12:20	Visit Environmental unit of Tarialan soum for introduction on sustainable pasture use Meet Women community group that produces handmade wool products. Visit heat-only boiler for soum public buildings Visit Water distribution structure for agricultural irrigation constructed in socialist era.	• Rotational pasture use and monitoring • Income generation through livelihood diversification	Mr. Sou Ms. Lead sava com
12:30~13:30	*Lunch in Tarialan soum*		
13:40~15:30	Leave Tarialan soum for "Teel" dam of Naranbulag soum *(20 km from Tarialan soum)* Stop on way in the "Teel" dam that is meander point of Kharkhiraa river Visit pilot "dry well"-rain and surface water collection reservoir and meeting with representatives from soum Water Users Group	• Brief information on Landscape and Water users groups • Water harvesting techniques, Drip irrigation system, Fodder plantation based on accumulated water resources	Mr. staff RBA Mr. of " com
15:40~16:30	Leave Teeliin boom for snow& rain water harvesting catchment *(20 km from Teeliin boom)* Visit pilot site of snow& rain water harvesting catchment and meet representatives of "Bumantuya" community groups */Coffee and tea will be served/*	• Brief information on the reservoir and usage of the accumulated water for fodder plant irrigation	Mr. Mer "Bu com
16:40~18:00	Leave the pilot site of snow& rain water harvesting catchment for Uvs Lake (20km) Visit Uvs Lake monitoring post Bird watching point	• Ground water monitoring	Rep Adm Lak and Met Offi
18:00~20:00	Dinner at tourist camp "Uvs Lake" and visit the exhibition stand on Handmade products (woolen, wooden, diary and hay/fodder making etc.)		Rep Aim
20:00~20:30	Back to Ulaangom city *(*35km*)*		
Day 4-October 7 (Saturday)			
08:30~13:00	*Check out the hotel* Leave Ulaangom city for "Yoliin am" valley *(75 km from Ulaangom city, will take approx. 2 hours)* Visit rehabilitated water channel for ensuring pasture water supply and meet with Local herders and communities. *(Coffee and tea will be served).* Leave "Yoliin am" valley for Ulaangom city	Rehabilitation of water structures for channeling rain, snow and flood water from "Yoliin am" valley for improved pasture water supply (constructed in 2015)	Erde Hea Grou Mr.

Time	Activity	Specifics	R
			Hero
13:00~14:00	*Lunch in Ulaangom city*		
14:10~14:40	Leave for the Airport		
16:10 20:00	Departure for UB (transit through Khovd aimag). Arrival in Ulaanbaatar city.	Aero Mongolia airlines Destination: Ulaanbaatar city Departure time: 16:10 Landing time: 20:00	

Field Mission to East: Khentii and Dornod Aimags

Time	Activity	Specifics	
Day 1- October 8			
8:00 15:00 15:15-16:30 16:40 18:40 19:00	Leave Ulaanbaatar city for Chingis city, Khentiiaimag (334 km from Chingis city, will take approx. 6-7 hours) Lunch break will be during travel at local dining place. Arrival in Chingis city Meeting with relevant Khentiiaimag stakeholders: Aimag Governor's Office, RBA, EPA, Hydro-Meteorological Office ***/Please refer to Appendix. List of participants/*** Coffee and tea will be served at the meeting. ***Khentii stakeholders:*** - Mr.Ganbayamba.N, AimagGoverner - Mr.Munkh-Erdene.E, Director, Division of Development Policy, Governor's Administration office and Project Board member - Mr.Darkhantur.B, Head of Environment, Nature and Tourism Office -Ms. Chuluun.L, Director, Hydrology, Meteorology and Environment Office, Project Coordinator of KhentiiAimag - Ms.Sanchir.B,Wildlife Officer, Office of Environment - Mr. Baatarsukh.T, Ground water Officer, Kherlen River RBA Leave Chingiscity for Batnorovsoum (100 km) Arrival in Batnorovsoum Dinner and overnight stay in Batnorovsoum	Interview with the project stakeholders at Aimag level at Meeting room of Governor's Administration Office. • Briefing on Project support & cooperation, and water resource related challenging issues in Khentiiaimag	Mission team me
Day 2- October 9			
08:00 08:30-09:00 09:00-09:40 09:50-10:50	Breakfast in local inn, Batnorovsoum Visit pilot Fuel efficient briquette workshop and meet "Gal uduu"/ Adaptation" community group Visit pilot Household level intensified cattle workshop/farming and meet "Batnoroviinkhishig/ Adaptation" community group Visit pilot Comprehensive EBA measures and meet/interview soum authority and Adaptation" community group	• Fuel efficient techniques • Improvement of preserving genepool of Native cattle, Sementhal' breed and Montbéliardecattle breed • Fodder production • Livestock feeding • Meat packaging for market • Fodder plantation • Soum level EBA advocacy and Post adaptive measures	M M le A gr M L " A gr

	1. Small scale water harvesting catchment with rest area 2. Spring protection 3. Ecologically oriented agriculture 4. Integrated management of water use at community level	• Water saving techniques and drip irrigation system are introduced and monitored • Tree planting as wind breaker and soil protection • Vegetable seed production only for Green houses tested and rotational planting is initiated • Alternative use of water harvesting catchments as a refreshment/ rest area • Spring rehabilitation techniques • "Double protection" techniques	M S M E in
11:00 13:00	Leave Batnorovsoum for Norovlinsoum (110 km)	• Protection of upstream of UlzRiver for riparian pasture management	
13:30 13:30:14:30	Stop on way to "Bagaburd" upstream of Ulz river for rehabilitatedprotection for upstream of Ulz river (18km from Norovlinsoum) Arrival in Norovlinsoum	The exhibition will be held in local cafeteria.	M c K
14:40-15:10	Lunch at local cafeteria and visit the exhibition stand on Handmade products (woolen, wooden, diary, pickled vegetables etc.)	• Resolve water supply for green areas of organization to use as effecting change of behavior of people.	M L " A g
15:20-15:40	Visit pilot kindergarden for introduction on small scale roof water harvesting structure and meet with representatives of beneficiaries on woolen products.		
15:50-16:20	Visit local meteorological station	• Ground water monitoring • Surface water monitoring	M D k
16:40	Leave Norovlinsoumfor Bayan-Uulsoum(75 km)		
18:00 18:30	Stop on way to "Kharmogoit" in the near of Norovlinsoum that is the place of relocation of marmots in 2015. (Community member and voluntary ranger) Arrival in Bayan-Uulsoum Dinner and overnight stay in Bayan-Uulsoum	• Monitoring techniques of marmot	M W M ra M le
Day 3- October 10			
08:00 09:00-10:30	Breakfast in local inn, Bayan-Uulsoum Meeting with relevant Dornodaimag stakeholders: Aimag Governor's Office, RBA, EPA, Hydro-Meteorological Office ***/Please refer to Appendix. List of participants/*** Coffee and tea will be served at the meeting. *Dornod stakeholders*: Ms.Ariyazul.M, Director, Department of Development Policy, Governor's Administration Office and Project Board member - Ms.Munkhsaikhan.B, Head of Forest unit, Office of Environment - Ms. Tuyabold.B, Water Supply and Assessment Officer, Office of	Interview with the project stakeholders at Aimag level at Meeting room of Inter-soum forest unit of Baya-Uulsoum. • Briefing on Project support & cooperation, and water resource related challenging issues in Dornodaimag • IWRM plan implementation status, reporting system will be presented by	M

