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Landscape approach to management of peatlands aiming at multiple ecological benefits

PIMS4419, Atlas Award 00066861, Atlas Project No: 00082884

Terminal Evaluation, April-June 2017

GEF Focal Areas: Multiple Focal Areas

**Republic of Belarus Ministry of Natural Resources and Environment Protection
(MNREP), Belmeliovodkhoz, National Academy of Sciences, Ministry of Forestry
United National Development Program (UNDP)**

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Acronyms, Abbreviations and Glossary

AFA	Administrative and Financial Assistant
APB	Ахова птушак Бацькаўшчыны (APB--Birdlife Belarus)
APR	Annual Project Review
BMU	German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety
BYR	Belarusian roubles
CEO	Chief Executive Officer (referring to GEF)
EIA	Environmental Impact Assessment
EOP	End of Project (usually in the context of targets for indicators)
GEF	Global Environment Facility
GEST	Gas Emission Site Type (an approach for estimating peatland greenhouse gas emissions based on vegetation composition and water levels)
GHG	Greenhouse gases (in this context: carbon dioxide, CO ₂ , methane, CH ₄ , and nitrous oxide, N ₂ O)
GIS	Geographical Information System(s)
ha	Hectares
ICI	BMU's International Climate Initiative
M&E	Monitoring and Evaluation
METT	Monitoring Effectiveness Tracking Tool (for protected areas)
MNREP	Ministry of Natural Resources and Environmental Protection (Minpriroda)
MRV	Measuring, Reporting, Verification (the protocol for measuring carbon emissions)
MTR	Midterm Review
NGO	Non-governmental Organisation (or in Belarus "public organisation")
NIM	Nationally Implemented (referring to a project implementation modality)
NPC	National Project Coordinator
NPM	National Project Manager
NSP	National Strategy for Peatlands
PA	Protected Area
Peatlands I	Refers to a previous UNDP--GEF project ("Renaturalization and Sustainable Management of Peatlands to Combat Land Degradation, Ensure Conservation of Globally Valuable Biodiversity, and Mitigate Climate Change" PIMS 2057) with a focus on peatlands
PIF	Project Identification Form
PIR	Project Implementation Review
PIU	Project Implementation Unit
PPG	Project Preparation Grant
PMAT	Portfolio Monitoring and Assessment Tool (referring to the Land Degradation Tracking Tool)
PR	Public Relations
PRF	Project Results Framework
Prodoc	Project Document (referring to the UNDP operational project document)
Oblast	Belarusian administrative unit equivalent to region
Rayon	Belarusian administrative unit equivalent to district
SFM/REDD+	Sustainable Forest Management/Reducing Emissions from Deforestation and Forest Degradation Plus
tC/ha/y	Tonnes of carbon per hectare per year (for measuring emissions)
TE	Terminal Evaluation

TOR	Terms of Reference
UNDP	United National Development Program
UNDP-CO	UNDP Country Office
UNDP-DRR	UNDP Deputy Resident Representative
UNDP-GEF	
RTC	UNDP-GEF Regional Technical Centre (based in Istanbul)
UNDP-PO	UNDP Programme Officer
USD	United States dollars
WG	The cross-sectoral working group established under the project to promote a landscape approach to peatlands conservation and sustainable use
Zakaznik	A national or regional level protected area
Zapovednik	A central protected area or strict nature reserve (equivalent to IUNC PA Category I)

1. Executive summary

Table 1: Project Information Table

Project Title			
UNDP Project ID	4419	PIF Approval Date	25 March 2011
GEF Project ID	4468	CEO Endorsement Date	31 July 2012
ATLAS Business Unit Award No.	00066861	Project document Signature Date	27 September 2012
Country	Belarus	Date PM hired	March 1, 2013
Region:	Europe and Central Asia	Inception W/shop date	May 21-22, 2013
GEF Focal Area/Strategic Objective	Multi Focal Area	MTR completion date	June 30, 2015
Trust Fund	GEF Trust Fund	If revised, proposed op. closing date:	
Executing Agency/Implementing partner	UNDP		
Other executing partners	Ministry of Environment and Natural Resources, Belmeliovodkhoz (enterprise under the Ministry of Agriculture), National Academy of Sciences, Ministry of Forestry		
Project Financing	at CEO endorsement (USD)	At TE (USD)	
[1] GEF Financing	2,700,900	2,593,732	
[2] UNDP Contribution	390,000	343,045	
[3] Government	7,579,00	9,707,250	
[4] Other partners	1,409,250	1,604,780	
[5] Total cofinancing	8,988,250	11 312 030	
PROJECT TOTAL COSTS	12,079,150	14,248,807	

1.1 Brief description of project

This project aims to promote a landscape approach to management of peatlands so as to conserve biodiversity, enhance carbon stocks, and secure multiple ecosystem services with demonstration in the Poozerie landscape. The project was intended to work out an integrated approach to decision-making on peatland use that considers ecological as well as economic criteria, and considers carbon benefits that may be derived from participation in the voluntary and compliance markets, in addition to biodiversity, land degradation and SFM benefits. A National Strategy for Peatlands Management including a scheme for peatlands management (Outline for direction of Use) was to be developed as a consensus policy document and demonstrations of the restoration and sustainable use of peatlands to take place in a number of sites ranging from protected areas, to agricultural and forested peatlands. The existing MRV protocol for emission reductions from peatlands were to be extended to agriculture and forestry biotopes.

The project's prime objective was to be realized through the following key outcomes:

- Outcome 1.1: Policy framework and institutional capacities for a landscape approach to peatlands management are in place.
- Outcome 1.2: Landscape approach to conservation of peatlands piloted through a network of PAs, buffer zones and corridors in the Poozerie landscape.
- Outcome 2.1: Sustainable use of peatlands in agriculture
- Outcome 2.2: Restoration of approximately 2,027 ha of forest peatlands in the Poozerie landscape

The project is being implemented by the Ministry of Natural Resources and Environmental Protection (MNREP) under NIM modalities. The project is being overseen by a Project Board (PB). A Project Implementation Unit (PIU) has been established within the MNREP. Project implementation is also partly implemented by four other governmental organisations and one non-governmental organisation under Nationally Implemented (NIM) modalities. These organisations have responsibilities to implement very specific and different aspects of the project.

1.2 Context and purpose of the evaluation

The project started on 27 September 2012 and was planned as a five year project (i.e. terminating in September 2017). Following the start of the project, there was some delay to the start of project activities, primarily because there were issues with recruiting the NPM.

The TE has been initiated by UNDP Country Office in Belarus in line with the UNDP/GEF M&E guidelines in order to provide a comprehensive and systematic account of the performance of the completed project by assessing its project design, process of implementation, achievements vis-à-vis project objectives endorsed by the GEF including any agreed changes in the objectives during project implementation and any other results.

The evaluation attempts to determine, as systematically and objectively as possible, the relevance, efficiency, effectiveness, impact and sustainability of the project. The evaluation assesses the achievements of the project against its objectives, including examination of the relevance of the objectives and of the project design. It also identifies factors that have facilitated or impeded the achievement of the objectives. Apart from undertaking a review of the past the in-depth evaluation aims to provide recommendations and lessons learned that have application and value for the future.

The Terminal Evaluation was carried out by one International Consultant and one National Consultant with a mission to Belarus between 10th -19th May 2017. Evaluation took place as 4 months prior to the project was closing (with the closing date expected to be end of September 2017 as was originally planned). During the mission, the evaluation team met and interviewed a large number of stakeholders including: the PM and members of the PIU, the UNDP Country Office in Belarus (E&E unit, PR Unit), Ministry of Natural Resources and Environmental Protection of the Republic of Belarus, Ministry of Forestry of the Republic of Belarus, Ministry of Energy of Belarus, National Academy of Sciences of Belarus, APB Belarus, PA administration, farming enterprises and forestry units in the field.

1.3 Main conclusions, recommendations and lessons learned

Key Conclusions (findings)

The overall conclusion of the Terminal Evaluation is that it was a reasonably designed project, of very high relevance to Belarus, and that it was implemented extremely efficiently by UNDP and in particular the project PIU they employed. The effectiveness of the project was therefore, despite some weakness in the original project document, very good and in most cases exceeded targets and expectation.

The project is considered to have achieved almost all its outcomes fully (the exception being Outcome 2.1) and that the outcomes will genuinely meet the objective of achieving “a landscape approach to management of peatlands that conserves biodiversity, enhances carbon stocks, ensures sustainable land management, and sustainable forest management” (and already does to an extent).

In terms of meeting the expected Global Benefits (that justify GEF incremental support) the conclusion reached (section 4) was that it meets fully or exceeds almost all of them.

This very positive outcome can be traced to a number of factors that are discussed in more detail in the report but the key ones can be summarized as:

- The project design built on the experience, relationships and awareness created in previous UNDP / GEF initiatives and maintained a momentum for change that these provided
- The project PIU and UNDP E&E unit “translated” the project document into practice very effectively. Full credit should be given to the PIU particularly but also the UNDP E&E unit for the highly successful outcomes and the contribution this has made to peatlands sustainable use and conservation up to 2030 and beyond.

However, despite the above there were some aspects of the project that brought a number of challenges to its implementation. In the context of the project management, though on the whole exemplary, the unfortunate episode related to the introduction of a centralized PR/Communications unit cannot be overlooked. From the feedback received during the TE in-country mission the re-modeling hindered the project’s capacity to pursue PR and communication agendas to full extent. The reorganization was designed with a view to maximize existing PR talents and resources and to expand the projects’ communication potential to boost their visibility in Belarus and abroad. However, the new system weakened the connection between a PR person and the project, which had an undesired impact on the quality of the PR services that the project started to receive. It is commendable that UNDP has clearly recognized the necessity to re-think the way the communications are organized, and re-structured the unit making it capable of doing better in addressing the projects’ communication needs.

Ownership and replication potential of some pilots was unclear - for example, an output under Outcome 2.1 (Output 2.1.1: perennial grass meadows), though successful technically, is open to serious doubts in terms of likely hood of accurate replication (replication that follows the full agro-technical procedures as demonstrated by the project rather than a “light” version normally practiced). The inclusion of outputs / more systematic activities related to replication

and follow up to facilitate up-scaling (as discussed under project design) might have strengthened this aspect.

A summary of the ratings of the different aspects of the project is provided below. The definition of ratings provided by UNDP¹ specifies that the HS (highly satisfactory) rating should be applied to projects that had “no shortcomings”, and a Satisfactory (S) for projects with “minor shortcomings”. Thus, though this was an extremely impressive project that achieved or exceeded almost all of its Outcomes and fulfilled its objective, it did suffer some minor shortcomings and thus the TE Team feel that an overall Project Results Rating of Satisfactory (S) is the only one possible. However, it should be noted that this perhaps does not fully or fairly reflect the very effective and successful project for which all parties involved are to be commended.

Table Summarizing the overall Project Ratings

<i>Item</i>	<i>Rating</i>	<i>Comment</i>
Overall Project Results	S	The overall project results were extremely good and met or exceeded expectations with only some minor shortcomings.
Project Design	S	Overall good and fully “fit for purpose” – only notable weakness was in SRF indicators and replication Outputs/activities for pilots
M&E		
Overall quality of M&E	S	Based on component evaluation (see below)
M&E design at project start-up	S	M&E design was standard for UNDP / GEF projects – some weakness in SRF indicators that form basis for M&E
M&E plan Implementation	S	The project M&E plan was implemented fully and effectively – response to MTE recommendations could have been more through.
Outcomes		
Overall quality of project outcomes	S	The majority of outcomes were rated HS reflecting achievement or exceeding of expected results. Overall efficiency was marred by the centralization of PR/communication specialist - thus overall rating of S
Relevance	HS	The project was very clearly of very high relevance in all respects and to all stakeholders
Effectiveness	S	The project was effective in implementing activities and adapting to challenges faced
Efficiency	S	The generally high efficiency was marred by the centralization of the PR/communications specialist and thus an S rating is given.
Catalytic Role		
Production of Public Good	HS	The project has effectively implemented pilots that introduced new techniques, technologies and approaches.

¹ See UNDP Evaluation Guidelines for GEF projects

Demonstration	S	Effective steps have been taken to disseminate the results and encourage replication - however, the project contained no dedicated output/s for this and possibly was impacted by centralization of PR Specialist to UNDP CO
Replication	S	Most of the techniques / approaches piloted have are being replicated or have high likelihood of replication.
Scaling Up	HS	The approval of the NPS will result in the national level application and scaling up of most of the techniques or approaches piloted
<i>Sustainability</i>		
Overall likelihood of risks to sustainability	ML	This is based on the cumulative analysis of the component parts of sustainability (see below)
Institutional Framework and governance	ML	Institutions in Belarus are stable and effective. The ongoing need for reforms in one key land use sector (agriculture) is one possible risk.
Financial Resources	L	The NPS and Outline of directions of Use 2030 has been approved by government and in the Belarus context financing for its implementation is judged therefore to be likely
Socio-economic	ML	The NPS is based on sound economic grounds (i.e. improved sustainable use will have overall productivity benefits and thus real economic benefits and limited costs). This is true not just on the macro level but also on the level of land users and local populations. Thus, provided no extreme economic shocks are exerted the Socio-economic sustainability is considered ML
Environmental	ML	The NPS should improve the environmental sustainability of all use of peatlands, even the peat extraction industry. The biggest risk is the potential impact of climate change.

Based on the evaluation work undertaken the TE Team have provided some suggestions and recommendations of relevance to the final months of the project and to the development and implementation of future initiatives and projects. Additionally. Some useful “lessons learned” from the project are identified and discussed. Tables summarizing the recommendations and lessons learned are provided below.

Summary of Suggestions and Recommendations:

Item	Suggestions / Recommendations
Design	<i>Indicators:</i> As highlighted in both the MTE and this report, the project indicators were not in all cases “fit for purposes” and were either somewhat meaningless or failed to capture progress towards impact (rather than just progress with process). Greater attention in future project documents on the inclusion of indicators that can best measure in a meaningful way both process and impact is essential.
	<i>The need to try and better measure and identify key factors that bring changes in awareness, understanding and changing mindsets:</i> suggested that future projects place increased emphasis on ensuring mechanisms are in place for better monitoring of changes in awareness, understanding, attitudes and perceptions of key issues.
	<i>The project title</i> should always be as concise as possible. The more verbal the project title the less clear the real overall development intent and purpose of the project.

	<i>Replication output/s/activities:</i> any project with a substantial “piloting” or “demonstration” content needs to ensure sufficient systematic effort is focused not only on successfully implementing and monitoring such pilots or demonstrations, but also a 2 nd phase aimed at documenting the results, effectively communicating them to those who can benefit (dissemination) and facilitation / addressing barriers to their replication and scale up. The TE recommendation is that any future projects with significant pilot/demonstration components include more specific systematic 2 nd phase replication/uptake aspects and preferably specific outputs devoted to this (i.e. to documentation, dissemination, replication).
<i>Actions to strengthen or reinforce benefits from the project</i>	<i>Dissemination of results:</i> The project needs in its final months to focus on ensuring the best possible communication of its results to all relevant stakeholders. This is particularly important as communications capacity of the project was constrained since late 2015 following the centralization of the PR/communications system in UNDP CO.
	<i>Future continuity of Monitoring of sites:</i> The project should seek to ensure that the that important monitoring mechanisms established during the project have the financial and institutional support needed to continue effectively post project
<i>Proposals for future directions</i>	<i>Support to implementation of the National Peatlands Strategy and Outline for Directions of Use 2030:</i> The obvious area of opportunity to follow up on this project is moving from policy development to policy implementation – see document text for details
	<i>Ecosystem service valuation:</i> As this is a new approach in Belarus introduced by the project, UNDP could seek now to develop either dedicated projects in this direction or to consider outputs and outcomes in new projects related to increasing the capacity to use such approaches and to mainstream ecosystem service values into economic planning
<i>Priority Issues for UNDP CO</i>	<i>The PR / Communications Unit:</i> Reforms to the way this unit operates are essential and ideally it is recommended that in future GEF funds from projects are not used to cover the costs of any staff not <u>exclusively</u> involved in implementing project related activities.
	<i>Transparency and complete clarity on issues related to GEF fee’s received by UNDP and support service charges, etc:</i> Based on the feedback received during the TE mission there exists some concern within the MNREP over lack of clarity on the issue of the GEF fee received by UNDP, the support service charges made to projects, use of project funds for UNDP CO based staff, etc. It is suggested that in the future more efforts to explained these issues fully is made at the outset of every GEF funded project and the opportunity to periodically review any concerns is ensured in PEB meetings.

Summary of Good / Bad Practices and Lessons Learned

Item	Good/bad practice and lessons learned
<i>Building on past experience and ensuring continuity of direction / institutions i.e. maintain momentum:</i>	The greatest asset this project had was that it built directly on the experience of the designers and participants of the previous Peatlands MSP project and maintained the momentum established by that project to push forward the key issues, concerns and interests that emerged from that project. The continuity of stakeholder involvement and the involvement of key scientific institutions and individuals, as well as key stakeholders, played a critical role in the project success. UNDP and the executing agency are to be commended for their proactive commitment to developing this project in such a timely manner and effectively building on the previous projects results. The value added of doing so cannot be under estimated and in this respect the project can be said to be highly cost effective as a result.