	Environment -Ms. Altannavch.N, Director, Hydrology, Meteorology and Environment Office, Project Coordinator of DornodAimag -Mr. Bayartogtokh.B, Head of Ulz RBA	during site visits	
10:40-11:40	Visit inter-soum forest unit of Baya-Uulsoum for introduction on the reduction of seed moisture content to the recommended levels for seed storage, using techniques which will not be detrimental to seed viability. (Officers of unit)	• Seed drier with associated small scale equipment	
12:00-13:00	Visit Exhibition stand on Handmade products (woolen, diary, pickled vegetables) and meet with representatives of beneficiaries. Lunch at local cafeteria.	The exhibition will be held in the meeting room in Inter-soum forest unit.	
13:00 17:00	Leave Bayan-Uulsoumfor Bayan-Adragasoum(172 km)		
17:00-17:40	Arrival in Bayan-Adragasoum	• Water saving techniques and drip irrigation system are introduced and monitored	
17:50-18:30	Visit pilot Technology transfer site for ecologically oriented agriculture and meet "Urjikh" community group in Bayan-Adragasoum	• Strawberry planting is introduced	
19:00	Visit "A lonely tree" eco stop and local museum	• Tree planting as wind breaker and soil protection	
	Dinner and overnight stay in "Khatdiinurguu" tourist camp inBayan-Adragasoum	• Vegetable seed production only for Green houses tested and rotational planting is initiated • Drip irrigation system	
Day 4- October 11			
08:00-08:30	Breakfast in local inn, Bayan-Adragasoum		
08:40	Leave Bayan-Adragasoumfor Ulaanbaatar city (500 km from Bayan-Adragasoum, will take approx. 7-8 hours) Lunch will be provided during travel at local dining place.		
16:00	Arrival in Ulaanbaatar city		

Date/time	Activities	Responsible Parties/person	Place/Note
October 13, 2017			
09.00-09.40	Dr. Dagvadorj D., Former NPD and Director of Climate Change and Development Academy	IC, PIU, relevant parties (NC absent)	At Climate Change and Development Academy
10.00-11.00	Mr. Yerуult B., Director of department of Climate Change and International Cooperation and National Project Director Mr. Battulga N., Head of Division of River Basin Administration and alternate National Project Director	IC, PIU, relevant parties (NC absent)	'Khaan' meeting room of MET
11.30-12.10	Mr. Davaa G., Senior researcher of Water Study sector	IC, PIU, relevant parties (NC absent)	Meteorology Department

13.00-14.00 14.00-15.00	Lunch Ms. Beate Trankmann, Resident Coordinator of UN and Resident Representative of UNDP Ms. Daniela Gasparikova, Deputy Resident Representative, UNDP Ms. Bunchingiv B., Program Officer on Climate Change	 RR, DRR, PO, IC (NC absent)	UNDP CO
October 14, 2017 09.00	Leave for airport Drive IC to airport	IC, Mr. Enkh-Amgalan D., Driver	Chinggis Khaan International Airport

Annex III: Persons Interviewed

№	Participant's name	Position /Organization	Contact
Ministry of Environment and Tourism (MET)			
1.	Ts.Batbayar	Deputy minister of Environment and Tourism and Chairman of Project Board	266286, 91926464
2.	B.Yeruult	Director, Division of Climate Change and International cooperation, MET and National Project Director	266197, 99066124
3.	N.Battulga	Director, Division of River Basin Management	99113353
4.	V.Javzan	Senior officer, Department of Monitoring, Evaluation and Internal auditing, Project Board member	99094330
5.	Z.Batjargal	Project former consultant on EBA management issues and coordination/mainstreaming of best practices/ **Job title:** National focal point of UNFCCC and Green Climate Fund in Mongolia, non formal Advisor on Climate Change for the Minister	99086786
Ministry of Food, Agriculture and Light Industry			
6.	Kh.Kenjegul	Senior Officer, Crop Production Policy Implementation Department, Ministry of Food, Agriculture and Light Industry, Project Board member	261687, 9908-6861
Ministry of Finance			
7.	E.Dulguun	Officer in charge of UNDP projects, Division of Debt management, MF, Project board member	99183308
Information And Research Institute Of Meteorology, Hydrology And Environment / IRIMHE/			
8.	G.Davaa	Senior researcher of Hydrology sector, IRIMHE	99851585
Universities and institutes			
9.	Ya.Jambaljav	Head of , Institute of Geography & Geo-ecology	99132529
10.	Y.Batchuluun	Professor at University of Pedagogical Sciences	
International organizations			
11.	B.Munkhchuluun	AHEC programme manager, WWF Mongolia	99818170
12.	Ya.Adiya	Director of Institute of General and Experimental Biology, collaborator of TNC and WCS on biodiversity research , conservation and management issues	93116264
Freelance consultants			
13.	D.Dagvadorj	Former National project director, Freelance consultant	99246722
14.	B.Tsendsuren	Freelance consultant on climate change	88991184
Media			
15.	G.Amartuvshin	Journalist of Press institute of Mongolia	88008787

Annex IV: Summary Evaluation of Project Achievements by Objectives and Outcomes

The Project logframe in the Project Document was revised in the Inception Report. The present evaluation matrix uses the version contained in the Inception Report and also used by the MTR.

KEY:

GREEN = Indicators show achievement successful at the end of the Project.

YELLOW = Indicators show achievement nearly successful at the end of the Project.

RED = Indicators not achieved at the end of Project.

HATCHED COLOUR = estimate; situation either unclear or indicator inadequate to make a firm assessment against.

Project Objective: To maintain the water provisioning services supplied by mountain and steppe ecosystems by internalizing climate change risks within land water resource management.

Description	Performance Indicator	Baseline	Target Level at end of project [2017]	Achievements as of October 2017	Rating
Objective: Maintain the water provisioning services supplied by mountain and steppe ecosystems by internalizing climate change risks within land and water resource management regimes. Main indicator is Mean annual in-stream flow.	Mean annual in-stream maintained or increased in two project sites 1. 30 day average of minimum discharge in warm period	Kharkhiraa River: 1.58 m^3/sec Turgen River:0.78 m^3/sec Ulz River: 0.00 m^3/sec (at Chuluunkhoroot)	Kharkhiraa River: 1.58 m3/sec Turgen River: 0.78 m3/sec Ulz River: 0.01 m3/sec (at Chuluunkhoroot)	Kharkhiraa River: 2.14 m3/sec Turgen River: 0.83 m3/sec Ulz River: 0.00 m3/sec (at Chuluunkhoroot) Ulz River: 0.09 m3/sec (at Bayan-Uul)	HS

<table>
<tr><td></td><td>2. Long term mean discharge and annual average discharge in selected year,(.m3/s)</td><td>Kharkhiraa River: 5.15 m^3/sec
Turgen River: 2.55 m^3/sec
Ulz River: 5.88 m^3/sec
(at Chuluunkhoroot)</td><td></td><td>Kharkhiraa River: 5.11 m^3/sec
Turgen River: 2.48 m^3/sec
Ulz River: 5.35 m^3/sec (at Chuluunkhoroot)</td><td>S</td></tr>
<tr><td></td><td>Ground and surface water quality is meeting Mongolian standards in two project sites</td><td>
<table>
<tr><td></td><td>Turgen</td><td>Kharkhira</td><td>Ulz</td></tr>
<tr><td>Suspended solids MNS4586:1998/ 35mg/l</td><td>16.0</td><td>40.0</td><td>8.5</td></tr>
<tr><td>Permanganate COD MNS4586:1998/ 10</td><td>1.4</td><td>7.0</td><td>5.28</td></tr>
<tr><td>NH+4 MNS4586:1998</td><td>0.42</td><td>0.54</td><td>0.083</td></tr>
<tr><td>Total mineral P MNS4586:1998/0.2 mg/l</td><td>0.34</td><td>0.45</td><td>0.79</td></tr>
<tr><td>Total Fe MNS4586:1998/ 0.1 mg/l</td><td>0.23</td><td>0.14</td><td>0.0</td></tr>
<tr><td>Decreased soil compaction, g/cm^3</td><td colspan="2">13.6 (in 2013)</td><td>12.7 (in 2013)</td></tr>
<tr><td>Changes of aggregates, % (at the layer 0-10cm, 10-20cm) (Dark Brown soil)</td><td colspan="2">>1.0мм-%53.5
1,0-5,0мм-15%
0,5-0,1мм-10.5%
<0,1мм-21%
(in 2013)</td><td>>1.0мм-%51.5
1,0-5,0мм-17%
0,5-0,1мм-8.5%
<0,1мм-23%
(in 2013)</td></tr>
<tr><td>Water temperature (Celsius)</td><td>7.4</td><td>5.8</td><td>14.4</td></tr>
</table>
</td><td>Meeting Mongolian standards</td><td>
<table>
<tr><td>Turgen</td><td>Kharkhira</td><td>Ulz</td></tr>
<tr><td>4.0</td><td>32.0</td><td>0.8</td></tr>
<tr><td>0.3</td><td>0.8</td><td>5.3</td></tr>
<tr><td>0.15</td><td>0.21</td><td>0.017</td></tr>
<tr><td>0.018</td><td>0.075</td><td>0.021</td></tr>
<tr><td>0.11</td><td>0.33</td><td>0.0</td></tr>
<tr><td colspan="2">1,11</td><td>1,11</td></tr>
<tr><td colspan="2">>1.0мм-%56.5
1,0-5,0мм-20.8%
0,5-0,1мм-7.7%
<0,1мм-15%</td><td>>1.0мм-%56.4
1,0-5,0мм-22.3%
0,5-0,1мм-7.7%
<0,1мм-13.6%</td></tr>
<tr><td>7</td><td>6.1</td><td>13.2</td></tr>
</table>
</td><td>S</td></tr>
</table>

C1: Landscape Level integrated land use and water resources monitoring and planning system focused upon reduction of ecosystem vulnerability to climate change	1. Number of integrated strategies/management plans for river basins approved and adopted by National and Aimag Governments	Operational integrated strategies/management plans for river basins(or sub-basins): 0	Operational integrated strategies/management plans for river basins: at least 2	EbA strategic priorities implemented in Eastern Steppe and Great Lakes Depression ecoregions -2 (includes Eastern and Western target sites) IWRM plans -3 (Ulz river basin, Uvs lake Tes river basin and Kharkhiraa Turgen sub river basins)	**HS**
	2. Number of Aimag governments monitoring, assessing, and reporting to MEGDT and relevant agencies (water authority, National Climate Change Coordination Office) on integrated river basin management measures	Number of Aimag Governments implementing integrated strategies/management plans for river basins: 0	Number of Aimag Governments implementing integrated strategies/management plans for river basins: at least 3	10 agencies in total (2 River basin administrations, 3 Meteorological Agencies, 3 Environment and Tourism Agencies 2 Protected Area Administration at Aimag level)	**HS**
	3. Guidelines for IWRM address climate risks and vulnerability and integrate adaptation measures and EBA approaches	Current guidelines do not address adaptation and EBA issues explicitly	Guidelines for IWRM that address climate change risks	The project developed an amendment reflecting CC trends, its vulnerability and risks to the existing guidance "Methodological guidance to develop IWRM plan" and submitted to Ministry of Environment and Tourism (MET) n 2015 for further discussion. The issue was discussed at National workshop of RBAs which was held on 25-26 May, 2016. IWRM waiting approval from the cabinet and Parliament.	**S**

	4. Total hectares included within protected areas system in the two project sites	Altai Mountains / GLB: 3,742,000 ha Kharkhiraa,Turgen watershed: 80,000 ha Eastern Steppe: 4,267,600 ha Ulz watershed: 312,000 ha	Altai Mountains / GLB: 3,942,000 ha Kharkhiraa,Turgen watershed: 100,000 ha Eastern Steppe: 4,467,600 ha Ulz watershed: 375,000 ha	Altai Moutains/GLB: State PA 369466+Local PA1,015,665.17ha; Total PA=5127,131.17ha Kharkhiraa, Turgen Watershed: Local PA 440489ha Total PA=520,489.35ha Estern Steppe: State PA197967.22ha Total PA=4,465,567.22ha Ulz watershed: State PA102563.32ha Total PA=414,563 Note: Total PA is calculation also includes existing PA.	**HS**
C2: Implementing Landscape level adaptation techniques to maintain ecosystem integrity and water security under conditions of climate change	1. Number of Soums in target area integrating EBA measures/IW RM into their annual land-use planning and in Soum development plans and strategies.	Total number of Soums in target area considering integrated River Basin Management in their annual land-use planning and in Soum development plans and strategies:0	Total number of Soums in target area considering integrated River Basin Management in their annual land-use planning and in Soum development plans and strategies: 17	17 target soums reflected IWRM into their annual plan and have also developed EbA plans and is in implementation.	**HS**
	2. Number of EbA interventions for which current and future costs and benefits have been calculated: a. Number of rehabilitated springs b. Increased length and discharge of rehabilitated springs	0 TBD	5	a. Total of 44 springs rehabilitated in target river basins Water flow Length of rehabilitated springs was increased by 0.5-1.5km in average.	**HS**

	3. Decreased fuel consumption by local public service buildings for heating, %	Average coal consumption for heating of public buildings in each soum: 1.Governor's office along with cultural center 200 tonn/year 2.Hospital 40 tonn/year 3.Kindergarden 30 tonn/year 4.School 100 tonn/year As of 2014 0f 2013	15% decrease	Fuel consumption was decreased by 20% through the instalment of monitoring system (manometer, thermometer, safety valve) on 65 heat-only boilers in target 17 soums.	**HS**
	4. Improved use of surface water resources in replacement of ground water: a) Amount of surface water extracted for irrigation in project sites (cubic meter) b) Number of monitored wells increasing ground-water consumption efficiency in project sites c)Number of Small scale Rain and snow melt Water harvesting	a) Total extraction for: • Kharkhiraa,Turgen: 3000 tonn/ha for potato •Ulz: 2400 tonn ha for potato 0 b)Monitored/efficient wells: •Kharkhiraa/Turgen: 0 •Ulz: 0 (not been used since was broken) c) No water harvesting activities	a)Total extraction for: •Kharkhiraa,Turgen: 960 tonn/ha for potato •Ulz: 720 tonn/ha for potato (Approx. 3.1-3.3 times decreased) (while maintaining sustainable agricultural practices through appropriate irrigation technology) b)Monitored/efficient wells: •Kharkhiraa/Turgen: 14 •Ulz: 20 (Approx. 10% increase) c)Number of small water harvesting reservoirs	Decreased by 20-40% in average in 23 pilot sites covering 41.5 ha. +Accumulated water in reservoir/catchments-31954 cubic meter b)Monitored/efficient wells as of 2017: • Western sites (Kharkhiraa/Turgen)-14 Eastern sites (Ulz)- 20 wells respectively C) • Engineered water harvesting structure-1, • Traditional water harvesting structure-2, • Rehabilitated channels-2, • Dry well-1	**HS**