<i>Effective dissemination: the Peatlands Inventory Website</i>	The online publishing of the full inventory data for the peatlands inventory is an extremely valuable resource and tool for all institutions, both state and private sector (as well as the public in general). As stated on the opening page “the database will facilitate the organization of the sustainable use of peatlands in the development of land use plans, development of network of protected areas, action plans, rare species”. The open access to this data is a good example of how to maximize the benefits of such data and ensure its full application. As such it is a positive lesson learned and the approach that needs to be built on in future.
<i>The caretakers (warden) system approach to public / Protected area cooperation and collaboration</i>	Based on the evidence gleaned from the TE mission the PA caretaker/warden concept piloted by Birdlife Belarus and further supported by the project is effective and has a reasonable chance of being sustainable. This is therefore a good example of such public / state cooperation and has the potential for both replication to other PAs but also application to other aspects of environmental management and monitoring.
<i>Ecosystem service evaluation</i>	The use of the Ecosystem service valuation approach to try and place economic values on such services was a valuable new approach tested by the project – this has proved that if applied in the right way it can provide data of potentially great benefit for sound decision making by all sectors. This experience and the lessons learned from its initial application need to be noted when further developing such approaches and seeking to mainstream into wider economic planning.
<i>Private sector co-financing:</i>	Another innovative achievement that should be learned from and pursued further in the future is the project’s success in identifying and accessing considerable private sector co-financing for a specific project site and for building an effective cooperative relationship with the donor during implementation of activities funded. The lessons from this should be applied when seeking such co-financing in the future.
<i>Use of international consultant with both the linguistic capacity and deep experience of the mindset and operation/approaches of post-soviet centralized government systems such as still exist in Belarus:</i>	This is an important lesson in the appropriate application of technical assistance – i.e. technical assistance that brings something new but tailors it in a way that best meets the specific conditions and circumstances of the country. The NPS is a good example of this and a good lesson for future such policy level technical assistance provided by UNDP projects.

2. Introduction

2.1 Project background

2.1.1 Development context (environmental, socio--economic, institutional, policy factors relevant to project objectives and scope)

1. The Republic of Belarus is located at the geographical centre of Europe and covers an area of 207,600km². The relief of the country is relatively flat with the highest point standing only 346m asl. The physical, geographical, and climatic characteristics of the country have resulted in an abundance of forests and wetland ecosystems.
2. The country forms the boundary between two geobotanic regions: the region of European Broad-Leafed Forests and the region of Eurasian Coniferous Forests. In addition, the country can also be divided into three agro-ecological zones: i) the northern part of the country is characterized by large coniferous woods and numerous lakes, bogs, and rivers, ii) the central area of the country includes substantial agricultural and industrial landscapes and iii) the southern part harbors fens and transition mires, broad-leafed forests, and meandering rivers with extremely waterlogged floodplains.
3. The country also harbored significant areas of peatland – the country contained an estimated 2.94 million ha of peatland. Peatland is important for a number of different reasons but, most importantly: i) the biodiversity that is harbored within peatlands, and ii) the potential for carbon sequestration and storage.

2.2 Purpose of the evaluation

4. The TE was initiated by UNDP Country Office in Belarus in line with the UNDP/GEF M&E guidelines in order to provide a comprehensive and systematic account of the performance of a completed project by assessing its project design, process of implementation, achievements vis-à-vis project objectives endorsed by the GEF including any agreed changes in the objectives during project implementation and any other results.
5. The evaluation attempts to determine, as systematically and objectively as possible, the relevance, efficiency, effectiveness, impact and sustainability of the project. The evaluation assesses the achievements of the project against its objective /outcomes, including examination of the relevance of the objective/outcomes and of the project design. It will also identify factors that have facilitated or impeded the achievement of the objective/outcomes. While a thorough review of the past is in itself very important, the in-depth evaluation provides also detailed recommendations and lessons learned for the future.
6. The evaluation involved key project stakeholders, including UNDP Country Office in Belarus, Ministry of Natural Resources and Environmental Protection of the Republic of Belarus, Ministry of Forestry of the Republic of Belarus, National Academy of Sciences of Belarus, APB Belarus, members of the Project Steering Committee, beneficiaries and stakeholders in the field (PA administrations, agricultural enterprises, Leshoz).

2.3 Key issues to be addressed

7. The evaluation determines as systematically and objectively as possible, the relevance, efficiency, effectiveness, impact and sustainability of the project. The achievements of the project have been assessed against the project's objective and Outcomes, including an examination of the relevance of the objective/outcomes and of the project design. Subsequently, the factors have been identified that facilitated or impeded the achievement of the objective. An in-depth analysis is used to elaborate detailed recommendations and lessons learned for the future.

The following issues received particular attention of the evaluation:

- effectiveness of technical and institutional outputs in relation to impacts and efforts;
- remaining gaps in the framework for sustainable peatland management in Belarus;
- consolidation of the current achievements in the context of the project's exit strategy;
- and, since this is a project with a major pilot / demonstration component, the perspectives of replication.

2.4 The outputs of the evaluation and how will they be used

8. The expected output of the present evaluation is a report that includes:
 - Findings with the rating on performance;
 - Conclusions drawn;
 - Lessons learned concerning best and worst practices in producing outputs;
 - A rating on progress towards outcomes.

Terminal evaluations have four complementary purposes:

- To promote accountability and transparency, and to assess and disclose levels of project accomplishments;
- To synthesize lessons that may help improve the selection, design and implementation of future GEF activities;
- To provide feedback on issues that are recurrent across the portfolio and need attention, and on improvements regarding previously identified issues; and,
- To contribute to the GEF Evaluation Office databases for aggregation, analysis and reporting on effectiveness of GEF operations in achieving global environmental benefits and on the quality of monitoring and evaluation across the GEF system.

2.5 Methodology of the evaluation

9. This terminal evaluation is carried out according to the UNDP guidelines and the Terms of Reference provided by the project (Annex 2). Based on a preparatory study of: (1) documents related to the project cycle (Project document, Inception report, PIRs, APRs, MTE, minutes), (2) documents produced by the project on technical and strategic issues, a preliminary list of important issues has been determined, and a workplan and programme prepared (Annex 3). Information and data for the assessments of this evaluation have been obtained from :

- a desk study of documents related to the project specified in the TE ToR (Annex 2) and other sources,
 - project Strategic results Framework (Annex 1) and monitoring data from various project reports,
 - meetings and interviews with stakeholders (Annex 4),
 - project site visits.
10. Assessment of the components under the evaluation perspectives have been done according to a set of specific evaluation criteria (as described in these Annexes). During the mission in Belarus from 10th -19th May meetings and interviews were held with key stakeholders of the project in Belarus. A number of evaluation questions have been formulated to guide the interviews and discussions, mainly addressing aspects such as perceptions, constraints, challenges, success factors and suggestions related to design, implementation and achievement. Apart from this, discussions have been structured by early identification of other important issues requiring particular attention. Ratings have been applied to the key criteria as defined in the Terms of Reference.
 11. Apart from the Project Document, the Inception Report and Terminal Evaluation's Terms of Reference, the Mid-Term Evaluation has been used as an important and extremely useful reference point for the final evaluation in order to assess the implementation and outcome of strategic and implementation adjustments made.
 12. A draft evaluation report has been composed according to the format specified in the Terminal Evaluation's Terms of Reference and in the guidelines formulated in the UNDP Handbook on Planning, Monitoring and Evaluation for Development Results. After circulation of the draft report, the final evaluation report was prepared integrating the reviewers' comments.

2.6 Structure of the evaluation

13. The report follows the structure of Project Evaluations recommended in the UNDP Evaluation Guidance for GEF-Financed Projects as given in Annex of the TOR. As such, it first deals with the purpose of the review and the methodology used for the review (Section 2), a description of the project and the development context in Belarus (Section 3), it then deals with the Findings (Section 4) of the evaluation within four sections (Project Strategy, Progress Towards Results, Project Implementation and Adaptive Management, and Sustainability). The report then draws together the Conclusions and Recommendations from the project (Section 5) and finally wraps up with relevant Lessons Learned in Section 6 (for future projects design and implementation in Belarus and generally).

3. The project and its development context

3.1 Project start and its duration

14. The project was developed along standard UNDP-GEF procedures with the PIF and PPG being approved in March 2011. Just over a year was required to complete the PPG and to get endorsement by the CEO (31 July 2012) and the project started with the signature of the Project Document by UNDP and national executing agency (MNREP), on 27 September 2012 (see Table 1). The project was planned as a five-year project and thus closing date is September 2017.
15. There was some delay in the project becoming operationally active due to delay in hiring the NPM and thus the recruitment of other staff and convening of the Inception Workshop. The NPM was hired on March 2013, some five months after the project commenced. This was primarily because there were issues with recruiting the NPM: the position was advertised two times but there was an insufficient number of applicants in the first round. Once the NPM was hired, the Inception Workshop was held two months later in May 2013.
16. The other project milestones, including the project end date for the project, are indicated in Table 1.

Table 1. The project milestones including the projected end date for the project.

<i>Milestone</i>	<i>Date</i>	<i>Time between milestones</i>	<i>Time from PIF Approval</i>
PIF Approval	25 March 2011		
PPG Approval	19 April 2011	< 1 month	1 month
CEO Endorsement	31 July 2012	15 months	16 months
UNDP Project document Signed	27 September 2012	2 months	18 months
National Project Manager Appointed	1 March 2013	5 months	23 months
PIU staff recruited (NSC, AFA)	April 2013	1 month	24 months
Inception Workshop	May 2013	1 month	25 months
Mid Term Evaluation Report (final)	July 2015	22 months	47 months
Terminal Evaluation Commences	May 2017 (final expected June 2017)	22 months (to June)	69 months
Projected EOP	September 2017	3 months	72 months

17. A Mid-term Evaluation of the project has been carried out in July 2015. No major changes in project strategy, activities, indicators or budget occurred after the MTE (with the exception of additional co-financing from Coca Cola).

3.2 Implementation status

18. The project is entering its terminal phase and is planned to be closed, as originally planned, in September 2017. The Terminal Evaluation will be available by the end of June 2017

(provided all comments and adjustments are received and agreed by that date). At the time of the TE field mission (May) a number of Tracking tools for 2017 had not yet been completed but these were completed and provided to the TE Team after the mission and prior to completion of the TE report 1st draft.

3.3 Problems that the project seeks to address

19. There are a number of anthropogenic threats to the peatlands in Belarus: i) drainage – with its impact on the water table, ii) the mining of peat, iii) the drainage of peatlands for conversion to agriculture, iv) peatland fires (which are interlinked with drainage of peatlands and an estimated 2,500 peatland fires occur in Belarus annually destroying 4,000 to 12,000 ha.²), and v) succession of vegetation because of changes in the management regimes on the peatlands – often leading to increases in woody vegetation on the peatlands.
20. The impact of these anthropogenic activities has been a significant loss of peatland. Once spanning 2.94 million ha of the country, 54% has been converted or lost since the 1950s through the processes described above.
21. The impact is not limited to the loss of the peatlands. First, when peatlands are drained, the carbon and nitrogen stocks within the peat are rapidly mineralized and the carbon (and nitrogen) is lost (as carbon dioxide, CO₂, methane, CH₄, and nitrous oxide, N₂O). As a consequence of this process, the drained peatlands of Europe and Asia have become significant sources of greenhouse gases (estimated to be 5---22 tC/ha/y)³ , with the peatlands of temperate Europe being the second most important source of greenhouse gases from equivalent sources (after Southeast Asia). Second, if the drained peatlands are used for agriculture, soil degradation can be significant. By 2010, an estimated 250,000 ha (including 124,500 ha in the Poozerie landscape) of agricultural peatlands had a soil organic content of less than 50%. Some 31,100 ha of former peatlands are now so degraded that they have an organic matter content of less than 5%. Further, large areas of drained forest peatlands (an estimated 135,000 ha) have lost their productive capacity and can no longer be used gainfully for forestry.
22. Third, a reduction in the water table by 0.5-0.7 meters, as a result of drainage, has brought about changes in vegetation structure and the disappearance of valuable vegetation associations and impoverishment of the species composition. This, in turn, has impacts on the livelihoods of local people who are dependent on natural resources (e.g., berries, mushrooms, fishing, hunting).
23. At the landscape level, the impacts are also significant with changes to flow in river systems, long term eutrophication of rivers and lakes (annually, about 1.5 million tons of mineral and up to 700,000 tons of water-soluble organic substances originating from drained peatlands flow into the Black Sea through the Pripyat and Dnieper rivers).
24. To facilitate recovery of the wetland ecosystems, the hydrological regime will need to be restored by blocking drainage channels.
25. There are a number of *root causes* that underpin the threats of peatlands, including i) low awareness of the ecological and economic importance of intact peatlands, ii) the absence

² Elaboration of recommendations for prevention of peat and forest fires in Belarus implemented under the Development Support Services Report produced by UNDP and the Ministry of Natural Resources

³ Estimates are from studies of the Institute of Natural Resources of Belarus

of incorporating environmental impact assessments in planning peat excavation; iii) a shortage of reliable data on the available reserves of peat; iv) poor development of technologies and methods based on alternative and renewable energy sources, such as plant biomass; and v) a lack of alternatives for the use of wetland biodiversity, such as cranberry gathering, tourism, or plant biomass production, vi) the absence of alternative land management practices such as layered ploughing, vii) changes in the management regime – largely due to discontinuation of traditional harvesting of hay from fen mires; this, in turn, disrupts the hydrological regime and increases eutrophic sedimentation, viii) inadequate representation of peatlands within the protected area system of the country, with some peatland ecosystems (e.g. oligotrophic and mesotrophic peatlands in the northern part of the country, and forest peatlands) being particularly underrepresented, and ix) where there are protected areas, they are sub-optimally managed.

26. Overall, there is no coordination among the different sectors and how they use or manage the peatlands within the country; further, none of the productive sectors' programs take into account their impact on biodiversity and ecosystem services, including greenhouse gas emissions and sequestration potential. Indeed, there is a lack of a full understanding of the ecosystem services (including economic potential, habitat support, resilience capacity, carbon sequestration, and soil quality maintenance) of Belarus' peatlands. Finally, although restoration of mined peatlands has been successfully carried out in the past, there has been no development of the methods to restore agricultural or forest peatlands.

3.4 Immediate and development objectives of the project- Project description and strategy (objectives, outcomes and expected results)

27. The project is presented as a logical response to the causes of peatland degradation in Belarus (as described above) with the extension that the long-term goal to which the project will contribute is the conservation and sustainable use of all Belarusian peatlands to maintain the range of ecosystem services they generate.
28. The project aims to contribute to this long-term goal through achievement of its objective:

“to promote a landscape approach to management of peatlands that conserves biodiversity, enhances carbon stocks, ensures sustainable land management, and sustainable forest management, with demonstrations in a number of pilot sites (peatland PAs, agricultural peatlands, and forested peatlands):

 - i) develop a strategy and action plan on sustainable use and conservation of wetlands, ii) develop schemes of rational use and protection of peatlands,
 - iii) design and implement environmental activities on specific sites during reconstruction of drainage systems,
 - iv) ensure afforestation or rewetting of degraded and inefficiently used in agriculture and forestry peatlands,
 - v) implement principles of sustainable use of peatlands in several organizations (transition to perennial grasses), and
 - vi) prepare documents declaring wetland Protected areas).”
29. In functional terms, this objective is to be achieved through the achievement, in turn, of the following outcomes:

1. *Outcome 1.1*: Policy framework and institutional capacities for a landscape approach to peatlands management are in place.
2. *Outcome 1.2*: Landscape approach to conservation of peatlands piloted through a network of PAs, buffer zones and corridors in the Poozerie landscape
3. *Outcome 2.1*: Sustainable use of peatlands in agriculture
4. *Outcome 2.2*: Restoration of approximately 2,027 ha of forest peatlands in the Poozerie landscape
5. *Outcome 2.3*: Readiness of government for implementation of carbon projects in agricultural and forest peatlands enhanced

3.5 Main stakeholders

30. The Project Document exhaustively identified the project's stakeholders. The table in the Project Document not only identifies the stakeholders but it describes their current mandate and their role within the project. As a project that aims to work at a landscape level and as a project that also aims to overcome the barrier of lack of coordination among different actors, there are a large number of stakeholders to the project.
31. Two principal forums have been established to engender communication and communication among the stakeholders: i) the PB (as described above) and ii) a cross-sectoral Working Group.

3.6 Project Implementation Arrangements

32. The project is being implemented by the Ministry of Natural Resources and Environmental Protection (MNREP) under NIM modalities. The project is being overseen by a Project Board (PB) within which there are three entities: i) the Executive Entity – this is a senior executive of the MNREP and the Deputy Minister has been appointed to this position; this person is also the Project National Coordinator (PNC), ii) the Senior Supplier – in this case the Resident Representative of the UNDP-CO, and iii) the Senior Beneficiaries – with representation from the different organizations who are stakeholders and/or beneficiaries of the project (see Annex for a list of the members of the PB). Under the PB, project assurance is carried out by the UNDP-CO Environmental Focal Point – and is specifically to carry out independent and objective oversight and monitoring of the project's implementation.
33. A Project Implementation Unit (PIU) has been established within the MNREP and is comprised of a National Project Manager (NPM), a Scientific Coordinator, an Administrative and Financial Assistant (AFA) and a Public Relations Specialist.
34. The project is being partly implemented under Nationally Implemented (NIM) modalities. Thus, four governmental organizations and one non-governmental organization are considered as implementing partners: i) the Institute of Natural Resource Management, ii) the Lida Forestry, iii) the Scientific and Practical Centre for Bioresources, iii) Polessie experimental land-reclamation station and iv) APB-Birdlife Belarus (APB). These organizations have responsibilities to implement very specific and different aspects of the project. In addition, the project also sort contractors to carry out other technical work within the framework of the project.