	5. Land use practices and climate change resilience improved as indicated by: a) Total hectares of riparian and wetland habitat restored with native vegetation within project sites b)Springs protected with livestock enclosures, Livestock watering and access to creeks managed with appropriate facilities/fencing c)Total area with improved pasture land management (rotational use, pasture irrigation, carrying capacity) d)Areas with Reforestation and improved forest management in Western target areas	a)Total hectares restored riparian/wetland: •Kharkhiraa,Turgen: 0 ha •Ulz: 0 ha b)– c) Total hectares with EBA grazing practices: •Kharkhiraa,Turgen: 0 ha • Ulz: 0 ha d)226 ha as of 2012	a)Total hectares restored riparian/wetland: •Kharkhiraa,Turgen: 1,250 ha •Ulz: 2,250 ha b)Approx. 30% increase c)Total hectares with EBA grazing practices: •Kharkhiraa,Turgen: 150,000 ha •Ulz: 1,200,000 ha d)294 ha (Approx. 30% increase)	a)Total hectares restored riparian/wetland as of Sep 2017: • Kharkhiraa, Turgen: 1,310ha Ulz:2,270ha b) Kharkhiraa, Turgen: 20 Ulz: 24 c)Total hectares with EBA grazing practices as of Sep 2017: • Kharkhiraa, Turgen: 155,000 ha Ulz: 1,995,000 ha d) 290 ha as of Sep 2017.	**HS**
	6. Number of increased income of households engaged with local adaptation measures in 17 soums	Number of households below living standard: TBD	Number of households below living standard: Approx. 10% average decrease	20 household's annual income from the 102 poor families was increased up to above living standards. It constitutes 19.6% decrease in number of households below living standard (Monthly income increase)	**HS**

	7. Number of Small Enterprises established and operating successfully (tourism, processing dairy/ livestock products, agriculture, fuel efficiency, building blocks etc.)	0	At least 160	Currently 102 Small Grantees and 60 community groups engaging tree nurseries, wool&wood production, ecologically oriented farming etc are cooperating with the project.	**HS**
	8. Hydrological monitoring is strengthened	Monitoring posts for glacial run-off in Western project area: 0	At least 1 more monitoring post for glacial run-off in established Water resources monitoring network expanded (at least 2 more gauges) in project target areas	• Glacier monitoring post established -1 • Surface water monitoring posts -3 Ground water monitoring posts -3	**HS**
C3: Strengthening Capacities/Institutions to support EBA strategies and integrated river basin management, their replication and mainstreaming	1. Glacier and snow depth monitoring system introduced& operational	Kharkhiraa, Turgen river basin: No monitoring system of glacier and snow depth: 0	Glacier and snow depth monitoring system introduced& operational: 1	• Glacier and snow depth monitoring system introduced& operational -1	**HS**
	2. Number of River Basin Administrations established and strengthened in target areas	Operational RBAs: 0	Operational RBAs: 2	• Uvs lake-Tes RBA & Ulz RBA established & strengthened - 2	
	3. River Basin Councils and sub-councils established and strengthened in target areas	River Basin Councils established and strengthened in target areas: 0	River Basin Councils established and strengthened in target areas: at least 3	• RBCs established& strengthened - 3	**HS**

	4. Number of staffs of relevant agencies and local governments trained in river basin management guidelines	Number of staff s of relevant agencies and local governments trained in river basin management guidelines: 0	Number of staff of relevant agencies and local governments trained in river basin management guidelines: at least staff of relevant agencies in 21 Aimags, and members of existing river basin councils, and staff of newly established river basin administration	Trained staffs of relevant relevant agencies in 21 Aimags, and members of existing river basin councils, and staff of newly established river basin administrations-645 in overlapping number	**HS**
	5. National mainstreaming of EBA as indicated by: • Number of official government policy documents adopting EBA principles/practices	Number of sector policy documents revised and amended to consider mainstreaming EBA, landscape level integrated water resources and land-use management: less than 5	Number of sector policy documents revised and amended to consider mainstreaming EBA, landscape level integrated water resources and land-use management: considering priority actions, at least 7 (including pasture, agriculture)	25 policy documents: • EbA strategic priorities-2, • IWRMP-3, • EbA soum action plan-17 • Proposal on extension PA -3	**HS**
	•Amount of annual government spending to support application of EBA principles and practices nationally	Total national annual investment in EBA: $0	Total national annual investment in EBA: $100,000	Since 2014, the government spent 1,781,000US$ for implementing IWRM and EbA measures in 2 target river basins.	**HS**

	•Number of National Climate Change Authority EBA policy documents mainstreaming EBA within sectoral decision-making frameworks.	Number of National Climate Change Authority Policy Documents: 0 (2 documents (National Programme and Action Plan on Climate Change) exist, but do not explicitly address EBA (in this terminology)	Number of National Climate Change Authority Policy Documents (Adaptation Strategies) at least 3	EbA strategic priorities-2, IWRMP-3,	**HS**