3.7 Results expected

35. The expected results of the project are:

1. A National Strategy for Wetlands Management which should include a scheme for peatlands management
2. Demonstration of restoration and sustainable use of peatlands in a number of sites
3. Existing Measuring, Reporting and Verification (MRV) protocol for emission reductions from peatlands will be extended to agriculture and forestry areas
4. Strengthen institutional capacity for a landscape approach to peatlands management
5. Introduce a landscape approach to conservation of peatlands through the establishment of a network of wetland protected areas, buffer zones and corridors
6. The sustainable use of peatlands in agriculture will be promoted
7. Approximately 2,027 ha of peatlands will be restored
8. The government will be made ready to implement carbon projects in agricultural and forest peatlands

36. As suggested in its objective, the project also aims to work in a number of pilot sites to demonstrate sustainable management of peatland ecosystems.

4. Findings and Conclusions

4.1 Project formulation (design)

4.1.1 *Project relevance*

37. The project document does not explicitly describe in any section the specific linkages between the project and national policy, strategic plans, and obligations under relevant conventions (CBD, FCC, CCD, etc.). Historically, UNDP/GEF project document contained sections on this (country Ownership: Country Eligibility and Country Drivenness) but it is noted that in the latest template for UNDP/GEF project documents (January 2016) this section is no longer required.
38. In any case the project clearly targets crucial policy issues of national and global importance such as land degradation, peat fire risk, energy requirements, and climate change. The project assists the Belarus Government in its efforts to address these issues through its policies in these fields, such as the National Strategy on Climate Change, National Action Program to Combat Land Degradation, the National Strategy and Action Plan for Conservation and Sustainable Use of Biological Diversity. The project also relates to the UN Convention to Combat Desertification, the UN Framework Convention on Climate Change and the Convention of Biological Conservation.
39. The project is well aligned with the country priorities, specifically with four programmes of the Government of Belarus: i) Scheme of Rational Use and Protection of Peat Resource in Belarus through 2010, coordinated by Cabinet of Ministers (indeed, one of the primary outputs of the project will be the update of these “schemes” for each of the peatlands over 10ha : the previous (but less detailed) classification of peatland that was produced in 1990 and which was valid until 2010), ii) Protected area support and expansion program for the period 2008-2014, supervised by the Ministry of Natural Resources and Environmental Protection, iii) The State Program on the Reconstruction of Drainage Facilities for the period 2011– 2015, implemented by Belmeliovodkhoz, and iv) The State Program on the Development of the Forest Sector for 2011-2015, implemented by the Ministry of Forestry.
40. A key component of the project addresses the potential for Belarus to accurately report on the carbon fixation functions of peatlands in the country and the impacts project supported activities (such as re-wetting of degraded peatlands) can have in this context. In addition to improving the accuracy of its reporting this has significant potentially benefit for development of carbon trading initiatives, but this latter aspect was not within the scope of the project.

4.1.2 *Implementation approach (design and strategy)*

41. The MTE provides a detailed and in-depth assessment of the project design and strategy which is supported by the findings of the TE mission – in summary these are:
- *Root causes are addressed:* The project design with its identified objective and outcomes is relevant to counter the root causes of the threats and the barriers to

achieve effective management of peatland within Belarus (see Table 2 from MTE below)

- *the landscape approach is appropriate:* a). peatlands are not spatially discrete and it is necessary to consider connectivity (one of the key concepts of landscape approaches), b). no single initiative by any single organisation can hope to achieve the long-term conservation. Thus, it is necessary to implement a variety of initiatives – including the relevant stakeholders – to work in a cohesive way to address the many factors that threaten peatlands. The project addresses peatlands issues on a landscape scale 1). Via the strategy that brings together various key stakeholders involved in land use, ii). By piloting (or re-piloting) various approaches to reversing degradation and addressing root causes of degradation.
- *Built on past projects:* The project builds on and from a number of different initiatives and lessons from these are well incorporated: most pertinently, two previous UNDP-GEF projects “Renaturalization and Sustainable Management of Peatlands to Combat Land Degradation, Ensure Conservation of Globally Valuable Biodiversity, and Mitigate Climate Change (PIMS 1750)” and “Catalyzing Sustainability of the Wetland Protected Areas System in Belarusian Polesie through Increased Management Efficiency and Realigned Land Use Practices (PIMS 2894)”. Lessons from these and other projects have been incorporated into the design.
- *Continuity:* there is a high degree of continuity in the designers, implementers and people carrying out oversight of the project. There can be little doubt that this has significantly contributed to the effective implementation of the project to date
- The project is *well aligned with the country priorities* (see later text)
- *Appropriately and feasibly ambitious:* the project is not overly ambitious but appears to be carefully crafted to ensure that its objective and outcomes are attainable and realistic.
- *Project implementation:* The modalities of implementation are also designed to enhance the probability of achieving the project’s objective and outcomes – thus, an effective route has been selected to implement the project

Analysis of the Project Strategic Results Framework:

42. As assessed in the MTE the SRF is adequate in that it provides a sound, detailed and logical description of the project and its contents and the means by which to evaluate progress towards results. Limitations of the SRF identified by the MTE included:

- *Indicator parameters / assumptions:* in a number of occasions the indicator measured parameters are *assumed* to be indicative of conditions that should lead to global environmental benefits of effective biodiversity conservation, enhanced carbon stocks, sustainable land management, and sustainable forest management. Indeed, the risks

and assumptions column of the PRF focuses on the *risks* but does not analyse the *assumptions*.

- *a relatively large number of indicators*: When disaggregated, the PRF has a total of 20 indicators (one at the Objective level, 13 associated with the first component and 7 associated with the second)⁴. This means that a relatively large amount of effort will be expended collecting the data despite the fact that some of the indicators should, logically, lead to the achievement of other, higher level indicators (see MTE Para. 46 for more detail). This only really matters if collecting all this data proved difficult/unmanageable in practice and based on the findings of the TE it was not a problem. However, as an issue of project design worth considering for future projects it is useful to highlight as something to be avoided in future.
- *There are site-specific biodiversity indicators that appear ambitious and so vulnerable to complex, stochastic events and parameters*: should any one target not be achieved by the EOP, it would be difficult to attribute this to the activities carried out by the project. *Visa versa* if the targets are hit, it would be similarly difficult to attribute such a “success” to the activities of the project. In summary, this renders the indicators virtually meaningless.
- *the indicators are no more time-bound than the duration of the project*: there are neither specific MTR targets nor are there any other temporal deadlines for any of the indicators. Adding a temporal aspect within the project time frame would be advisable in future project as a means both for evaluating progress towards final results and as a means for supporting project planning (i.e. if a target is expected my year 2 then it helps ensure planning is in place to achieve it by year 2).

43. Additional issues / limitations that the TE team would like to highlight regarding the PRF include:

- *Project Objective too verbose*: This was in the TE teams view unnecessarily long because it included not just the objective itself but also a bulleted (and incomplete) summary of the expected outputs and so a rather excessive duplication of information contained elsewhere. In all it adds little, potentially produces an inaccurate impression of the projects overall outputs, and takes up much space. It is difficult to understand why this was not edited out at an early stage in the projects review. In any case it is the TE team’s advice that the in future projects prepared by the designers/UNDP that the Project Objective be kept clear and to the point.
- *Very unequal distribution of indicators*: as can be seen from the table below, the distribution of indicators is quite uneven with most having one indicator but output 1.2.1 has 7 indicators alone and three outputs (2.2.1, 2.2.3, and 2.3.2) having no indicators. Of course, in practice some outputs warrant several indicators but it is rarely the case that outputs have overlapping indicators. It is particularly strange that there is no indi-

⁴ The MTE indicated 28 indicators (3 at objective level, 16 for 1st component and 9 for 2nd component – The TE team based their figures on the PFR in the Project document as no changes to PFR were made at the inception phase. It is not quite clear where the figures mentioned in the MTE are based on.

cator related to the black alder pilot activity (output 2.2.3) or related to existing peatland MRV methods adjusted and operationalized for previously unaccounted biotopes at forest peatlands (output 2.3.2).

- *Lack of indicator to measure awareness and capacity:* it is noted that there is not a single indicator related to measuring changes in attitude, mindset, awareness or capacity. Such indicators are it is true notoriously hard to measure meaningfully but it is unusual to see a project in which there is no attempt to do so at all. In the opinion of the TE team (and also mentioned by the MTE) this is unfortunate because the changing of the attitude and mindset of some key stakeholders (notably the peat extraction industry and forestry) has been both the biggest and most crucial challenge of both this project and its Medium Size Project predecessor, and we would suggest their biggest triumphs. Without such changes the cornerstone result of the project, i.e. the National Peatlands Strategy, would have been either impossible to achieve or of very limited real impact. It required stakeholders from different sides, economic and environmental, to find common ground and realistic compromises. As the Project Scientific Coordinator mentioned several times, it would have been unthinkable 10 or 15 years ago to have got these different sides constructively around a table. Clearly therefore this and its previous projects (and other related projects) have had a major impact on the attitude, mindset and understanding of many key stakeholders. Unfortunately, there has been it seems no effort to try to measure that change or to have a basis to understand what were the key means and mechanisms that allowed it to happen. This we believe is crucial information to have as it would help guide and target efforts in the future to continue to impact the attitudes, awareness and understanding of key stakeholders. Thus, it may be quantifiably difficult to collect information but it is nonetheless very important and should be better addressed in future project design and implementation.

4.1.3 Quality of Monitoring and Evaluation (in project design)

44. The project M&E design was standard for such projects and well developed and described as well as sufficient resources allocated. The only weakness in the design aspect of the Project M&E relates to the issues raised elsewhere in this report and the MTE regarding the strength of indicators used.

Table 2: Objective/outcomes/outputs and related indicators

Objective / Outcome / Outputs	Relevant indicator
Project Objective: To promote a landscape approach to management of peatlands that conserves biodiversity, enhances carbon stocks, ensures sustainable land management, and sustainable forest management, with demonstrations in a number of pilot sites (peatland PAs, agricultural peatlands, and forested peatlands)	Extent of peatland area that is brought under an effective, landscape-based, conservation and/or sustainable use regime under the framework of a National Strategy for Peatlands (NSP)
<i>Outcome 1.1: Policy framework and institutional capacities for a landscape approach to peatlands management are in place.</i>	
<i>Output 1.1.1: Cross-sectoral Working Group for promoting a landscape approach to management of peatlands</i>	Cross-sectoral WG for promoting a landscape approach to peatlands conservation and sustainable use
<i>Output 1.1.2: Specific criteria and methodologies for assessment of peatland state, functions and services developed and approved</i>	Criteria and methodologies for assessment of peatlands' state, function and services
<i>Output 1.1.3: Comprehensive inventory and database of Belarusian peatlands</i>	Inventory of all peatlands
<i>Output 1.1.4: National Strategy on Peatlands drafted for government approval</i>	National Strategy for Peatlands
<i>Outcome 1.2: Landscape approach to conservation of peatlands piloted through a network of wetland PAs, buffer zones and corridors in the Poozerie landscape</i>	
<i>Output 1.2.1 Development (creation, transformation) of a core conservation areas system at peatlands</i>	Enhanced management effectiveness at existing PAs as measured by METT Enhanced management effectiveness at planned local reserves as measured by METT (local reserves have been clustered in to 3 groups based on geographical location)

	<p>A network of caretakers is operational in the internationally important peatland PAs</p> <p>Plans for restoration of hydrological regime in the Yelnya peatland PA are elaborated and implemented</p> <p>Increase in local tourism organization income from wildlife viewing</p> <p>Increase in local hunter association income from sustainable hunting</p> <p>Emission reductions through re-wetting of disturbed areas in Yelnya PA (see table on carbon benefits below for details)</p>
<i>Output 1.2.2: A network of environmental corridors designed and created in the Vitebsk Oblast's Poozerie landscape.</i>	A network of environmental corridors in the Vitebsk Oblast Poozerie landscape, ensuring the continuity of the natural landscapes and unrestricted wildlife migration
<i>Output 1.2.3: A system to control pollution of wetlands by runoff from drainage facilities designed and tested.</i>	Flow of polluted waters from drainage areas into nearby natural water bodies
<i>Outcome 2.1: Sustainable use of peatlands in agriculture</i>	
<i>Output 2.1.1: Re-wetting of approximately 4,311 ha of degraded drained peatlands formerly used in agriculture</i>	Water levels at re-wetted agricultural peatlands (F1 pilots)
<i>Output 2.1.2: Conversion of arable peatlands to meadows for mowing or pasture</i>	Perennial grass cover at arable peatlands that are converted to improved grassland (F2 pilots)
<i>Output 2.1.3: Demonstration of sustainable peatland use in agriculture through testing and demonstration of deep layer ploughing of agricultural peatlands</i>	Content of organic matter in soil (F4 sites)
<i>Outcome 2.2: Restoration of approximately 2,027 ha of forest peatlands in the Poozerie landscape.</i>	

<i>Output 2.2.1: Carbon fluxes assessed and carbon management projects designed in degraded, forested peatlands</i>	No indicator
<i>Output 2.2.2: Re-wetting projects in degraded, dry black alder and pine forests implemented</i>	Water levels at re-wetted forest peatlands (F3 pilots)
<i>Output 2.2.3: Pilot project on regeneration of black alder forests on degraded agricultural peatlands implemented</i>	No Indicator
<i>Outcome 2.3: Readiness of government for implementation of carbon projects in agricultural and forest peatlands enhanced</i>	
<i>Output 2.3.1: Existing peatland MRV methods adjusted and operationalized for previously unaccounted biotopes at open agricultural peatlands.</i>	Revised GESTs developed covering drained and rewetted bogs for recently rewetted agricultural fens, and for the transient stages
<i>Output 2.3.2: Existing peatland MRV methods adjusted and operationalized for previously unaccounted biotopes at forest peatlands.</i>	No Indicator
<i>Output 2.3.3 Results of GHG measurements fed into Belarus' peatlands carbon trading mechanism</i>	Reduction in GHG emissions and enhanced carbon sequestration at pilot sites
<i>Output 2.3.4: Monitoring and reporting on biodiversity parameters (status and changes in water level, vegetation communities, and biodiversity) at pilot sites (BD funding)</i>	Improvement in biodiversity indicator species at pilot sites

4.1.4 *Country ownership/Driveness*

45. There would appear to have been a very high level of ownership and commitment to the project, not just in the scientific circles from where the main authors originate, but also the state nature protection bodies, and even more importantly, the main economic user of peat i.e. the peat extracting industry. This is to a large part a legacy of the previous peatlands MSP and the relationships and understandings that were created during that time. It seems therefore that all key stakeholders were keen to have the project and showed strong commitment to its results (particularly the NP||S) from the start. The only exception in this context is perhaps the Ministry of Agriculture which in the context of the project is still it seems a rather reluctant and uncommitted player (see more on this in results section in regard to the “deep ploughing Pilot activity).
46. Direct evidence the TE team had of the commitment of all parties (with the exception of the Ministry of Agriculture) was gained in meetings with 2 Deputy Ministers in the MNREP in which both were knowledgeable and enthusiastic about the project results, the Beltopgas Director (peat extraction design institute) who strongly supported the project for the NPS and related documents, the Deputy Minister of Forestry who informed about already adopting the Black Alder pilot approach, etc.
47. This level of support seemed to extend also to the NGO sector (Birdlife International Belarus), to the relevant scientific institutions (Institute of Experimental Botany, Centre on Bio-resources, Institute of Nature management), to the private sector (Coca Cola became a significant co-financer) and also to those directly involved in the field in pilot activities (though of course their scope of interest was limited to the direct sphere of work such as PA management, agriculture or forestry).

4.1.5 *Stakeholder participation*

48. Stakeholder analysis is carried out within the Project Document and the main stakeholders are identified, with a broad description of their mandate, as well as their identified role and responsibilities within the project.
49. The project is engaging with a large number of stakeholders, both at a central level but also with the appropriate people and organisations in the areas in which the pilots are taking place. The contact with stakeholders is taking place on a number of different levels:
 - a. The PB has broad representation from both the governmental and non-governmental sector (although PB membership is predominantly governmental)
 - b. The WG is a forum specially established for the project and its effectiveness as a tool for engendering communication among the stakeholders is now proven. The membership of the WG has been carefully selected to ensure its optimal functionality.
 - c. Many of the stakeholder organisations that are not formally included in the PB or WG are directly involved in the implementation of the project – either as NIM partners or as contractors.

d. At a more local level and with respect to the pilot sites, all the appropriate stakeholders are involved – from the local authorities to agricultural enterprise leaders, protected area managers, etc.

50. It should be noted that one of the strengths of the project that it builds on previous relationships with people across the country developed under the previous UNDP-GEF MSP.
51. The project does, to some extent, consider gender issues in its design and certainly women living in the vicinity of peatlands in which management is improved will be among the beneficiaries of the project outcomes – primarily because access to natural resources should be improved. Furthermore, the Project Document suggests that women participate in public councils that should be being established to increase stakeholder participation in protected area management and triggering income-generating activities (need to comment if this was the case).