Annex V: Map of Mongolia showing Project Areas

Figure 1: Map of Mongolia showing Project sites

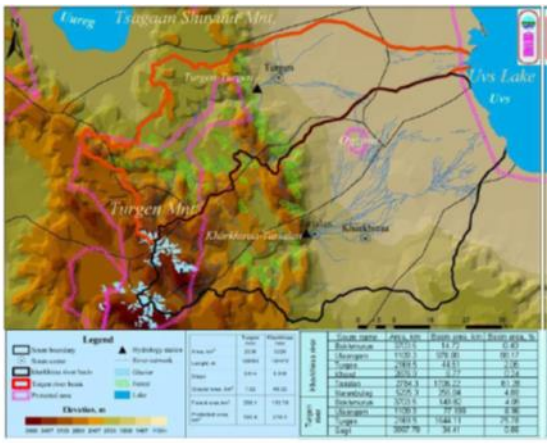


Figure 1: Map of Altai Mountains and GLB

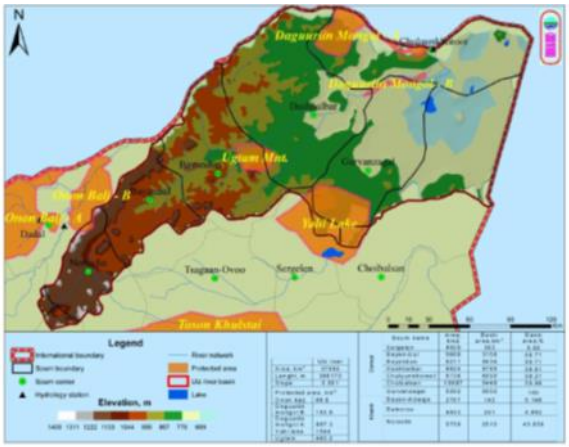


Figure 2. Eastern Steppe

Annex VI: Revised Table of Project Indicators

Objective and Components	Indicator	Baseline				Midterm evaluation % of Target Fulfilled	Targets/End of Project	Source of verification	Risks and Assumptions
Project objective: Maintain the water provisioning services supplied by mountain and steppe ecosystems by internalizing climate change risks within land and water resource management regimes. Main indicator is Mean annual in-stream flow.	Mean annual in-stream maintained or increased in two project sites[16] 4. 30 day average of minimum discharge in warm period 5. Long term mean discharge and annual average discharge in selected year,(.m3/s)	Kharkhiraa River: 1.58 m^3/sec Turgen River: 0.78 m^3/sec Ulz River: 0.00 m^3/sec (at Chuluunkhoroot) Kharkhiraa River: 5.15 m^3/sec Turgen River: 2.55 m^3/sec Ulz River: 5.88 m^3/sec (at Chuluunkhoroot)				No, situation worse than baseline[17] Situation improved for Ulz	Kharkhiraa River: 1.58 m^3/sec Turgen River: 0.78 m^3/sec Ulz River: 0.01 m^3/sec (at Chuluunkhoroot)	Hydrological data reported by existing and new monitoring station	Hydrological reporting stations remain operational (The project will provide support strengthening analysis and monitoring capacity) Impacts of climate change do not outpace project adaptation responses (this will be alleviated by the project's
	Ground and surface water quality is meeting Mongolian standards in two project sites[18]		Turgen	Kharkhira	Ulz	In all cases overfulfilled	Meeting Mongolian standards	Surface water monitoring reports submitted by national and target site stakeholders Project reporting and evaluation	
		Suspended solids MNS4586:1998/ 35mg/l	16.0	40.0	8.5	Not fulfilled for Turgen and Ulz, overfulfilled for Kharkhira			
		Permanganate COD MNS4586:1998/ 10 mg/l	1.4	7.0	5.28	Overfulfilled in Turgen and Kharkhira, not fulfilled in Ulz			
		NH+4 MNS4586:1998 0.5mg/l	0.42	0.54	0.083	Overfulfilled everywhere			
		Total mineral P MNS4586:1998/0.2 mg/l	0.34	0.45	0.79	Overfulfilled in Turgen and Kharkhira, not fulfilled in Ulz			
		Total Fe MNS4586:1998/ 0.1 mg/l	0.23	0.14	0.0	In all cases overfulfilled			
		Decreased soil compaction, g/cm^3 Changes of aggregates, % (at the layer 0-10cm, 10-20cm)	TBD TBD	TBD TBD	TBD TBD				
		Water temperature (Celsius)	7.4	5.8	14.4	14/ 12.5 / 19			
			As of 2012			As of 2014			

[16] In-stream base flow is a portion of stream flow that comes from the deep subsurface flow and delayed shallow subsurface flow during the summer (un-frozen) period.

17 The indicators are not feasible, therefore, not fulfilling them does not mean that project did not perform. (compare also recommendations)

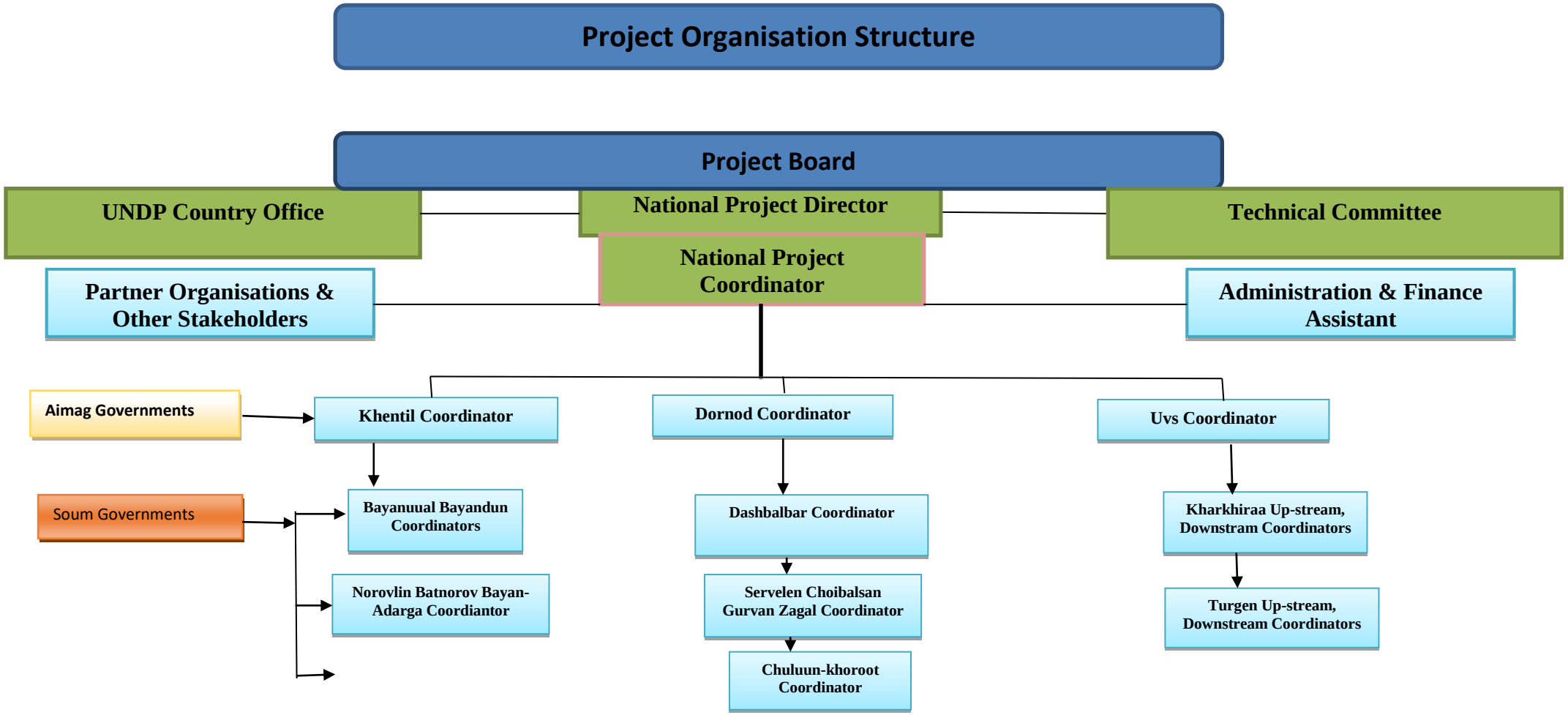
[18] Basing on explanatory note in the Annex, in-stream of Ulz river at Chuluunkhoroot water monitoring post has been trapped in recent years. In project year one, water resource is determined in detail and indicators and targets will be revised.