4.1.6 Replication approach

52. There is no explicit replication strategy in the Project Document (although there are brief notes on replication potential on each of the pilots in Annex 3 of the Project document).
53. It is the strong opinion of the TE Team that any project that contains a significant “piloting” or “demonstration” aspect must then automatically have dedicated follow-on output/s or at least activities, that address ensuring these pilots have their real intended impact i.e. that they are adopted, scaled up and replicated. The world is full of wonderful pilots and demonstration activities that never went further than isolated events during the project timeframe because insufficient effort was then targeted to ensuring they were known about, their benefits understood and replication facilitated. Equally true is that some pilots of quite dubious real feasibility or impact were replicated because it suited some vested interests to support them and there was insufficient basis to properly evaluate their real viability. It is easy during a project implementation for the focus of attention to be poured into getting pilot activities underway on the ground and by their nature they are new and often problematic activities to successfully pursue in practice. This often leads to implementation blindness-i.e. so much effort and attention goes into carrying out the pilot activities in the field that the equally (if not more) important task of evaluating, documenting and then disseminating/supporting replication gets forgotten or no time is left before the project termination.
54. The risk is somewhat reduced if pilots are undertaken in cooperation with the stakeholders and institutions that should be responsible for further replication (as is the case with most of the pilot activities undertaken in this project) however even this does not guarantee the most effective and informed follow up.
55. Thus, in the TE Team Leader’s experience it is good practice to ensure that any project with significant pilot activity components has specific means imbedded to ensure the pilots are completed at least 1 year before project termination, that they are effectively monitored, evaluated and properly documented, and that the means and approaches to ensure their uptake and replication are put in place before the project ends. This could be either a specific output or a set of similar activities attached to each pilot output. We would strongly recommend such good practice is applied to all future UNDP/GEF projects in the future and that relevant indicators are then also included to ensure the pilots dissemination, uptake and replication is measured.

56. Though the lack of such aspects of the design probably did not greatly impacted this project in practice (see relevant section on pilot activities in Section 5) we do still believe it would of further strengthened the design and helped the implementation team to “cover their bases” better in this respect.

4.1.7 Cost-effectiveness (of project design)

57. The project document has a well-developed section on cost effectiveness based on coherent justifications and lessons learned from previous projects and similar developments in the country. In particular, the project is closely targeted to the enactment of a NPS in the simplest but most effective manner possible in the context of Belarus while at the same time ensuring it is based on solid data and full stakeholder participation via the WG.
58. The pilot activities to test / demonstrate in the field the ways and means by which to implement the NPS in practice are suitable scaled and involve the close involvement and cost sharing / co-financing of activities by partner organizations. In summary, the project is arguably a cost effective design in order to reach its objectives and the national / global expected benefits.

4.1.8 Sustainability

59. Sustainability of the project results depends most critically on the successful development and approval of a long term national peatlands strategy, and crucially that the strategy has wide support and commitment of all the stakeholders involve, and that it is based on sound economic reasoning. The project design convincingly argues this case and includes out puts and activities that realistically build towards this situation.
60. The area of perhaps some concern in the project design re. sustainability is insufficient focus of effort towards ensuring replication of new approaches, technologies and techniques via dedicated replication/dissemination/scaling up output/s or activities. As mentioned elsewhere, good practice in any project with substantial “pilot” or “demonstration” activities/outputs would require some dedicated additional activities/outputs devoted to their effective documentation, dissemination and replication.

4.1.9 Linkages between project and other interventions within the sector

61. The project had strong linkages with numerous past and ongoing projects and initiatives from donor, NGO and government sources. The project document describes these in depth and in practice they proved to be an accurate portrayal of reality. These included:
- The ICI project titled “*Restoring Peatlands and applying Concepts for Sustainable Management in Belarus-Climate Change Mitigation with Economic and Biodiversity Benefits*”.
 - The ICI project was built on the foundation of a recently completed UNDP-GEF MSP on peatland conservation and sustainable management focusing on peatlands subject to peat mining. The GEF MSP developed the management framework, and accompanying regulations and methodological guidance for re-wetting mined peatlands. How-

ever, the scope did not include exploring carbon market opportunities, and it was oriented at innovative testing of restoration in practice and on setting methodological and policy foundations for the country. The fundamental scientific analysis underpinning the generation and monitoring of carbon emissions from restored peatlands and the opportunities for tapping into carbon markets for these emission reductions were, however, implemented through subsequent financing from ICI that built on the success of the GEF MSP.

62. The primary national implementing agency for the ICI project is the same as that in the UNDP-GEF MSP namely, the National NGO BirdLife Belarus. Other partners include Ministries of Forestry and Environment, Royal Society for the Protection of Birds, Michael Succow Foundation, KfW, Institute of Botany and Landscape Ecology, and Greifswald University (Greifswald, Germany).
63. The focus of the GEF MSP and ICI work has been on mined peatlands. In contrast, the present GEF FSP proposal aims at addressing peatland management needs in agricultural and forestry peatlands, and triggering a shift to landscape-scale management. This is critical as the threats to peatlands derive from multiple sectors, and a holistic multi-sectoral approach is needed to address development pressures. The project will use the MRV developed by the ICI funded project, but will adjust it to the new agricultural and forestry biotopes, allowing agricultural and forest peatlands to enter the same carbon mechanism as created with ICI support.
64. *UNDP-GEF project that finished at the end of 2011 focused on expansion of the protected area system in the Polesie region, targeting natural river floodplains and forest ecosystems.* The currently evaluated project aimed to build on the good practices being promoted in the Polesie PAs, in particular with regard to engendering public participation in PA management decision making. With respect to work on alternative income opportunities for communities, the project will learn from another non-GEF project run by the NGO BirdLife Belarus in the Morochno Reserve, which is focusing on establishment of a public council to ensure the sustainability of cranberry harvesting.
65. *A third UNDP-GEF project, which started in early 2010 (MSP) is focusing on mainstreaming biodiversity management into territorial planning.* The currently evaluated project had a common interface with the above project with respect to the elaboration of normative and regulatory standards that regulate biodiversity conservation in peatlands. In particular, the project benefited from the lessons learned under the mainstreaming project in its efforts to establish an environmental corridors network under Output 1.2.2. Certain elements of the environmental network will be tested in select administrative districts that fall under the UNDP-implemented GEF project on “Mainstreaming biodiversity management into territorial planning” (2010). Under the mainstreaming project, territorial planning at the district level covered river protection zones, protected areas and the surrounding buffer zones, special protected forest sites, habitats of protected species, and protected biotopes. Thus, the experience of the mainstreaming project was critical in implementing the environmental corridors network across the entire territory of the Poozerie landscape in Vitebsk Oblast and inclusion of the corridors in the national environmental network.

4.1.10 Management arrangements

66. The project management arrangements followed the normal UNDP set up with the executing agency being the Ministry of Natural Resources and Environmental Protection

(MNREP). This was appropriate as the key project result / output was the National Peatlands Strategy and Outline for Direction of Use up to 2030 which it is their mandate to present to government and to monitor implementation of.

67. An executive Board, chaired by the MNREP and including a suitable cross section of the main players/stakeholders, including an NGO (Birdlife Belarus) was mandated to oversee the implementation of the project. A Project Implementation Unit (PIU) was directly responsible for implementation.
68. The PIU consisted of the typical core staff (i.e. Project Manager and Admin/finance assistant) but also the position of “Scientific Coordinator. This was consistent with the significant scientific work and numerous consultants and contractors related to this, and practical field level pilot activities (that required in themselves much initial scientific design and justification works). The SC was also foreseen to support coordination generally with partners inside and outside the project. Thus, the position was fully justified by the likely work load and an example of good planning on the part of the project designers. Another position, also not very typical in UNDP/GEF projects elsewhere, The Communications Specialist who was expected to provide leadership in communicating key information and findings about the project ensuring a good flow of information with mass media, UN Agencies, and project stakeholders. Given the crucial role of information and awareness in the project in order to support the preparation, approval and implementation of the NPS, and the replication/scale up of pilots if successful, this was again fully justified and a positive aspect of the project management arrangements. It is indeed unfortunate that this good pre-planning was latter partially undone by policy decisions in UNDP (i.e. the centralization of the PR / communications within a CO based unit), especially as this was issue highlighted by the MTE.

Table 3: Ratings for Project Design

Element	Rating	Basis for rating
Relevance	HS	Project was highly relevant to all stakeholders and to Belarus development priorities
Stakeholder involvement	HS	All key stakeholders were identified and effective means to ensure their involvement and participation included.
Management Arrangements	HS	Standard management arrangements were applied and from experience in Belarus appropriate.
Budget and duration	HS	Budget was sufficient and duration was longer than is typical for such projects (typically 4 years not 5). Given the objective of the project was a long-term policy change with major implications to future land use, and that pilots involving natural systems are potentially vulnerable to seasonal variations in climate, this was a very sensible decision.
Monitoring and evaluation and Project Strategic results Framework	S	The M&E procedure is standard for UNDP/GEF projects and the plan contained in the project document fully adequate. However, as discussed in the MTE and in this TE, the SRF had some limitations in terms of the indicators.

Overall Rating for Project Design	S	Limitations in the SRF indicators means project design had some minor shortcomings.
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4.2 Project implementation

4.2.1 Management and coordination

69. The project implementation arrangements have been described in the previous section. Overall, it appears to have been effective and, in particular, the WG that was established under the project.
70. The PB has met 7 times during the full project implementation, and only 4 times since the MTE. The PB functions but only to a certain level. Attendance of and participation in PB meetings has tended to be a little erratic with some member organisations either sending delegates or not attending at all. Nonetheless, the PB has remained relatively functional and taken decisions when necessary.
71. The PIU was established with recruitment, first, of the Project Manager on 01 March 2013 (see Table 5). There have been two changes to the PIU since it was established: the first Administrative and Finance Assistant (AFA) left having been in place for two years. She has subsequently been replaced. The explanation for her departure was personal and there was nothing untoward that drove her to depart the project. Her replacement did not have her experience and thus was reliant on support from her, as well as the Project Manager and the support staff within UNDP-CO but it seems grew effectively into his position and performed well.

Table 4: Summary of PIU staff

Name	Position	Employment dates - From	Employment dates - To
Aliaksei Artsiusheuski	Project Manager	March , 2013	ongoing
Alexander Kozulin	Project Scientific Coordinator	April , 2013	ongoing
Natalya Sabolevskaya	Administrative and Financial Assistant	April 2013	April 2015
Dzmitrii Mizhihurski	Administrative and Financial Assistant	April , 2015	ongoing
Aliaksei Tchistodarski	PR specialist	September 2013	September 2016
Mariia Dziazurka	PR specialist	January 2017	ongoing
Dzmitri Bahdanovich	Driver	May 2016	ongoing

72. The 2nd change was regarding the Project PR Specialist - As highlighted in some detail in the MTE report this was a key member of the PIU, not only in terms of ensuring an effective PR/communications system was in place, but also as a de facto assistant for the PM. Soon after the MTE the UNDP CO decide to implement a new policy and modality for the PR specialists and communications of projects/the CO and to have a centralized unit based in UNDP office. The Project PR Specialist was as a result removed from the project and in fact became the head of this new Unit in UNDP. An alternative PR Specialist was assigned to the project but on a part-time / shared basis (i.e. she had to cover other projects and direct

UNDP PR tasks as well) and located within the unit based in UNDP. In order to access her services, the PM had to apply in writing (email). The full cost of this person was still however borne entirely by the project and from GEF funds. In the MTE this (then) planned change was viewed with some concern and the need to act with care, and to ensure these changes did not negatively impact the effective PR support the project received, was highlighted.

73. Unfortunately, it is very clear from the subsequent events that the project did indeed suffer limitation in regard to the effectiveness of PR/communications support post the changes. This was almost inevitable given the PR specialist was: a). located elsewhere, b). was no longer directly responsible to the PM and had other significant duties apart from the project. In addition, the new PR specialist had of course no background knowledge of the project and so under the conditions mentioned above, was placed in a very difficult position in terms of providing the project useful support. Though there were of course theoretical justifications for the new policy applied by UNDP (in terms of ensuring continuity and coordination of messages, and increasing the potential capacity by concentrating it into one unit, etc.) in the view of the TE Team this arrangement was fundamentally flawed from the outset – the bottom line was that the project lost a full time PR specialist, gained only the partial time of someone whose direct responsibility was not to the project, and on top of this the GEF had to pay for it.
74. From interviews with the PM, the staff of other projects, representatives in MNREP (GEF Focal point), and the head of the PR/communications unit in UNDP (the previous project PR specialist) it is clear now in hindsight that the new arrangement needs to be reviewed in terms of better engagement of a PR person in the project's communication architecture, generate project-related content, increase accountability to the project team. From the interview with the Head of the Unit in UNDP it is clear that the UNDP management has identified that this new approach has not worked out as hoped, and has generated some unfortunate repercussions from donors and the beneficiary institutions. As a result, the way in which the unit will operate in the future is to be reformed.
75. It is commendable that UNDP is responding now to this situation but it is perhaps too late to fully rectify the impact the changes had on the project during the 2nd half of its implementation. Undoubtable, as a result of the changes the project capacity to effectively communicate was to some extent impacted and the PM and other members of the PIU had their level of work increased because of the need to “fill the PR/communications gap”. It is to their credit that these changes seemingly did not affect the overall results but it will be necessary in the final months of the project, when communicating the results of the project is a critical factor, that UNDP work very hard to ensure the project is supported to do this.
76. Apart from this issue the management arrangements for the project appear to have worked effectively and in particular the support of the Energy and Environment Team Leader in UNDP CO was commended by both the project and the national executing agency.
77. Modalities for contracting of work (mix of institutions/contractors and individual consultancies) has been used intelligently, balancing various factors apart from only cost effectiveness such as accountability, continuity and the limitations presented by single state institutions responsible for certain kinds of work.

4.2.2 *Financial management*

78. Following the project start- up revisions were made (and accepted) to the planned budgets for both 2014 and 2015 but post MTE annual budgets have not required significant adjustments except to respond to increases in funds resulting from acquisition of Coca Cola Co-financing. Changes made in those early years all appear to be well justified, relevant and not substantive (see MTE).

79. Financial oversight of the project is provided by the PB (which approves each annual workplan and budget); there was further financial control and oversight within UNDP.

Table 5: Summary of Budget and expenditures since 2015 (i.e. since MTE)

Outcome	2015			2016			2017 as of 11/04/2017		
	Budgeted	Actual	% spent	Budgeted	Actual	% spent	Budgeted	Actual	% spent
1	454242	417618	91.9	355574	335728	94.4	50971	81218	159
2	533477	528662	99.1	158789	150597	94.8	154963	84369	54.4
ProjMgt	55122	58422	105.9	49771	48714	97.8	43602	10760	24.7
Total	1042841	1004702	96.3	564134	535039	94.8	249536	176347	70.6

80. Delivery has been good in all years up to 2016 (averaging 95%) and with 4 months still remaining post TE mission the project has reached 70% delivery in 2017 and is expected to achieve full delivery by September 2017.

81. The project has significant co-finance and the project has kept good information on its expenditure (see Table below). The majority of the co-finance is in-kind with the exception of the Coca-Cola Foundation.

Table 6: Summary of co-financing (planned and actual).

Sources of Cofinance	Name of Cofinancer	Type of Cofinance	Amount confirmed at CEO endorsement (USD)	Actual Amount at TE	Actual % of Expected Amount
Governmental	Ministry of Natural Resources Environmental Protection	In-kind	362,000	919,550	254
	Ministry of Forestry	In-kind	917,000	287,700	31
	Ministry of Agriculture	In-kind	6 300,000	8 500,000	135
Other partners	NGO APB	In-kind	389,000	389,581	100

	NPC on Bioresources	In-kind	280,000	280,000	100
	Institute of Nature Management	In-kind	340,000	522,539	154
	Bereza district executive committee	In-kind	74,250	97,525	131
	Lida forestry	In kind	20,000	30,135	151
	Coca-Cola foundation	In cash	0	285,000	
	Totals		8 988,250	11 312 030	126

82. As can be seen from the table total co-financing is estimated to have actually exceeded the original planned amount in the project document by 26%. This was largely due to the project successfully accessing new cash co-financing from the Coca Cola Foundation – this is a highly significant example of accessing private sector co-financing which in Belarus has not been in the past a typical achievement. It is unfortunate that shortly after UNDP made a corporate decision not to seek or except funds from Coca-Cola but this did not affect existing agreements and so did not impact the projects cooperation with them.
83. Other areas in which the project received more than expected co-financing included in-kind increase from the MNREP (154% higher), Institute of Nature Management (54% higher than planned), the Ministry of Agriculture (35% higher than planned), Bereza district Authority (31% higher than expected), and Lida Forestry (51% higher). The only government in-kind co-financing that was less than planned (69% less) was from the Ministry of Forestry- however this was off-set by the increased in-kind contribution via Lida Forestry Enterprise (Leshoz).
84. In summary, the project was very successful in achieving its in-kind and cash co-financing plans. The private sector co-financing was a good “best practice” and the high in-kind contributions from national institutions was a reflection of the high level of interest and commitment to the project aims and activities.
85. One less positive aspect of financial management that should be mentioned relates to the “support services” provided by UNDP which are described in Annex 9 of the Project document. Though these were in line with standard UNDP practice and agreed in the project document (see section on Management arrangements and Annex 9) there was a perception amongst a number of those interviewed both in projects and the National Execution agency that cost recovery through the charging by UNDP for the support services was unclear. This perception appeared to stem from various factors:
- a). The price list for the cost of services has changed numerous times (at least 3 during the project duration) and this occurred without any discussion or justification to the national counterparts (i.e. was not discussed in PB meetings).
 - b). The “support services” system was not well understood from the outset by the national partners and, though detailed in the project document and applied in previous projects. The fact that it has now drawn attention is perhaps a reflection of the growing experience of the national execution agency which wishes to understand better the details of such issues, whereas in the past they were focused much more on the specific funds available for activities in the projects.

- c). Further to the previous point, there was knowledge that UNDP receives an “implementation fee” from GEF and this was confused with the direct support services to the project – i.e. there was the feeling that fee already covered these services.
- d). The overall concern on these issues was exacerbated by the situation that transpired with the PR/communication specialist in this and other projects

86. It should be emphasized that this was the only negative issue raised by the executing agency and otherwise the feedback on UNDP’s role in the project was universally positive and very much valued. However, such situations and misunderstandings have the potential to greatly compromise the relationship between UNDP, executing agencies, the GOB generally and the donor community.
87. The root cause of this situation appears to be mainly one of inadequate communication and transparency. It is very easy when a system is long established and well understood within an institution that the institution forgets that that outside may not understand it as well as they do. Though UNDP’s partners may have been exposed to the system for some time it does not necessarily mean it was fully understood by them, and as situations evolve and experience increases issues that were formally of minor concern can quite quickly become issues of significance. Other events or actions that seem linked (such as the change in approach to the PR/communications specialists), though not major in themselves, can further contribute to misunderstandings.

Thus, though it would not be good to inflate this issue out of proportion, it is one that the TE Team feels has the potential to inflict negatively on UNDP’s reputation and relationships with national counterparts and donors - and thereby in the long run its effectiveness in developing and supporting the implementation of valuable projects. In this context, it is suggested that UNDP needs to go the “extra mile” to be clear and transparent on any issues related to funds from GEF projects that go to the CO (service charges, GEF implementation fee, etc.).

For GEF funded projects good practice in other UNDP CO’s is to “fix” the price list of services from the date of the project inception (i.e. not to update it as was done 3 times during this project), and to never utilize GEF funds for any staff whose duties is not directly and exclusively relate to the projects activities. This we would suggest is an advisable approach in any future GEF funded projects in Belarus.

Monitoring and evaluation

88. The project’s M&E framework is similar to the majority of UNDP-GEF projects with USD 37,000 allocated for project monitoring. As is appropriate for a project with a focus on the reductions of carbon emissions, a significant emphasis was put on the measurement of emissions using a number of different techniques (as indicated in the project’s Result Framework). Finally, as is also appropriate for a multifocal area project, the project used the appropriate tracking tools, including the METT (for tracking the effectiveness of protected area management), the PMAT (for monitoring land degradation), the Climate Change Monitoring Tool and the SFM/REDD+ tracking tool (see annex).

89. The MTE was organized in a timely and effective manner and completed in mid-2015 as was required. The MTE was largely very positive and raised no major issues of concern or requirements for change of direction. Based on the MTE a Management Response Matrix was developed and periodically updated.
90. At the TE all M&E instruments have been appropriately completed and reflect the results of the project. The data from these is widely used in the next section (Results) as basis for evaluating the results and impact of the project.
91. In terms of participation and reporting, the processes involved stakeholders in the collection of data and, through forums such as the PB, the WG, and the publishing on-line of the inventory database, the data was shared appropriately.
92. The one issue of some concern was the effectiveness of follow up to the MTE recommendations. Some recommendations were not implemented but explanation for this was provided in the Management Response Table (for example, adjustments to indicators were considered unpractical at the Mid-term stage and not approved by the PB). However, other recommendations, such as the risks related to the centralization of the PR Specialist and the need that the “CO should go ahead with care and with consultation with partners such as the MNREP⁵” were not adequately acted on.

4.2.3 Identification and management of risks (adaptive management)

93. The project document contains an adequate and relevant assessment of the main risks faced by the project of which only one was considered Medium, none were considered high and the majority were considered low. The Medium risk identified related to the possibility that different stakeholders from different sectors (environmental, peat extraction, agriculture) would not be able to sufficiently cooperate to develop a meaningful NPS. The project worked very hard to mitigate this risk and due to the changes in mindset initiated in previous project/s and the efforts made by the project, this risk did not prove in reality to be a problem. This is not to say that all stakeholders are equally “on board” as it is clear that the Ministry of Agriculture is still something of an “outlier” in the current situation. However, this was firstly not such a sufficient problem that it prevented the NPS being effectively developed, and secondly has roots so deep that it would be impossible at this time for the project to significantly change.
94. Apart from the risks identified in the project document the project obviously faced some unforeseen risks and challenges but none of these had major impact and the project was in almost all cases effective at adapting and overcoming them. Some examples of such adaptive management include:
 - The project has adapted and crafted the NPS process in a way that has best fitted the conditions and circumstances in Belarus in order to facilitate adoption and maximize practical application
 - Sites selected in the project document for the establishment of new zakazniki and agreed at that time proved in some cases difficult in practice due to opposition from

⁵ See MTE Report Paragraphs 70 and 71.

local authorities – the project was effective in adapting to this challenge and either reaching compromises with the authorities concerned or identification of alternative sites that were more acceptable but still met the required values and criteria.

- At some re-wetting sites, local authorities back tracked on previous agreements and sites again had to be re identified.
- The successful application for funds from Coca Cola resulted in the “freeing up” of funds allocated for activities at Yelia zakaznik / Ramsar site which were then re-allocated to support additional activities in other sites.

95. Thus, the PIU has shown a very proactive and intelligent response to the challenges faced and to adapting the project to the evolving circumstances.

96. One possible caveat to the above would be concerning the Deep Ploughing pilot activity where it could be argued that as soon as its primary purpose (to test the economic feasibility) was known, the project should have considered closing it down and using the funds for other purposes (or at least presented that option to the PB). However, it is always easy in hindsight to argue such positions.

4.3 Results

4.3.1 Attainment of outputs, outcomes and objectives

97. The following section seeks to analyses and assess how effectively and fully the project attained the expected outputs and how those translate into achievement of its outcomes and overall objective. Progress towards achieving the SRF indicators is presented in Table 15 below.

Component 1

98. This component contains two aspects which are covered by 2 Outcomes i.e. Outcome 1.1 related to having the NSP and peatland Schemes (Direction of Use) in next 10 years approved and adopted by the Council of Ministers and, Outcome 1.2 related to pilot the implementation of the NSP in a network of peatlands in the country.

Outcome 1.1: Policy framework and institutional capacities for a landscape approach to peatlands management are in place.

99. At the time of the MTE the initial 3 (out of 4) outputs that were intended to lead to this outcome were already successfully achieved (i.e. establishment and functioning of the cross-sector Working Group, the development and approval of specific criteria and methodologies for assessment of peatland status, functions and services, and Comprehensive inventory and database of Belarusian peatlands). Based on that existing work the Strategy for the Conservation and Wise use of Peatlands had already completed drafting and was in the process of stakeholder review after which it could be submitted to the Cabinet of Ministers for final review and approval. The classification of peatlands across the country is was well under way and finally culminated in the Outline of the Distribution of Peatlands per Direction of Use until 2030 which was submitted as a supporting document to the Strategy.

100. The process leading up to the status as of the MTE is described in detail in that report so will not be repeated. However, the TE team would like to emphasize two aspects of the Strategy and Outline development that we feel were not fully highlighted in the MTE report and are of some importance.

- a. *The suitability of international consultant employed to advise on the Strategy development and its supporting documents:* It would appear that the consultant recruited for this task was partially done so on the basis of being a fluent Russian speaker, having deep practical experience of governmental systems in ex-soviet countries, plus wider international experience. This was very important in that the individual chosen was in a position to help craft a document that fitted the administrative and governmental system of Belarus and to know how to best argue the case for its need. This was an important factor in the final highly satisfactory result and it is a credit to the PM and UNDP E&E Unit that they both sort and found such a qualified consultant.
- b. *Importance of the Outline of the Distribution of Peatlands per direction of Use until 2030* (“peatland schemes”). This is the instrument that has the most impact in terms of

converting the strategy into practical changes in peatlands land use in the next 10 years and is the aspect of the Strategy work most highly valued by almost all stakeholders interviewed. In essence, this is what makes the Strategy actual and applicable on the ground by all the different stakeholders and removes much of the basis for past conflicts over use and minimizes the real likelihood of unsustainable use.

101. Post MTE the project, with the support of the UNDP CO, has successfully steered the Strategy and Outline of Use through the various administrative heralds and as predicted it was approved in 2015 (just) by the Resolution of the Council of Ministers of the Republic of Belarus dd 30.12.2015 #1111.
102. This approval within the expected timeframe and without any substantial changes from the version agreed by the WG was undoubtable, to a large part, attributable to the highly effective and committed stakeholder involvement and to the pragmatism shown both in the way the Strategy was developed (sensitive to Belarus approaches and governmental procedures) and the region by region development of the schemes that went to make up the "Outline for Use". The latter, if done at the national level, is likely to have entailed a lengthy process and delay.
103. The MTE made a minor criticism of the work up to that point on this outcome i.e. that access to the inventory and monitoring data should be improved through its placement in the internet – this was responded to and data is freely available on-line⁶.
104. The Strategy for the Conservation and Wise use of Peatlands and Outline of the Distribution of Peatlands per Direction of Use until 2030 was the **primary outcome of the project**. The process to prepare it was extremely well and very pragmatically executed and the resulting policy and regulatory document approved until 2030 by the Council of Ministers has a likely chance of significant impact a). because it is feasible, practical and supported by key stakeholders and b). because Council of Ministers approval obligates all parties, national, regional, environmental and economic to apply. On this basis, it is concluded that this outcome was highly satisfactory and the process and result is an excellent example and best practice for how such land use / environmental policy instruments should be developed in Belarus and countries with similar social / political histories and conditions.

Outcome 1.2: Landscape approach to conservation of peatlands piloted through a network of wetland PAs, buffer zones and corridors in the Poozerie landscape

105. This outcome was expected to be achieved through the implementation of 3 individual outputs of which two addressed strengthening the protection of peatland habitats and species and one at improved and cost effective biological approaches to addressing a key threat to peatland ecosystems - pollution from agricultural runoff.
106. The 1st output (1.2.1: Development of a core conservation areas system at peatlands) addressed both the strengthening of the protection management of existing Ramsar sites (Yelnia and Morochno republican zakazniki), the establishment of 11 new regional reserve (Oblast zakazniki) and a suite of additional measures to test approaches / strengthen protection.

⁶ See website www.peatlands.by

Table 7: Summary of Protected area sites addressed / established under Output 1.2.1

Site name	Type of Activities	Indicator	Baseline METT	Target MET	At TE	Comment / Additional impact
<i>Existing sites</i>						
Jelnia Bog ramsar	Constructed 46 dams, tourist access road, ecosystem service calculation, eco-centre nearby, eco trail	Enhanced management effectiveness at existing PAs as measured by METT	48%	60%	72%	Project and the UNDP CO attracted co-financing from Coca Cola Foundation to support activities in Yelnia thus allowing savings that were invested in Slaūharadski Repub. Zakaznik – see table x and text for details
Moračna ramsar	MP, plus update ramsar profile and boundary	Enhanced management effectiveness at existing PAs as measured by METT	Morochno: 20%	Morochno: 45%	45%	Upgraded from regional to national reserve - see text for details
Siervieč ramsar	MP, plus update ramsar profile and boundary					This was additional to the project document and so METT
Dulieby Isles ramsar	MP, plus update ramsar profile and boundary					This was additional to the project document and so METT
Updating descriptions of Ramsar sites.						As part of the project, descriptions and sketch maps of 26 Ramsar sites were updated. The updated data on the Ramsar sites of Belarus was entered into the Ramsar Convention database. This was additional to the original project document.
<i>Additional sites (national level zakazniki)</i>						
Slaūharadski	submitted as a national level zakaznik (i.e. had to go to supreme council)					Additional activity due to saving of GEF funds by contribution of Coca cola
<i>Local (oblast level sites zakazniki)</i>						

<i>Vitebsk Poozerie Cluster</i> (Krasniy Moch, Uzgon, Bolshoy Moch, Potoki, Lebediny Moch, Zaborovski Moch, Rossonski Moch):	Prepared justifications and package of docs (and agreed with local land users on restrictions) – Then oblast used to establish.	Enhanced management effectiveness at planned local reserves as measured by METT (local reserves have been clustered in to 3 groups based on geographical location)	6%	42%	45%..	It was achieved through: strengthening of protective status to reserves of local importance; Additional measures on rehabilitation of the reserve's hydrological regime have to be undertaken
<i>Central Cluster</i> (Ushanskoe, Chertovo boloto, Surazhinskoe, Turshevka-Chertovo, Ositskoe):			6%	42%	45%	Ditto above
<i>Eastern Cluster</i> (Esmonovski Moch, Ushlovskoe, Yasen, Velikiy Ostrov, Oster, Beloe):			6%	42 %	45%	Ditto above

107. Activities carried out by the project at the existing PAs included:

- Management plans were developed for the Ramsar sites: Moračna, Siervieč, Duleby Isles, Slaūharadski.
- restoring the hydrological regime at Yelnia though the upgrading / new damming of drainage channels (46 in all)
- removal of overgrowth in primarily open wetlands;
- optimizing regimes for cranberry harvesting;
- promoting the use of displaying grounds of Black Grouse and Capercaillie for tourism (instead of hunting);
- implementing biotechnical interventions to increase Black Grouse and Capercaillie numbers, among others.
- Public Councils were established in the protected areas to increase local participation in sustainable use of biodiversity at PAs. Part of the mandate of the Public Councils is to design and agree with protected area managers on access of local people to the peatlands for the purposes of resource collection and use. Agreements on permitted activities are reflected in the PA management plans. For example, in the case of cranberry picking, communities will agree with the park managers on when, how much, and under what sustainable harvest techniques cranberries may be gathered at the protected area.
- an environmental and educational class dedicated to the conservation and sustainable use of the natural resources of the Yelnia Bog was established at Hiermanavičy school.

108. *Private Sector Co-financing for Yelnia (Coca Cola Foundation)*: A significant achievement of the project was the co-financing (USD 285,000) from the Coca Cola Foundation for activities at Yelnia Zakaznik / Ramsar site and practical support from the national Coca Cola company which helped ensure wide media coverage of this support.

109. In addition, as indicated in the table above and below, new PAs of the status of Local Zakaznik (IUCN category VI) were established covering 28, 478.7 (exceeding by 3,478.7 ha. the area planned in the project document through GEF support. The focus was on enhancing the representation of open bogs, which are one of the most threatened peatland ecosystems, in the national PA system. This was because over the last 50 years this was ecosystem type most rapidly disappearing due to overgrowth with pine trees and birches caused by changes in the hydrological regime and eutrophication from more contaminated atmospheric precipitation. Therefore, in establishing/transforming new peatland protected areas, priority was given to open bogs, as well as to peatlands with the status of Important Bird Area and Important Plant Area.

Table 8 - The list of zakazniks of local importance established as part of the implementation of the UNDP/GEF Project

Future zakazniks of local importance	District	Area, ha	Biotope	Central point coordinates
<i>Brest Oblast</i>				
Vialuta (2015)	Luniniec Forestry	2,119.38	fen mire	52°30'7"N 26°41'30"E
Babrovina (2015)	Kobryn Experimental Forestry	5,357.93	-	-
Total:		7,477.31		
<i>Viciebsk Oblast</i>				
Vialiki Moch Jukhavičski (2015)	Rasony Forestry	1,611.4	raised bog	55°59'2"N 28°40'5"E
Zabaroŭski Moch	Rasony Forestry	2,451.55	raised bog	55°47'17"N 28°41'2"E
Total:		4,062.95		
<i>Homiel' Oblast</i>				
Halo (2014)	Jełsk Forestry	1150.9	fen mire	51°43'25"N 28°39'32"E
Ales (2014)	Mazyr Experimental Forestry, and others	4,812.5	fen mire, floodplain	52°6'3"N 29°0'19"E
Zakazniks designated in 2014:		5,963.4		
<i>Hrodna Oblast</i>				
Čortava Balota (2014)	Skidzieł Forestry of Hrodna Oblast	2,561.0	raised bog	53°54'12"N 24°16'1"E
Zakazniks designated in 2014:		2,561.0		
<i>Minsk Oblast</i>				
Borki (2014)	Vileika Experimental Forestry	521.64	fen mire, lake	54°41'52"N 26°52'42"E
Kalodki (2014)	Vileika Experimental Forestry	1,927.57	raised bog	
Biely Vostraŭ (2014)	Krupki Forestry	2,953.53		
Zakazniks designated in 2014:		5,402.7		
<i>Mahilioŭ Oblast</i>				
Oscier River Floodplain (2015)	Klimavičy Forestry, farms	3,011.34	floodplain, fen mire	53°45'12,62" E 32°01'24.43" N
Total:		3,011.34		
TOTAL		28,478.7	(Including 13,925.14 ha designated in 2014)	

110. The process of establishing these zakazniki has faced some minor issues such as the selected sites having to be adjusted in response to disagreements with local authorities - these

local authorities had originally agreed to the establishment of the protected areas but during project implementation higher level authorities became involved and some resistance was encountered. The project has displayed **adaptive management** to find and successfully proceed with alternative sites (that otherwise include the originally targeted biological and biophysical characteristics).