Objective and Components	Indicator	Baseline	Midterm evaluation % of Target Fulfilled	Targets/End of Project	Source of verification	Risks and Assumptions
Component 1: Landscape Level integrated land use and water resources monitoring and planning system focused upon reduction of ecosystem vulnerability to climate change	5. Number of integrated strategies/management plans for river basins approved and adopted by National and Aimag Governments[19]	Operational integrated strategies/management plans for river basins(or sub-basins): **0**	**More than 100%**, One IWRM plan adopted by all 3 target Aimags (and implementation initiated from the 2015. Seventeen EbA programs developed for each target soum in Kharkhiraa-Turgen and Ulz river basins and endorsed to 17 soum's Parliament.	Operational integrated strategies/management plans for river basins: at least **2**	MEGDT and Project reporting and evaluation	Protected area expansion is approved by government structures (this will be alleviated through the participatory planning processes implemented in Component One)
	6. Number of Aimag governments monitoring, assessing, and reporting to MEGDT and relevant agencies (water authority, National Climate Change Coordination Office) on integrated river basin management measures	Number of Aimag Governments implementing integrated strategies/management plans for river basins: **0**	**More than 100%, Two** Ulz RBA and Uvs lake – RBA **Three** Meteorology offices of Dornod, Uvs and Khentii aimag, **Five** Governor's Offices of Dornod, Uvs, Khentii, Zavkhan and Khuvsgul aimag	Number of Aimag Governments implementing integrated strategies/management plans for river basins: at least **3**	National, provincial and district legislation	
	7. Guidelines for IWRM address climate risks and vulnerability and integrate adaptation measures and EBA approaches	Current guidelines do not address adaptation and EBA issues explicitly	**More than 100%,** Guidelines for IWRM address climste risks and landscape level Soum EbA Plans are also in support of the implementation of IWRM plans for RBs.	Guidelines for IWRM that address climate change risks	National, provincial and district legislation	
	8. Total hectares included within protected areas system in the two project sites[20]	Altai Mountains / GLB: **3,742,000 ha** Kharkhiraa,Turgen watershed: **80,000 ha** Eastern Steppe: **4,267,600 ha** Ulz watershed**:** **312,000 ha**	**Fulfilment rate about 7%. Not fulfilled.** Good progress has been made in enlarging the network of protected areas: 2014 The protected area has increased almost of 6,000 km2 (600,000 hectares). It's 13% of Ulz, Kharkhiraa-Turgen river basins area.	Altai Mountains / GLB: **3,942,000 ha** Kharkhiraa,Turgen watershed: **100,000 ha** Eastern Steppe: **4,467,600 ha** Ulz watershed: **375,000 ha**		

[19] These indicators are uncontrollable however, which does not mean disapproval of the project implementation

[20]By project close, the National Government and each Aimag within the Altai/GLB and Eastern Steppe landscapes will have adopted the EBA strategic process as formal policy

Annex VII: Organizational Structure of Project



Annex VIII: Field Visit Summary

Field study mission started from 2th of October 2017. On 2thDecember an Inception Meeting was organised in the PIU office to brief stakeholders on the Terminal Evaluation objective and approaches. On the same day National and International consultants had meetings to discuss the evaluation mission plan. International consultant also had brief meeting with Project Manager, and Program Officer UNDP. Same day in the afternoon, team had meeting with Vice Minister of Ministry of Environment and Tourism, Senior M&E Officer, National focal point of UNFCCC and GCF in Mongolia. On the 3rd October evaluation team had meeting with Professor of University of Pedagogical science, senior researcher of Institute of Geography and Geo-ecology and head of Research and Information department of Press Institute of Mongolia. Team also had meeting with all staffs of PIU. In the afternoon, team had meeting with Senior Officer of Crop Production Policy Implementation Department of Ministry of Agriculture and light Industry and Officer in charge of Ministry of Finance who look after UNDP projects. On the 4th October, team had meeting with Climate Change Freelance consultant, AHEC project coordinator of WWF Mongolia and Director of General and Experimental Biology. In the afternoon team left for Uvs aimag by plane.

Field visit of project sites in Uvs aimag took place from 4th to 7th October 2017 (national consultant didn't join this visit). The detail program of the Uvs aimag visit is tabled in Annex II, Similarly, from 8th to 12th field visit to Khentil and Dornod aimags took place and detail of this visit is provided in table in Annex II.

On 13th October International Consultant (national consultant was absent) had meeting with former NPD, present NPD, Deputy NPD and Senior Researcher of Water Study sector of Institute of Meteriology, hydrology and Environment. In the afternoon, International Consultant had initial finding sharing meeting with UN Resident Coordinator and UNDP Resident Representative, Deputy Resident Representative and Climate Change Program Officer at UNDP CO.

Annex IX: Project Deliverables (including publications)

SN	Name of advocacy material	Year of production
1.	Project leaflet (2012)	2012
2.	Quarterly newsletters- 2012 (III and IV quarter)	
3.	We care for our climate' comic book (2 times of publishing)	
4.	Principles of IWRM planning	2013
5.	Wall poster on climate change	
6.	EBA guidebook	
7.	DVD: Climate change impacts and Ecosystem based adaptation in Mongolia	
8.	Eco cotton bag with project motto (2013)	
9.	Climate change; author Mijiddorj	
10.	Climate change depends on you guidebook; Natsagdorj	
11.	Table calendar (2013)	
12.	Quarterly newsletters- 2013 (3000 pieces for each of III and IV quarter)	
13.	Wall planner (2014)	2014
14.	Wall calendar (2014)	
15.	Wall poster on IWRM	
16.	Wall poster on EBA	
17.	EBA brochure	
18.	Strategic priorities to implement EBA in Altai mountain and Great lakes depression and Mongol Daguur	
19.	DVD; TV broadcasting 'Green Development' on Climate change adaptation	
20.	DVD; Talk show and documentary on EbA	
21.	Guidebook on tree planting techniques (6-book pack; seabuckthorn,larch,bush, elm, willow, aspen tree)	
22.	Monitoring compilation of Hydrology, Meteorology and Environmental center of Dornod aimag	
23.	Eco cotton bag with project motto (2014)	
24.	Solar charger for cell phones	
25.	Energy saving LED light (12 and 40 W; 100 pieces for each)	
26.	Every drop counts' Guidebook and water saving techniques (with pocketbooks)	
27.	Guideline for organizing public awareness activities in environmental sector	

28.	Vulnerability and risk assessment for 2 project target sites	2014
29.	**IWRM plan for Uvs lake Tes river basin**	
30.	Atlas of IWRM plan for Uvs lake Tes river basin	
31.	Study compilation of IWRM plan for Uvs lake Tes river basin	
32.	**IWRM plan for Ulz river basin**	
33.	Atlas of IWRM plan for Ulz river basin	
34.	Study compilation of IWRM plan for Ulz river basin	
35.	**IWRM plan for Kharkhiraa Turgen sub river basin**	
36.	Atlas of IWRM plan for Kharkhiraa Turgen sub river basin	
37.	Study compilation of IWRM plan for Kharkhiraa Turgen sub river basin	
38.	Wall planner (2015)	
39.	Project newsletter (2014-2015)	
40.	Guidebook for Water users group	
41.	Handbook for Water users group	
42.	Farmer's handbook	
43.	Water use record book	
44.	EBA Curriculum for with CD	
45.	CBA report on EBA activities with CD	
46.	CBA guideline on EBA activities	
47.	Poster on Protection of springs by eco-approach	
48.	Soum EBA plans for target soums	
49.	Water partnership' guidebook	
50.	Handbook on strawberry planting techniques	
51.	Wall planner	
52.	Project wall calendar	
53.	Advocacy package with project information and motto: Notebook, ball pen, T-shirt, cap	2015
54.	Flash disk with project motto and outcome picture	
55.	Eco bag 2015	
56.	Edition - Water regulations and policy documents by MEGDT	
57.	Series of guidebooks on using remote sensing and GIS information system in land management	
58.	Guidebook for spring protection by eco friendly approach	