111. The establishment of these protected areas at the oblast level has been a pragmatic approach that has avoided the more time consuming and more risky approach of trying to establish Republican level zakazniki that would have required more layers of central level review and agreement and approval at the Presidential level. In addition, by establishing zakazniki as opposed to national parks or zapovedniki, there is possibility for continued use of the areas by local communities for the harvest of natural resources (e.g., mushrooms and berries).

112. *Wardens/caretakers*: To monitor the state of the new Local Zakazniks established on peatlands under this output, a network of local protected area wardens/ caretakers was planned to be formed with the involvement of NGOs. The idea was that the local caretakers would be responsible for reporting problems to local authorities, and territorial Control Agencies of the Ministry of Environment and to the State Inspection Services for Animal and Plant World Protection. They could also act as go-betweens with local communities and PA authorities on PA management. This aspect of Output 2.1.1 faced some initial barriers and at the time of the MTE had not yet been started as a result of a series of misunderstandings and miscommunications. Fortunately these were resolved and an agreement (contract) was concluded in 2015 with the key environmental NGO in Belarus - Akhove Ptushal Batskauschyny (Birdlife Belarus) and based on their existing experience 10 new reserves were targeted to introduce the warden / caretaker approach (8 original Pas with wardens plus 10 new-total of 18 reserves with warden system in place (Naliboki Forest - 9 persons; Siervieč - 12 persons; Sporaŭski - 8 persons; Svislač - 10 persons; Zvanec - 14 persons; Bog Dzikaja, a portion of the Biełaviežskaja pušča National Park) - 14 persons, Almany Mires - 9 persons; Turaŭski Luh - 12 persons; Floodplain of the Sož River - 18 persons; Vyhanaščanskaje - 14 persons. The total number of wardens equals 120 people). The wardens compiled 50 visit reports and 12 statements of threats, over 45 violations of nature conservation law were detected and information about these violations was sent to the corresponding authorities for taking response measures. In interviews with the contractor, beneficiaries (i.e. PA staff) and wardens themselves the TE team found that approach was largely working well so far (with the inevitable minor problems of some people dropping out and some people being a bit too enthusiastic, etc.) and overall seen positively by local people, PAs and local authorities.

113. *Certificates and conservation obligations (303 certificates)*: These were prepared for the organization of the protection of biotopes and habitats of wild plants and animals listed in the Red Data Book of the Republic of Belarus covering the total area of 41.4 thousand ha. This is a new approach to the TE team and its effectiveness in practice is hard to judge but if it will result in the biodiversity values of the areas so designated when various land users are planning activities it should significantly bolster the protection levels.

114. *Leaflets*: 10,000 leaflets for 10 project territories were prepared and printed (1000 copies per one territory), 40 information boards were manufactured and installed at project territories (4 boards per each territory). Copies of the above-mentioned leaflets were provided to the TE Team during the field mission and the boards observed at some sites. See below a table summarizing the complete awareness/dissemination materials produces (including those relevant to this Output).

Table 9: Summary of Publications and Awareness / Dissemination materials prepared by the project and main workshops/meetings

<i>Key Publications and Awareness / Dissemination materials</i>	
1.	Strategy for the Conservation and Wise (Sustainable) use of Peatlands (in Russian and English)
2.	Schemes of Distribution of peatlands in terms of their direction of further use till 2030 for 6 regions of Belarus
3.	Book “Swamps of Belarus. On the way to sustainable use”
	Book “Voices of Impact: Speaking for the Global Commons”
4.	http://www.undp.org/content/undp/en/home/librarypage/poverty-reduction/voices-of-impact-undp-gef-25-years.htm
5.	http://www.coca-colacompany.com/stories/sustainability/2017/marking-a-decade-of-sustainable-development-in-the-yelnya-reserv
<i>Main workshops, seminars, organized</i>	
1.	Five meetings of the Inter-Ministerial Working Group (in 2014-2017)
2.	Presentation of the Strategy for the Conservation and Wise (Sustainable) use of Peatlands in February 2016
3.	Workshop on determination of directions of use for forested drained peatlands October 2015
4.	International Conference "New Approaches to the Conservation of Biodiversity", which was held in Minsk 21-22 May 2015 (in collaboration with Clima-East project)
5.	GEF projects in Belarus seminar (climate change mitigation projects) in May 2016
6.	In May 2015, a panel meeting of the Ministry of Forestry was conducted at Lida Forestry on the topic of using peat soils in forestry, during which the project's experience was presented.
7.	In September 2016 International Conference on the problems of the Belarusian Polesie was conducted where project experience in deep plowing was presented.

Picture 1: Example of Boards provided by the project at project sites (photo-M.Anstey May 2017)



Output 1.2.2: A network of environmental corridors designed and created in the Vitebsk Oblast's Poozerie landscape.

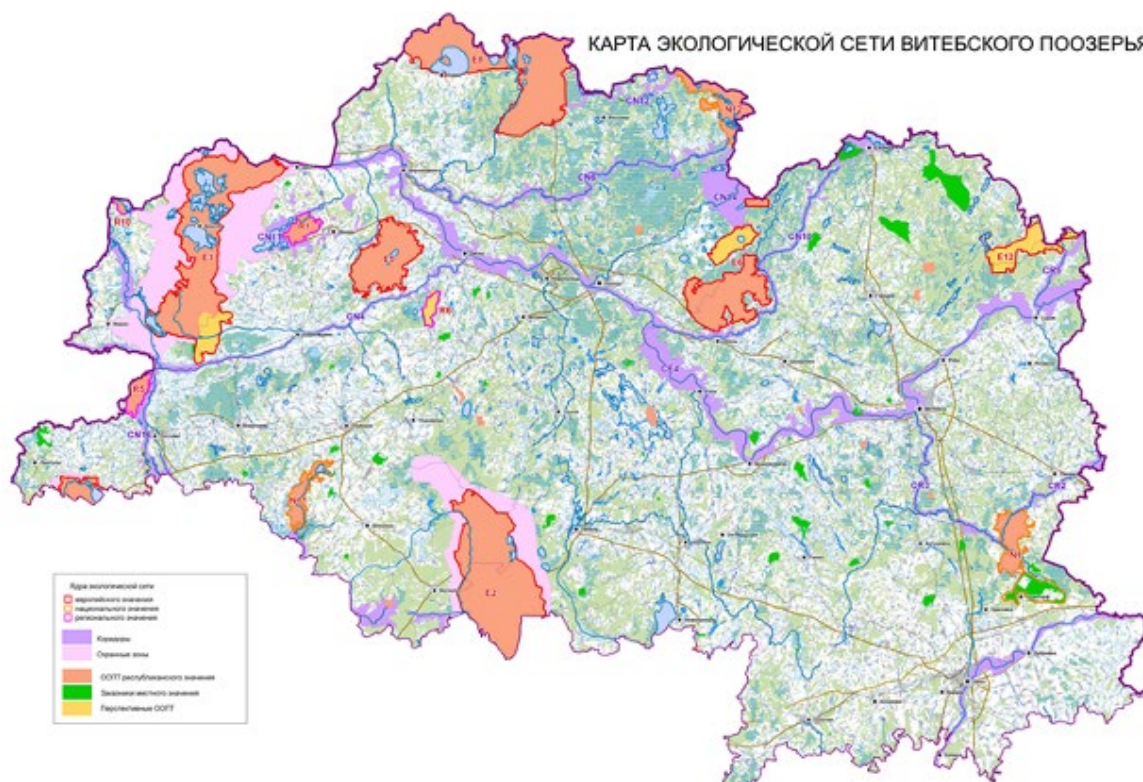
115. One of the most significant reasons for the loss of biodiversity and the reduction of the range of ecosystem services has been the reduction of the size and fragmentation of wetlands and especially peatlands. The creation of a network of ecological corridors aimed to help maintaining the continuity of the natural environment. Thus, as part of the implementation of the Project, the National Centre for Bioresources of the Academy of Sciences of Belarus developed the regional environmental network of Viciebsk Poozerie. The process for developing this network included:

- Analysis of the the spatial distribution and isolation of the habitats of various animal and plant species in Viciebsk Poozerie and the need for establishing a single space to ensure their existence was estimated.
- the most important PAs serving as the centres for biodiversity conservation, and floodplains, forests, mires, and urban green belts act as environmental corridors were identified
- based on the analysis of the distribution of PAs (mainly at peatlands) and the presence of linking landscape elements, a map of the centres for biodiversity conservation and environmental corridors connecting the most significant protected areas was made.
- Restrictions of economic activity for environmental corridors were developed and agreed. Proposals were developed on protection regimes and the use of natural resources within the corridors of the environmental network that were further agreed with district executive committees and interested ministries and agencies.

116. As a result of these works the areas covered under the agreed environmental network will be taken into account in the territorial planning of the development of the region. The total area of the territories included into the environmental corridors is approximately 45,000 ha. Furthermore, the Viciebsk Poozerie environmental network was integrated into the pan-European ecological network (Russia, Lithuania, Latvia) through the identification of potential transboundary elements.

117. Based on interview carried out with the main developers of the Network (the National Centre for Bio-resources of the Academy of Sciences of Belarus) the work to develop this network was undertaken very thoroughly and based on sound rationale and adequate data. Despite some initial doubts on the side of the TE Team regarding the effectiveness in practice of such a network the evidence from neighboring countries and the apparently still fairly rigorous application of such spatial planning instruments in Belarus, suggest that the network of corridors has a reasonably chance of effectively achieving improved connectivity between PAs and improving the protection of key habitats and species between them.

Map 1: Viciebsk Poozerie environmental network (Russian title/legend) – source: Draft Final Report of the Project



Output 1.2.3: A system to control pollution of wetlands by runoff from drainage facilities designed and tested.

118. The output was intended to demonstrate an improved approach for addressing an important threat to peatland ecosystems (and water quality generally), namely polluted run off from agricultural land use areas (phosphates and nitrates causing anthropogenic eutrophication and degradation).

119. In brief, the approach tested was to utilize biological process (reedbed) filtration instead of the usual pond system (that basically just addressed settlement of sediment but did not change pollutant levels much). Specifically, the project constructed a system for the water discharged from Travy reclamation system to the territory of Zvaniec fen mire to test if it had an improved impact on pollutant levels compared to the storage pond of the Arechaŭskaja reclamation system. In the case of the project site (Rožnaje) there was a large waterlogged shallow place with sedges and reeds, while at the control site (Arechaŭskaja) reeds only form a narrow strip along the bank of the storage pond. Levels of pollutants at the discharge points were monitored to compare the effectiveness of the two approaches. The construction of the settling facility was completed in 2015, and in 2016, a special analysis of its performance was conducted. Monitoring studies allowed the making of the following preliminary conclusions:

- when water passes from Travy reclamation system through the project constructed Rožnaje settlement facility the overall water salinity decreases from 300 mg/l down to 200 mg/l.
- the storage pond (Arechaŭskaja), despite considerable amount of water, affected water salinity only slightly (water salinity at the inlet is 450 mg/l, and at the outlet it is 400 mg/l),

120. Further studies in the Zvaniec fen mire showed that reeds growing on the mire itself have best capacity for water purification. A dense reedbed (100-400 m wide) has formed at the point where contaminated water flows into the mire along the bypass channel that brings water to the mire. Farther from the channel, water salinity gradually decreases from 350 to 200 mg/l. One conclusion of the monitoring studies was that the place of water entry into the mire should be changed so that the water flow will pass through more area of reedbed before entering the zakaznik established to protect the mire as this will reduce contaminants and their impacts directly on the ecology of the zakaznik territory.

121. Reedbed filtration systems are already well known and utilized internationally, but nonetheless this demonstration is valuable in the Belarus context where clearly in the past they were not utilized widely. Thus, the findings of the pilot activity are of significant value **IF** they will be incorporated into best practices for addressing amelioration of agricultural water run-off. In that context, there was no clear basis or strategy as far as the TE team could discern for achieving further uptake and replication (i.e. incorporation into regulations on water amelioration from agricultural lands, etc.). This casts some doubt on the likely sustainability and further impact of the demonstration.

Component 2:

122. This component is targeting the following outcomes:

- i) the sustainable use of peatlands in productive landscapes, both agriculture and forestry – this is intended to provide concrete practical examples for ways and means by which to implement aspects of the National Peatlands Strategy and Directions of Peatlands Use up to 2030.
- ii) working towards establishing the conditions and data for Belarus to report on carbon emissions / sequestration from peatlands and for possible development of carbon projects which focus on peatlands.

Outcome 2.1: Sustainable use of peatlands in agriculture

124. The outputs to achieve this outcome were implemented on peatlands drained for agriculture.

Output 2.1.1: Re-wetting of approximately 4,311 ha of degraded drained peatlands formerly used in agriculture

125. Building on the past experiences of previous projects with re-wetting areas drained for peat extraction, etc. activities under this output aimed to demonstrate how such approaches

could also be applied to peat areas drained originally for agriculture but which are no longer economically productive. Land falling under this category is a substantial area in Belarus (approximately 139,000 ha.).

126. There are obviously biodiversity and carbon balance benefits from re-wetting. However, in order to persuade all stakeholders (particularly Ministry of Agriculture and Oblast/rayon authorities, etc.) other significant economic benefits have to exist for replication on a wide scale to be viable – thus other benefits envisaged from re-wetting agricultural peatlands include:

- Reduction of fire risk – this is probably the main benefit supported by all stakeholders and justifies removal from the existing use. Apart from losses and degradation caused by deep peat fires in drained peatlands they cause significant economic losses as a result of prevention/control measures required and impacts of smoke etc. on health, visibility, tourism, etc.
- Cranberry production – the development of natural cranberry bushes on the re-wetted agricultural peatlands at least provides some alternative economic value from the land and thus an incentive for some reluctant parties.

127. As part of this activity, five pilot sites with the total area of 3,384 hectares were selected for rewetting. This was a reduction from the originally planned area in the Project document of 6 sites covering 4,311 ha. At the first stage, the Institute of Experimental Botany of the National Academy of Sciences of Belarus developed scientific rationales for the environmental rehabilitation of the pilot sites. During the second stage, based on the recommendations contained in the scientific rationale, Belgiprovodkhoz developed construction projects, which were implemented by construction organizations.

Table 10 - Peatlands inefficiently drained for use in agriculture where environmental rehabilitation was carried out as part of the UNDP-GEF Peatlands-2 Project – Source: Draft Final report of the project May 2017

No.	Name, type of the peatland	Area, ha	District, Oblast	Type of peatland, type of use
1	Babroŭka	911	Slaŭharad District, Mahilioŭ Oblast	Fen mire, agricultural reclamation works
2	Mhlie	109	Smaliavičy District, Minsk Oblast	Fen mire, agricultural reclamation works
3	Jurjeva	213	Smaliavičy District, Minsk Oblast	Fen mire, agricultural reclamation works
4	Sviatoje	1,482	Hrodna District, Hrodna Oblast	Fen mire drained for use in agriculture and peat harvesting
5	Voŭsinskaje	669	Biarezina District, Minsk Oblast	Fen mire drained for use in agriculture and peat extraction
	Total	3,384		

128. The rewetting was achieved through shutting of channels using earth filled coffer dams at numerous locations along them (i.e. cascade) allowing water levels to rise to the land surface height which is a prerequisite for the restoration of mire formation processes. To ensure an even raising of water level and the stability of the dams the distance between them was planned

so as the water level difference would be between dams was 20-40 cm. For correct location of earth-fill cofferdams levelling survey of main channels was performed.

129. *Impact:* The monitoring of water levels showed that the implemented activities were instrumental in achieving the goal of raising the water tables to close to the surface. The rather un-useful indicator for this Output was “Water levels at re-wetted agricultural peatlands (F1 pilots), the baseline - 60 cm and more below soil, and the target 10 to -30 cm (except for Mgle and Yurievo where target is 0 to -40 cm).

130. From the table below it can be seen that this indicator was not based on a pre-project assessment of the actual average ground water levels and that its parameters did not really fit very well. Thus, it is perhaps more useful to say that before and after monitoring showed an increase in height of average ground water (reduction in depth below surface) at all sites except Babroŭka. The reason behind the anomaly at Babroŭka is not known. Following rewetting the areas involved are no longer registered as agricultural lands - they were either converted into the lands of state reserves or transferred to forestry’s.

Table11 - Hydrological parameters of project sites prior to (2014-2015) and after (2015-2016) the environmental rehabilitation (source: draft final report of the project May 2017)

Project sites	Periods of monitoring	Average annual groundwater levels, cm	Average annual range of groundwater levels, cm	Minimum groundwater level, cm	Maximum groundwater level, cm
Jurjeva	Before	-19	83	-70	13
	After	-12	67	-58	9
Mhlie	Before	-17	50	-55	-34
	After	-14	28	-32	-4
Babroŭka	Before	-89	80	-119	-40
	After	-93	63	-122	-59
Voľsinskaje	Before	-54	64	-87	-23
	After	-28	70	-71	-1
Sviatoje	Before	-25	61	-67	-6
	After	-8	65	-49	16

131. In terms of actual benefits gained from the re-wetting, the project monitoring identified biodiversity improvements with the initial recovery of natural peatland conditions and species (the data and results from different sites is quite complex as there are many factors involved i.e. - different hydrological regimes within one site and different duration of exposure; depth and type of the residual layer of the peat deposit; chemical composition of groundwater and peat; exposure to fires; etc.). This was in line with results and experience from previous re-wetting activities at other sites of degraded drained peatlands. Detailed data is available on the website.

132. In terms of carbon there were also significant benefits. To quote one site specifically (Sviatoje) it was estimated that the annual emissions reduction was 9,505 tons of CO₂-eqv. a year. The total Reduction of GHG emissions over the 20 years period [tons of CO₂-eqv.] from the rewetted degraded agricultural lands on drained peatlands (4 sites) was 265,860.

133. In terms of economic benefits, the re-wetting clearly reduced the risk of deep peat fires from high risk to basically zero, thus saving the very significant costs involved for prevention and control measures. Unfortunately, it appears that getting actual values on these avoided costs has been very difficult as they are divided amongst a large number of actors and the main one (the Ministry for Emergency Services) did not provide monetary figures but figures in terms of equipment, man hours, fuel, etc. Despite these difficulties it would have been useful that the project had pursued more vigorously making a financial estimate of the costs avoided and funds therefore saved as this would greatly strengthen the arguments for replication. Likewise some estimation of the potential economic benefits over a 5, 10 or 20 year timescale for the cranberry harvests assumed would have been of value.

134. Apart from these last minor caveats, it is clear that the output was mainly achieved (though area was less than planned in the project document), and the results were as expected from past experience with similar re-wetting exercises.

135. *Replication:* The results of this pilot have been documented (though with the limitations on economic data mentioned above) and presented to key stakeholders. According to the project (see draft final report) the Government plans to make an inventory of reclamation works and detected inefficiently drained peatlands will be subject to environmental rehabilitation based on the project's experience (part of the NPS). The likelihood of replication appears high as the issue of degraded unproductive drained peatland agricultural land is widespread and known risk of it catching fire well recognized. This together with other benefits, the existing experience from this and previous projects of re-wetting process and the fact that it is part of the NPS, makes this approach likely to be upscaled and replicated.

Table 12 - Estimated reduction of GHG emissions resulting from project activities.

PROJECT ACTIVITIES	Reduction of GHG emissions over the 20 years period, [tons of CO ₂ -eqv.]
The rewetting of degraded agricultural lands on drained peatlands (4 sites)	265860
Restoration of ineffectively drained forest peatlands (4 sites)	1,369,800
Restoration of the hydrological regime at the Jelnia Zakaznik.	550,301.2
Conversion of arable land with peat soils to pasture.	55,200
Restoration of alder forests on degraded plots with peat soils	4,930
TOTAL:	2,218,051

Output 2.1.2: Conversion of arable peatlands to meadows for mowing or pasture

136. The rationale for the pilot, as defined in the Project document, was as follows:

“this output aims to *reorient degraded peatlands* classified as arable lands *to meadows (perennial grasses) for mowing or pasture*. Historically, over 1 million ha of peatlands were drained in Belarus for agricultural use, but only 861,000 ha remain today, with the rest being classified as anthropogenically degraded land. This was mainly due to degradation of the peat layer because of irrational use (ploughing and arable crops cultivation). In

response, Belarus adopted the Law on Melioration in 2008, which prohibits ploughing and arable crops cultivation on peat soil less than 0.5 m deep to prevent its degradation. However to implement this law in practice and enable landowners to stop arable crop cultivation on degraded peatlands, they need to be supported in identifying an alternative use for this peatland”.

To promote alternative sustainable use of drained peatlands, the Belarusian Melioration and Water Enterprise (Belmeliovodkhoz) is undertaking efforts to reorient peatlands land use approaches from arable crops cultivation to sowed grasses by designing plans for internal land development for 30 landowners. The project will collaborate with this effort to pilot conversion of arable land to meadows for pasture or mowing at two pilot sites (see [Annex 3](#) for details and selection criteria for the F2 pilot sites). Technical and financial assistance will be provided for re-classification of 495 ha of arable peatlands to grasslands

137. The project has successfully undertaken activities to achieve this output through co-financing and technical advice provided to the Sporovo OAO (collective farm), and Beryozovskaya MTS OAO of Biaroza District of Brest Oblast on the ameliorated peat soils used formerly for field crop rotation. Peat soils were converted to meadows at these agricultural companies, total area 495 hectares.

138. With the project support these two agricultural enterprises undertook the sowing of pastures based on the accepted norms for such activities rather than the typical practice (which involves only minimum application of materials and land preparation). Grass swards of early and medium perennial grass varieties zoned for Belarus intended for the production of hay, silage and other dehydrated grass feeds were created (Sporovo OAO). At Beryozovskaya MTS OAO swards of pulses and grasses were formed for combined use suitable for haymaking and pasture.

139. According to the project draft final report, on average, between 2014-2016 the cropping capacity of grass swards on the newly created meadows amounted to 27.2 t/ha of fresh yield or 4.9 t/ha of fodder units. The total output of grass feeds factoring in process loss was 1,961.3 fodder units. One hectare of meadow sward provided for the production of 3,275 kg of milk. The profit from milk production was 71.5 thousand US dollars. The use of peat soils under meadow grass allowed saving approximately 1,000 tons of the peat organic matter a year.

140. On first view, this pilot has been very successful and has proved that if the proper agro-technical measures are applied degraded agricultural peatlands can be converted to economically valuable perennial grasslands. However, from the TE mission discussions with one of the agricultural enterprises involved (Sporovo OAO) the main barrier to applying the approach appears not to be a technical / lack of knowledge barrier but rather limitation of resources to undertake them. They were very happy that the project supported the proper agro-technical measures required in their 200 ha. because normally they cannot afford to do so and can only afford to apply a “light” version of the measures which inevitably produces meadows with much lower levels of productivity.

141. So, the project pilot has proved that following proper practices when developing such meadows on degraded agricultural peatlands has more economic justification than the “light” methods normally used. This is a valuable lesson that emphasizes the false economy of current practices. However, this was probably already understood by the farming enterprises - the problem seems to be that they (the farming enterprises) are still trapped in a highly centralized

top-down system that forces them into applying practices which do not make either economic or environmental sense. They are required to plant pastures within the context of central plans but don't have the resources to do it in the way the project allowed even though they know that in the long term it would be more economically viable and achieve better conservation of the peat soils.

142. In summary, it can be said that the pilot was successful in demonstrating the superior economic and environmental benefits of applying the proper agro-technical practices when converting land to pasture BUT there are significant remaining barriers to this being replicated and upscaled by agricultural enterprises.

143. According to the project reports, the results of this work were discussed at the Committee for Agriculture and Food of Brest Oblast Executive Committee on October 24, 2016, and the project's experience will be utilized for sustainable use of peat soils – it is unknown how far in practice this experience can actually be applied unless there are significant changes in the overall decision making and management system for agricultural enterprises.

Output 2.1.3: Demonstration of sustainable peatland use in agriculture through testing and demonstration of deep layer ploughing of agricultural peatlands:

144. The rationale presented in the project document for this pilot activity was as follows:

- Peatlands represent over 60% of the farmland in more than 30 commercial farms. This high share makes it impossible to avoid cultivation of grains and corn in peatland areas.
- To prevent the loss of organic matter and CO₂ emissions, the project will pilot deep layer ploughing over 100 hectares of peatlands with a peat layer thickness not exceeding 1 meter.
- The testing of this method at a site in Polesie has shown that deep layer ploughing facilitates the formation of an artificial fertile soil layer reducing the exposure of peat to the atmosphere and thus protects it from fires, wind erosion and rapid mineralization that leads to loss of organic matter and CO₂ emissions. At the experimental field, peat layer thickness was 97 centimeters in 1964 and 90 centimeters in 2006. In comparison, at the control field, where the traditional ploughing techniques were used, the peat layer depleted from 97 to 40 centimeters over the same forty-year period.
- Under this output, the deep layer ploughing method will be tested on an industrial scale in a field of at least 100 hectares.

145. In summary, the idea was to demonstrate a technique first tested 40 years ago during the former Soviet Union period that would allow arable use of drained peatland soils in a way that was less destructive, and more productive. The original tests, though positive in terms of productivity, land quality maintenance and carbon losses were not widely replicated, possibly due to the existing Soviet economic conditions at the time. The idea of repeating a test of the

technique now was apparently: a). to re affirm its agro-technical benefits, b). assess its economic feasibility under the new circumstances existing in Belarus.

146. In terms of the first issue (the agro-technical benefits and reduced peat loss) the pilot was successful despite difficulties in finding the appropriate equipment i.e. productivity was increased and loss of peat was decreased.

Year	Control site (10 ha.)- tones of fodder	Test site (10 ha.) - tones of fodder	Difference - tones of fodder
Year 1	55.4	159	103.6
Year 2	82.6	119	36.4

147. In terms of economic feasibility under current conditions the pilot was instrumental in showing that large scale application is probably not viable as the original 100 ha. planned to be tested had to be reduced to only 10 ha. due to the high costs of undertaking the work that the project discovered when initiating implementation. Thus, though the project failed to implement the pilot at the industrial scale envisaged in the project document this was because it proved in practice this was financially unviable. The pilot was therefore useful in being able to provide concrete information regarding the economic viability of such techniques. Data from this pilot is therefore useful in making decisions regarding the approach in the future. It is unfortunate, that no cost benefit analysis (as recommended in the MTE) was undertaken as this would have provided a more concrete assessment of the deep plough feasibility (or otherwise).

Outcome 2.2: Restoration of approximately 2,027 ha of forest peatlands in the Poozerie landscape.

148. The project document defined this Outcome as aiming to demonstrate restoration of degraded, drained forest peatlands to their natural condition. The background to this was that the Ministry of Forestry had already stated that 24,000 ha of forestry drainage systems should be withdrawn from exploitation because they are inefficiently drained, are no longer useful for forestry and most importantly are affected by fires, and that natural peatlands should be restored in these areas. On this basis, the selection of pilot sites was possible and three pilot territories covering a total area of 2,027 ha were selected pre-project.

149. These pilot areas were all drained forest peatlands that have been declared as inefficiently drained (see Annex 3 of the project document for details on the F3 pilot sites). The plan was that the project will re-wet degraded forested peatlands and the re-wetting will in time eliminate birch and willow shrubs, but will restore the growth and regeneration capacities of black alder and pine. Logging at re-wetted forested peatlands is planned to be withdrawn. The project intended to also introduce alternative sustainable uses in these re-wetted forested peatlands, as they will no longer be used in forestry. The project document contained in its Annex (see Annex 8 of project document) an estimation of economic benefits to local people). Finally, this outcome also piloted regeneration of black alder forests at two pilot agricultural peatlands where re-wetting is already planned (under Output 2.1.1).

Output 2.2.1: Carbon fluxes assessed and carbon management projects designed in degraded, forested peatlands

150. Activities under this output were primarily related to the detailed design of the forest sites re-wetting and work necessary in order to assess carbon fluxes at the sites. Scientific rationales for the environmental rehabilitation of pilot territories were developed, which include the distribution of vegetation communities at pilot sites, whose areas were used for the calculation of greenhouse gas emissions. This work appears to have been carried out very competently by the Institute of Experimental Botany of the National Academy of Sciences of Belarus.

Output 2.2.2: Re-wetting projects in degraded, dry black alder and pine forests implemented

151. This output focused on the actual implementation of the re-wetting of the drained forest areas that were no longer productive for forestry purposes based on the design works carried out under Output 2.2.1.

152. As part of this activity 3 raised bogs (3,457 ha) disturbed by hydrological forest amelioration were selected for rehabilitation. Based on work done under 2.2.1 Belgiprovdokhoz developed construction projects, which were implemented by construction organizations. In addition to the 3 sites under this output similar works were done at Jeľnia bog with its system of channels (7,800 ha) - see Output 1.2.1.

Table 12: The list of disturbed forest peatlands restored in the course of the implementation of Project

No.	Name, type of the peatland	Restored area, ha	District, Oblast	Causes of disturbance
1	Kapyš	1,222	Puchavičy District, Minsk Oblast	Raised bog disturbed by forest reclamation
2	disturbed Vieciarevičy peatland	1,571	Puchavičy District, Minsk Oblast	Raised bog disturbed by forest reclamation
3	disturbed Červieň-2 peatland	664	Červieň District, Minsk Oblast	Raised bog disturbed by forest reclamation
	Total output 2.2.2	3,457		

153. *Results:* Due to the closure of channels on all raised bogs the water approached its natural level (near ground level), which according to the predictions of experts on peatlands will result in the gradual restoration of sphagnum mosses and the entire peatland ecosystem. After the increase of water levels peatlands were no longer considered fire-hazardous. The project document contained in its Annex (see [Annex 8](#) of project document) an estimation of economic benefits to local people).

Output 2.2.3: Pilot project on regeneration of black alder forests on degraded agricultural peatlands implemented

154. The rationale for this pilot as stated in the project document was as follows:

Because of past drainage and forest clearing, large areas of agricultural landscapes that were formerly covered with native black alder forests are now deforested. Today, owing to a decline

in agricultural productivity, it is expected that a considerable share of these degraded, drained agricultural lands will be removed from agricultural use under the State Program on Conservation and Use of Meliorated Lands. However, subsequent usage of these withdrawn lands is still to be defined.

155. Thus, in short, the aim of this pilot was to provide an example of a possible subsequent use by piloting methods for regeneration of black alder forests at degraded agricultural peatlands. Based on this the project implemented in 2014-2015 together with Lida Forestry activities to test a method of restoring black alder forests on degraded peatlands previously used in agriculture (202.9 ha) that were transferred to the forestry.

156. Forest plantations of black alder were created on disturbed peatlands of Lida Forestry covering the area of 202.9 ha. According to the inventory, the survival rate of forest plantations planted in spring 2014 on the area of 100.0 ha was 87.9%; and for plantations planted in spring 2015 on the area of 102.9 ha, the rate was 89.9%. Based on the practical experience, the method of creating black alder plantations on peat soils was adjusted, and it was recommended for use by forestry's when performing similar works.

157. The Ministry of Forestry conducted a special workshop for sharing experience of planting black alder forests on peat soils. During interviews with the Deputy Minister of Forestry the TE Team were informed that the Ministry is already initiating actions to follow up on the pilot and 75 nurseries are already growing 3.5 million alder seedlings in preparation (mostly in Brest region). This pilot can therefore be viewed as highly successful and already being replicated / upscaled.

Outcome 2.3: Readiness of government for implementation of carbon projects in agricultural and forest peatlands enhanced

158. The final outcome of component 2 of the project is primarily GHG scientific and monitoring related and aims to:

- a). continue to work to prepare Belarus for participation on both the voluntary and regulated carbon markets,
- b). to monitor biodiversity parameters at pilot sites.

159. Outputs 2.3.1, 2.3.2 and 2.3.3: These Outputs can be summed as - Existing peatland MRV methods adjusted and operationalized for previously unaccounted biotopes at open agricultural peatlands, forest peatlands, and results fed into Belarus peatlands carbon trading mechanism

160. In brief, the project has working to develop national capacity to quantify greenhouse gas (GHG) fluxes using recognised methodologies – including Measure, Report and Verify (MRV) methods. The overall aim, of course, is eventually to participate in the voluntary and regulatory carbon markets. Indeed, as highlighted in the MTE report, the majority of components associated with the project have significant potential within carbon markets – through reducing emissions (e.g., in the restoration the peatland forests and re-wetting other, degraded peatlands, as well as the conversion of intensive agricultural areas to meadows), and carbon sequestration (within the black alder plantations as well as a further net sequestration of carbon within the restored peatlands).

161. *Summary of results on peatland MRV methods adjusted and operationalized for previously unaccounted biotopes at open agricultural peatlands:* In the course of instrumental field surveys, GHG flow coefficients (carbon dioxide, methane, nitrous oxide) on drained peat soils used for meadow cultivation (perennial meadow grasses (*Phleum sp.*) were measured. Thus, the GEST coefficient for perennial meadows is 17.1 t (CO₂ equivalent) per one hectare a year. Based on the use of GEST method and obtained coefficients, carbon benefits from the re-wetting of agricultural peatlands (project sites Sviatoje, Babroŭka, Mhle, Jurjeva) were calculated. For the 20-year period, the reduction of GHG emissions is 237,820 tons (CO₂ equivalent).

162. *Summary of results peatland MRV methods adjusted and operationalized for previously unaccounted biotopes at forest peatlands:* The obtained coefficients allowed also the calculation of GHG emissions after the conversion of previously used peat lands into perennial meadows (6.9 tons (CO₂ equivalent) per one hectare a year). If taken for the entire project territory (494 ha) the reduction of GHG emissions over the period of 20 years will amount to 55,200 tons (CO₂ equivalent).

163. Based on the detailed data available and interviews with concerned individuals (Institute of Botany who were involved in implementing the work, S. Melnov Director of BelNitsEcologia Institute, which is organization responsible for GHG reporting under FCCC) the project has fully completed the intended activities and achieved the results expected. The indicator for these Outputs was “ *Revised GESTs developed covering drained and rewetted bogs for recently rewetted agricultural fens, and for the transient stages*”, and target is that “ Gaps in GESTs are filled by Year 4 such that agricultural and forestry biotopes are covered”. It is clear that this target was achieved.