59.	Guidebook for strawberry planting	
60.	“Water Partnership” guidebook	
61.	Report of Economic Valuation of Climate Change Impacts in Ulz and Kharkhiraa/Turgen river basins	
62.	Financial mechanisms of EbA measures	
63.	Design and drawings of water harvesting catchments: small scale traditional and engineered water harvesting catchments	
64.	Table calendar 2016	2016
65.	Wall planner 2016	
66.	Project advocacy package: T-shirt and cap,2016	
67.	Eco bag with wool decoration	
68.	Wool products: Business package	
69.	Wood products: Pen holder	
70.	Flash disk with project motto and outcome picture	
71.	Documentary " Every drop counts" for TV broadcast; series I-IV	2013-2017
72.	Briefings on main outcomes of EBA measures	2012-2017

Annex X: List of Non-expandable Goods transferred to Project's main stakeholders

#	Description	Transfer status	Number of items	Total value,$
1. Transferred to Uvs lake-Tes RBA and Communities in the West site				
1	Russian Vans	Transferred	5	72963.23
2	Office equipment and supply for IT (Printers, GPS, Desktops computers, UPS, projector, screen tripod, telephone and fax machines, cameras, TV etc.,)	Transferred	19	7795.66
3	Office furniture (table, chair, pedestals, safe, conference table etc.,)	Transferred	21	2220.02
	Assets and equipment purchased for EBA measures and pilot sites			
4	Greenhouse	Transferred	22	46.057
5	Drip irrigation system	Transferred	12	26868
6	Sprinkling irrigation system	Transferred	17	26578
7	Water tank	Transferred	25	25762
8	Small scale briquette equipment	Transferred	1	10900
9	Wool combing equipment	Transferred	2	1553
10	Wool spinner	Transferred	3	2094
11	Solar collector with water tank for heating	Transferred	1	10840
Sub-total			**128**	**187620**
2. Transferred to Ulz RBA and Communities in the East				
1	Russian vans	Transferred	6	85625.67
2	Office equipment and supply for IT (Printers, GPS, Desktops computers, UPS, projector, screen tripod telephone and fax machines, cameras, TV etc.,)	Transferred	19	7795.66
3	Office furniture (table, chair, pedestals, safe, conference table etc.,)	Transferred	21	2220.02
	Assets and equipment purchased for EBA measures and pilot sites			
4	Greenhouse	Transferred	17	35589
5	Drip irrigation system	Transferred	8	17912
6	Sprinkling irrigation system	Transferred	12	18888
7	Water tank	Transferred	17	17510
8	Small scale briquette equipment	Transferred	3	32700
9	Wool combing equipment	Transferred	4	3106
10	Wool spinner	Transferred	3	2094
11	Small scale meet packaging and fodder processing equipment	Transferred	1	35315
Sub-total			**111**	**258755.4**
3.Transferred to NAMEM (National Agency of Meteorology and Environment Monitoring)				
1	Office equipment (Desktop computers, laser printers, UPS and telephone apparatus etc.,) and office furniture and other property (table, pedestal, chair, tent etc.,	Transferred	6	2432.85
2	Office furniture (table, chair, pedestals, safe, conference table etc.,)	Transferred	6	686.64
3	Professional meteorological/ hydrological/ glacial equipment and supporting properties			
	Generator Elemax SH3900EX	Transferred	1	1362.01
	Generator Elemax SH6000	Transferred	2	3154.12
	Ice Drill	Transferred	1	7800.21
	Weather Station	Transferred	1	17959.77

	Water level/data logger	Transferred	3	11006.28
	Current meter for water GR-21M	Transferred	3	13207.53
	Thermometer SP-7902B	Transferred	3	1210.68
	Smart water lab LaMotte	Transferred	3	12794.22
	Water level/data logger	Transferred	3	12952.53
	Current meter for water GR-21M	Transferred	3	13346.4
	Thermometer	Transferred	3	1183.02
	Stove	Transferred	1	222.37
	Dwelling	Transferred	1	11101.66
	Tent	Transferred	1	136.84
Sub-total			41	110557.1
Total			280	556932.4

Annex XI: List of References

1. AF Concept and/or Proposal, Project Document, and Log Frame Analysis (LFA)
2. UNDP Environmental and Social Screening results
3. Project Implementation Plan
4. Implementing/Executing partner arrangements
5. List and contact details for project staff, key project stakeholders, including Project Boards, and other partners to be consulted
6. Project sites, highlighting suggested visits
7. Project Inception Report
8. Mid Term Review (MTR) Report
9. Annual Project Performance Reports (PPR)
10. Project budget and financial data
11. Audit reports
12. Project Tracking Tool, at the baseline and at the mid-term
13. UNDP Development Assistance Framework (UNDAF)
14. UNDP Country Programme Document (CPD)
15. UNDP Country Programme Action Plan (CPAP)
16. Oversight mission reports
17. All monitoring reports prepared by the project
18. All publications of the projects (see annex IX)
19. Project operational guidelines, manuals and systems
20. Minutes of the Ecosystem-based Adaptation Approach to Maintaining Water Security in Critical Water Catchments in Mongolia project Board Meetings and other meetings (i.e. Project Appraisal Committee meetings)

Annex XII: Evaluation Questions

Evaluation Criteria/Questions	Indicators	Sources	Methodology
Relevance: How does the project related to the main objective of the GEF focal area, and to the environment and development priorities at the local, regional and national level?	• Project objectives and activities related to objective of AF focal area and priorities at national, local and regional level • Consistency and contribution to AF focal area objectives and to national development strategies • Stakeholder views of project significance and potential impact related to the project objective	• Project documents, report vs AF document • Interview with authorities at different level	• Project report review in the light of AF document • Interviews with relevant personnel
Effectiveness: To what extent have the expected outcomes and objectives of the project been achieved?	• Level of achievement of expected outcomes or objectives to date • Long term changes in management processes, practices and awareness that can be attributable to the project • Management of River basins • Sustainable land management	• Change in the ground situation observed. • Policies reviewed to address issues • Policies effectively implemented • Supply regulated	• Report with forest status information • Report on land management status • Interaction with the policy level people to ground level communities and field staffs. • Reports with information and verification on the ground
Efficiency: Was the project implemented efficiently in-line with international and national norms and standards?	• Reasonableness of the costs relative to scale of outputs generated • Efficiencies in project delivery modalities Consistency and contribution to AF focal area objectives and to national development strategies	• Financial statements • Project structure and function • Project document and annual reports	• Analysis of financial statements. • Analysis of project structure and functionalities

	• Changes in project circumstances that may have affected the project relevance and effectiveness	• Experience of project staffs and other relevant stakeholders	• Analysis of project circumstances in project document (past and present) • Interaction with relevant stakeholders
Sustainability: To what extent are there financial, institutional, socio-economic, and/or environmental risks to sustaining long-term project results?	• Degree to which outputs and outcomes are embedded within the institutional framework (policy, laws, organizations, procedures) • Implementation of measures to assist financial sustainability of project results • Observable changes in attitudes, beliefs and behaviours as a result of the project • Measurable improvements from baseline levels in knowledge and skills of targeted staff/community members etc.	• Project report • Observation in the field • Interview with stakeholders	• Review of project reports. • Observation in the field to see impact on the ground • Interaction with stakeholders
Impacts: Are there indications that the project has contributed to, or enabled progress towards reduced environmental stress and/or improved ecological status?	• Sectorial development activities addressing EbA code of conducts. • Rise in awareness and skills improved efficiency of the staffs. • Measurable improvements from baseline levels in knowledge and skills of targeted staff/other stakeholders. • Measurable improvements from baseline levels in the management functions of the responsible organizations that were targeted by the project. • River basins effectively managed.	• Project Reports • Interview with local collectors. • Interview with cooperatives. • Interview with local authority • Observation in the field.	• Review of project reports/documents. • Interaction with local communities, collectors, local authorities. • Field observation.

Annex XIII Evaluation Consultant Agreement Document

ANNEX E: EVALUATION CONSULTANT CODE OF CONDUCT AND AGREEMENT FORM

Evaluators:

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people's right not to engage. Evaluators must respect people's right to provide information in confidence, and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals, and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders'dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study limitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

Evaluation Consultant Agreement Form[1]

Agreement to abide by the Code of Conduct for Evaluation in the UN System

Name of Consultant: Arun Rijal

Name of Consultancy Organization (where relevant): _____

I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.

Signed at place/online Kathmandu, 25 August 2017

Signature: _____

Annex XIV: Evaluation Criteria

i)Criteria used to evaluate the Project by the Final Evaluation Team

Highly Satisfactory (HS)	Project is expected to achieve or exceed **all** its major global environmental objectives, and yield substantial global environmental benefits, without major shortcomings. The project can be presented as "good practice".
Satisfactory (S)	Project is expected to achieve **most** of its major global environmental objectives, and yield satisfactory global environmental benefits, with only minor shortcomings.
Moderately Satisfactory (MS)	Project is expected to achieve **most** of its major relevant objectives but with either significant shortcomings or modest overall relevance. Project is expected not to achieve **some** of its major global environmental objectives or yield some of the expected global environment benefits.
Moderately Unsatisfactory (MU)	Project is expected to achieve **some** of its major global environmental objectives with major shortcomings or is expected to achieve only **some** of its major global environmental objectives.
Unsatisfactory (U)	Project is expected **not**to achieve **most** of its major global environment objectives or to yield any satisfactory global environmental benefits.
Highly Unsatisfactory (U)	The project has failed to achieve, and is **not** expected to achieve, **any** of its major global environment objectives with no worthwhile benefits.

ii) Scale used to evaluate the sustainability of the Project

Likely (L)	There are no risks affecting this dimension of sustainability.
Moderately Likely (ML)	There are moderate risks that affect this dimension of sustainability.
Moderately Unlikely (MU)	There are significant risks that affect this dimension of sustainability.
Unlikely (U)	There are severe risks that affect this dimension of sustainability.

iii) Rating scale for outcomes and progress towards "intermediate states"

Outcome Rating	Rating on progress toward Intermediate States
D: The project's intended outcomes were not delivered	**D:** No measures taken to move towards intermediate states.
C: The project's intended outcomes were delivered, but were not designed to feed into a continuing process after project funding	**C**: The measures designed to move towards intermediate states have started, but have not produced results.
B: The project's intended outcomes were delivered, and were designed to feed into a continuing process, but with no prior allocation of responsibilities after project funding	**B**: The measures designed to move towards intermediate states have started and have produced results, which give no indication that they can progress towards the intended long term impact.
A: The project's intended outcomes were delivered, and were designed to feed into a continuing process, with specific allocation of responsibilities after project funding.	**A**: The measures designed to move towards intermediate states have started and have produced results, which clearly indicate that they can progress towards the intended long term impact.

NOTE: If the outcomes above scored C or D, there is no need to continue forward to score intermediate stages given that achievement of such is then not possible.

iv) Rating scale for the "overall likelihood of impact achievement".

Highly Likely	Likely	Moderately Likely	Moderately Unlikely	Unlikely	Highly Unlikely
AA AB BA BB+	BB AC+ BC+	AC BC	AD+ BD+	AD BD C	D

Annex XIV: UNDP-GEF TE Report Audit Trail

To the comments received in April 2016 from the Terminal Evaluation of the project titled, Ecosystem Based Adaptation Approach to Maintaining Water Security in Critical Water Catchments in Mongolia (PIMS 4505)

The following comments were provided in track changes to the draft Terminal Evaluation report; they are referenced by institution ("Author" column) and track change comment number ("#" column):

Author	#/Date	Para No./ comment location	Comment/Feedback on the draft TE report	TE Team's response and actions taken
Ms. Bunchingiv Bazartseren (Bunchin) Program Analyst UNDP Mongolia	22Nov017	Page 47/4.3 Lessons Learned	When you say "best and worst practices" it would be better if you can indicate best ones and worst ones if any	This is general heading and if there is worse practice then that will also be listed in this section and if not then also the heading remains as it is.
Bunchin	22 Nov017	P x/Key Problem Areas	Similarly "Key problem areas" in executive summary sounds alarming, if you could add something to the title to clarify it would be great.	Title changed to "Key problem areas that project aim to address"
Bunchin	22 Nov017	P25 &46/Overall Result & Recommendation	I hope we will be able to also include solar operated pumps and irrigation as well. Please also include items, such as solar rooftop heating solution we have also supported at some point. Project should be able to provide such information. Also recommendation item to use solar energy could be rephrased now.	Solar pump and irrigation and solar heating information added to result and also recommendation rephrased.
Bunchin	22 Nov017	P.Vii/Proejct Description	I understand that you have included facts and figures on CC from the ProDoc in describing the project, which is quite dated. If you can update them by saying by the time of Project development … and situation now …	Information was from proDoc and now mentioned "as per the project document" and estimates at the project development time was …"
Bunchin	22 Nov017	P /Linkage between Project and others Interventions	I also feel that we could include a bit more in section 3.1.7 Linkages between Project and other Interventions within the Sector. Can you work with project team on this? I can think of UNDP ones that can be added, such as BIOFIN, DRR, waste management projects etc.	More information related linkage are added.
Bunchin	22 Nov017	P57/	There is reference to MAAIF (page 57), what does this abbreviation stand for?	It was typo error so corrected.
Bunchin	22Nov017	P46/Recommendation	When you say "Best and worst practices", it would be better if you can indicate best ones and worst ones, if any.	It is general title and includes both types of practices. Since there was no worst one, it didn't mentioned that. Text explains clearly whether it is best or worst ones.
Bunchin	22 Nov017	P.Xii, 26, 43 and 45/Conclusion, Key success of the project, Sustainability and Conclusion.	In more general terms, the section that we have under key successes is very important as you are aware. There you have captured various contributions by the project. Nevertheless, do you think you can quantify that later on in the report, the possible ones at least. Or even better if you articulate "Key achievements" to have Outcome level results, it would be really great.	Major outcomes are mentioned in conclusion, key success and key achievement sections. In key success it both outcome and output level success are explained. Similarly, outcome like change in attitude and

			In this regard, if you can think of a transformational change if you will, it would be great. Having that great rating overall "Highly satisfactory" it would be great to see statements about the project impact on real people's life and institutions, in other words transformational change. But if you think there is no transformational change, we would like to hear as well. The results that you have tabulated with quantified indicators later on, they are output level ones and It need to capture Outcome level ones that can be quantified.	thinking (transformation) is mentioned in conclusion, key success and also mentioned in the sustainability section.
Bunchin	22Nov2017	P.Xi/Executive summary	Can we cluster the conclusion and present them in bullet points. Perhaps also in conclusion or elsewhere it would also be good to capture how or whether the barriers have been addressed sufficiently through project implementation.	Conclusion in executive summary presented in bullet point. What were the barrier (challenges) and how they were addressed is also explain in conclusion.