Table 13 : Updated table from Project Document showing details on carbon benefits At EOP

Category (emission reductions)		Pilot site name	Area	Baseline emissions	Emissions after project	Emission Reductions	Emission Reductions over 20 yr lifetime	EOP Emission Reductions over 20 yr
				(t CO ₂ -equ. yr-1)	(t CO ₂ -equ. yr-1)	(t CO ₂ -equ. yr-1)	(t CO ₂ -equ. over 20 yrs)	(t CO ₂ -equ. over 20 yrs)
I. Emission reductions from re-wetting ag peatlands (F1 sites), converting ag petalands to pasture (F2 sites), rewetting forest peatlands (F3 sites), replacing traditional ploughing with deep layer ploughing at ag peatlands (F4 site)								
Agricultural peatlands to be re-wetted	F1	Vol'sinskaje	669.00	4,811.00	3,409.00	1,402.00	28,040.00	28,040.00
Agricultural peatlands to be re-wetted	F1	Sviatoje	1,482.00	16,744.40	7,239.00	9,505.40	190,108.00	190,108.00
Agricultural peatlands to be re-wetted	F1	Bobrovka	911.00	9,991.00	9,039.00	952.00	19,040.00	19,040.00
Agricultural peatlands to be re-wetted	F1	Mgle	109.00	1,230.00	872.00	358.00	7,160.00	7,160.00
Agricultural peatlands to be re-wetted	F1	Yurievo	213.00	3,669.00	2,593.00	1,076.00	21,520.00	21,520.00
<i>Sub-total for re-wetted agricultural peatlands</i>			<i>3,384.00</i>	<i>36,445.40</i>	<i>23,152.00</i>	<i>13,293.40</i>	<i>265,868.00</i>	<i>265,868.00</i>
Agricultural peatlands to be converted from arable to pasture	F2	Site1, Site2	494.00	9,600.00	6,840.00	2,760.00	55,200.00	55,200.00
Agricultural peatland where deep layer ploughing is to be tested	F4	Luninets	10.00	128.00	22.00	106.00	2,120.00	2,120.00
<i>Sub-total for all agricultural (non-forest) peatlands</i>			<i>3,888.00</i>	<i>46,173.40</i>	<i>30,014.00</i>	<i>16,159.40</i>	<i>323,188.00</i>	<i>323,188.00</i>
Forested peatland to be re-wetted	F3	Pukhovichi-Kopysh	1,222.00	26,298.00	4,966.00	21,332.00	426,640.00	426,640.00
Forested peatland to be re-wetted	F3	Cherven-Gorodishche	664.00	19,533.00	4,045.00	15,488.00	309,760.00	309,760.00
Forested peatland to be re-wetted	F3	Veterevichskoe	1,571.00	38,213.90	7,945.90	30,268.00	605,360.00	605,360.00
<i>Sub-total for forested peatlands</i>			<i>3,457.00</i>	<i>84,044.90</i>	<i>16,956.90</i>	<i>67,088.00</i>	<i>1,341,760.00</i>	<i>1,341,760.00</i>
<i>Sub-total for all F1, F2, F3 and F4 sites</i>			<i>7,251.00</i>	<i>130,218.30</i>	<i>46,970.90</i>	<i>83,247.40</i>	<i>1,664,948.00</i>	<i>1,664,948.00</i>
Protected area: strongly disturbed parts to be re-wetted		Yelnya PA (only disturbed area; not total area) Jel'nia	7,595.50	75,145.08	47,577.00	27,515.08	550,301.00	550,301.00
			14,846.50					
<i>Sub-total for forested peatlands and PA</i>			<i>0</i>	<i>205,363.40</i>	<i>94,547.90</i>	<i>110,762.50</i>	<i>2,215,249.00</i>	<i>2,215,249.00</i>
II. Carbon sequestration from black alder regeneration at rewetted agricultural peatland sites (tree growth over 20 years)	F4	Lida Forestry	216				4,930.00	4,930.00
Total for all emissions reduction (F1 to F4 pilot sites + Yelnya PA)			15,156.50	205,363.40	94,547.90	110,762.50	2,220,179.00	2,220,179.00

Output 2.3.4: Monitoring and reporting on biodiversity parameters (status and changes in water level, vegetation communities, and biodiversity) at pilot sites (BD funding)

164. Under this output, pre-restoration and post-restoration monitoring of the pilot sites was planned in order to the impact of the project on biodiversity. Monitoring was performed by experts and specialist organizations contracted by the project under the guidance of the Project Scientific Coordinator.

165. A summary of monitoring performed includes:

- Changes in vegetation type combinations in degraded peatlands before and after re-wetting of drained agricultural peatlands (Output 2.1.1) and drained forest peatlands (Output 2.2.2), as observed from repeat satellite images and during field surveys;
- Changes in the numbers of indicative bird species in degraded peatlands before and after re-wetting of drained agricultural peatlands (Output 2.1.1) and drained forest peatlands (Output 2.2.2), through measurement along permanent migration routes and head counts;
- Changes in indicative bird species populations in sections of the drainage systems where arable land has been converted into meadows (Output 2.1.2), through measurement along permanent migration routes and head counts;
- Changes in Curlew, Grouse and Capercaillie populations in degraded peatlands before and after the improvement of the displaying grounds and removal of over-growth from the open bogs (Output 1.2.1);
- Changes in water level in degraded peatlands before and after re-wetting of drained agricultural peatlands (Output 2.1.1) and drained forest peatlands (Output 2.2.2), as observed through field surveys.

166. The SRF Indicator for this Output was “Improvement in biodiversity indicator species at pilot sites” and baseline and target were changes in values from baseline table. This indicator does not actually measure success / failure of the Output i.e. it does not measure if the monitoring was done effectively per se, but rather is measure of if the various Outputs related to improved conditions and protection were effective.

167. The updated baseline table from the project document SRF including status of biodiversity indicator species at EOP is provided below. It is noteworthy that despite the very short time period involve and the rather ambitious targets, some very significant positive changes in values for indicator species were recorded. Almost all indicator species showed a positive change (blue and yellow highlighting) and a large proportion met or exceeded targets values. Only the species *Numenius arquata* (Eurasian Curlew) was not recorded at all either before or after project activities.

Table 14: Updated (EOP) Details on Biodiversity Indicators to be Measured at Pilot Sites (from Project SRF)

BD Indicator species	Baseline	Target	Status EOP	Source of data and comment (if any)
F.1.1 Mgle				
<i>Botaurus stellaris</i>	0	2 pairs	1 pair	Expert report (2014) and field data (2016-2017)
<i>Emberiza schoeniclus</i>	2-5	Not less than 15 pairs	>30 pairs	“

BD Indicator species	Baseline	Target	Status EOP	Source of data and comment (if any)
F.1.2 Yurievo				
<i>Botaurus stellaris</i>	0	2 pairs	2 pairs	“
<i>Cyrus aeruginosus</i>	0	2 pairs	3 pairs	“
<i>Emberiza schoeniclus</i>	0	Not less than 15 pairs	>80 pairs	“
F.1.3 Bobrovka				
<i>Emberiza schoeniclus</i>	0	About 30 pairs	>30 pairs	“
<i>Cyrus aeruginosus</i>	1	10 pairs	3 pairs	“
<i>Gallinago gallinago</i>	1-3	Not less than 20 pairs	8 pairs	“
F.1.4 Volsinskoe				
<i>Emberiza schoeniclus</i>	0	About 30 pairs	>30 pairs	“
<i>Cyrus aeruginosus</i>	0	5 pairs	5 pairs	“
<i>Gallinago gallinago</i>	5-10	Not less than 20 pairs	>20 pairs	“
F.1.5 Svyatoye				
<i>Emberiza schoeniclus</i>	0	About 30 pairs	>150 pairs	“
<i>Cyrus aeruginosus</i>	1	10 pairs	8 pairs	“
<i>Gallinago gallinago</i>	1-5	Not less than 20 pairs	>20 pairs	“
F.2 Sporovo village, Berezovskaya MTS				
<i>Alauda arvensis</i>	0	Increase by 100 pairs	>100 pairs	Breeding density 40 pairs/100 ha
<i>Aquila pomarina</i>	2 pairs breed in adjacent Sporovsky Reserve	Stability of species number	2 pairs	Feeding area for 2 pairs <i>Aquila pomarina</i>
<i>Crex crex</i>	0	Increase by 10-30 pairs	15 pairs	Mainly around fields
F.3.1 Pukhovichi-Kopysh				
<i>Numenius arquata</i>	0 (disappeared after peat fire)	At least 5 pairs	0	Species not appear because decreasing last years in all Europe
<i>Lirurus tetrax</i>	Few remain after peat fire	Increase to 40 pairs	20-40 males	Numbers increasing but very slowly
<i>Grus grus</i>	0 cranes nesting at present	At least 3 nesting pairs	4 pairs	
F.3.2 Cherven-Gorodishche				
<i>Numenius arquata</i>	0 (disappeared after peat fire)	At least 5 pairs	0	Species not appear because decreasing last years in all Europe
<i>Lirurus tetrax</i>	Few remain after peat fire	Increase to 30 pairs	About 20 males	Numbers increasing but very slowly
<i>Grus grus</i>	0 cranes nesting at present	At least 3 nesting pairs	2 pairs	
F.3.3 Veterevichi				
<i>Lirurus tetrax</i>	Only a few species remain	Population increase to 30 pairs	15 males	Numbers increasing but very slowly
<i>Grus grus</i>	1 cranes nesting at present	At least 3 pairs	2 pairs	

(Blue – met or exceeded target, Yellow – below target but showed positive change, Red- showed no change)

The table below provides a summary of the project results in the context of the SRF and its indicators, including comments at MTE and at TE stages.

Table 15. The Project Results Framework showing the MTR and TE status and the MTR and TE comments and ratings

Project Strategy	OVI	Baseline	MTR status	EOP target	SV	MTR comment and rating	TE Status, Comment and rating (2017 May)
Project Objective: To promote a <i>landscape approach to management</i> of peatlands that <i>conserves biodiversity, enhances carbon stocks, ensures sustainable land management, and sustainable forest management</i> , with demonstrations in a <i>number of pilot sites</i> (peatland PAs, agricultural peatlands, and forested peatlands): - Develop a strategy and action plan on sustainable use and conservation of wetlands. - Develop schemes of rational use and protection of peatlands. - Design and implement environmental activities on specific sites during reconstruction of drainage systems.	Extent of peatland area that is brought under an effective, landscape-based, conservation and/or sustainable use regime under the framework of a National Strategy for Peatlands (NSP)	Currently there is no NSP; there are a few, disparate efforts through past and ongoing donor-funded projects to restore, conserve and sustainably use peatlands	59,327ha 13,927 ha reserved at the local level for establishing of 7 new reserves (25 000 of new reserves will be officially gazzeted by end of 2016); econetwork of environmental corridors covering 45,000 ha established; Engineering project for establishing setter on 15,000 ha on agricultural peatlands developed to reduce adverse impact of anthropogenic run---offs from land---reclamation systems on ecosystems of the Zvanest reserve; works have to be completed by mid 2016 Engineering	122,270 ha (Of which, 30,301 ha are existing peatland national zakazniks where management effectiveness is improved; 25,036 ha are new local zakazniks; 45,000 ha is the network of environmental corridors; 15,000 ha of drainage networks on agricultural peatlands from which sedimentation is to be reduced; 4,311 ha are re-wetted agricultural lands; 495 ha are arable peatlands converted to meadows; 100 ha are arable peatlands subject to layered ploughing; and 2,027 ha are re-wetted forest peatlands)	Project Reports; Independent mid-term and final evaluations	On target to be achieved. As suggested in Section 4.1.2, this is a complicated indicator partly because it includes an unmeasured and, over all these categories of land use, element of <i>effectiveness</i> that is not measureable. Nonetheless, when taken at face value, significant progress has been made towards the target. Once the engineering works for re-wetting peatlands and restoring hydrological regimes in forested peatlands have been implemented, the figure will surpass the target (expected no later than the end of 2016). In conclusion, progress is satisfactory .	Achieved – Rating S with 4 targets exceeded, 2 exactly on target, 2 just under target and one significantly below target (deep plough). Overall target area of 122,270 was exceeded by 19593 ha. (actual EOP area of 141863 ha .) 1. Existing Zakazniki. Improved man.= 42083 ha. (exceeded 11782 ha) 2. New Zakazniki=28,768 ha (exceeded 3732 ha .) 3. Env. Network= 45000 ha (on target) 4. drainage networks on agricultural peatland = 10866 ha (4134 ha below) 5. re-wetted agricultural lands= 3,384 ha (927 ha below) 6. arable peatlands to meadows= 494 ha (on target)

Project Strategy	OVI	Baseline	MTR status	EOP target	SV	MTR comment and rating	TE Status, Comment and rating (2017 May)
<ul style="list-style-type: none"> - Ensure afforestation or rewetting of degraded and inefficiently used in agriculture and forestry peatlands. - Implement principles of sustainable use of peatlands in several organizations (transition to perennial grasses). - Prepare documents declaring wetland Protected areas (PAs). 			<p>project for re--wetting of 3,455 ha of agricultural lands are developed ; 400 ha are arable peatlands converted to meadows; 10 ha are arable peatlands subject to layered ploughing; and engineering projects for re--wetting of 3,384 ha forested peatlands developed</p>				<p>7. arable peatlands subject to layered ploughing = 10 ha (90 ha Below)</p> <p>8. re-wetted forest = 11257 ha (exceeded 9230 ha including Yelnia)</p> <p>1=42083 2= 28768 3=45000 4=10866 5=3384 6=494 7=10 8= 11257 Total = 141864</p> <p>Target 122,270 Exceeded target: 19593 ha.</p> <p>Green= on target Yellow = exceeded Red = below target</p>
Component 1: Landscape approach to peatlands conservation and sustainable use enshrined in national policy and implemented through a network of PAs in the Poozerie landscape	Cross-sectoral WG for promoting a landscape approach to peatlands conservation and	None exists at present	Another two meetings of the Working Group took place in November 2014 and February 2015, where main provisions of the Strategy and Schemes were	Working Group formed by Year 1 and receives capacity building support from partner international peatland conservation organizations	Minutes of meetings	Achieved. The working group has been established and four meetings have been held to date. The WG has proved an effective mechanism to bring together	Achieved – Rating: S The working group was established and meet a total of 5 times during the project implementation. It worked effectively at bringing key stakeholders together to agree and approve for consideration by the Government of the NPS and (also very important) the Outline of the Distribution of Peatlands per Direction of Use until 2030. The

Project Strategy	OVI	Baseline	MTR status	EOP target	SV	MTR comment and rating	TE Status, Comment and rating (2017 May)
	sustainable use		approved			stakeholders and resolve conflicts among them.	ongoing status and function of the WG post project is unclear but it is expected to function as a coordinating body.
	Criteria and methodologies for assessment of peatlands' state, function and services	Criteria exist but they only take into account economic benefits	A technical code on criteria (including ecological ones) for peatlands use) developed and to be formally approved on 12 August 2015 (17.12--08--2015 (33140).	Criteria and methodology developed by Year 2 and includes ecological criteria (in the form of recommendations/ instructions)	Instructions adopted by Ministry of Natural Resources and Environmental Protection	Achieved. The criteria have been developed and will be formally adopted in August 2015. They are already in use.	Achieved Rating: S This target was achieved by MTE in 2015 (see comment)
	Inventory of all peatlands	Outdated listing of peatlands exist and it is spotty (not comprehensive)	Inventories of peatlands in three (Minsk, Brest and Vitebsk) out of six target regions completed. All peatlands inventory shall be completed by the end of 2015.	Current and comprehensive listing of peatlands status, functions, services (based on above criteria) by Year 3	Database with GIS maps	On target to be achieved. Progress is satisfactory and the process is expected to be complete by the end of 2015. The three oblasts that are being managed by the government (cf. those being managed by the project) should be monitored to ensure that results	Achieved: Rating HS This was completed at the end of 2015 – it contains the current and comprehensive list of peatlands status were determined, as well as its functions and services (based on above criteria). Based on the inventories data a Strategy and Outline for Use were prepared.

Project Strategy	OVI	Baseline	MTR status	EOP target	SV	MTR comment and rating	TE Status, Comment and rating (2017 May)
						are delivered in good time.	
	National Strategy for Peatlands	Old Scheme ended in 2010 and emphasis was on peat mining and agriculture	Strategy for sustainable use of peatlands until 2030 and Schemes of peatland distribution based on direction of its use are developed and is being duly coordinating. Completion is expected by December 2015.	New 20-year strategy that takes economic and ecological benefits into account in determining use of peatlands by Year 4	Strategy approved and adopted by Council of Ministers	On target to be achieved. Again, progress is satisfactory and the NSP has been drafted and is being reviewed by stakeholders. It shall be submitted to the Council of Ministers for approval and adoption once the inventory of peatlands (see above) is complete.	Achieved: Rating HS Strategy for the Conservation and Wise use of Peatlands and Outline of the Distribution of Peatlands per Direction of Use until 2030 were approved by the Resolution of the Council of Ministers of the Republic of Belarus dd 30.12.2015 #1111
	Enhanced management effectiveness at existing PAs as measured by METT	Yelnya: 48% Morochno: 20%	METT assessment is planned for 2015--2016 after completion of works on restoration of hydrological regime in Yelnya and development of the management plan for Morochno.	Yelnya: 60% Morochno: 45%	METT Scorecard	Unable to comment or rate. The MTR did not visit Yelnya or Morochno, and the METT assessment is planned for later in the project. However, activities are being carried out and there is no reason to suspect that these targets	Achieved: Rating: HS See METT as of June 2017 Yelnya: 72 number of the Reserve's Management Plan actions were implemented (on restoring hydroregime, improvement of managerial capacities, improvement tourist and educational reserve infrastructure) Morochno: 45 development of reserve's Management Plan launched, Plan has to be completed in early 2017, territory received Ramsar site status, reserve improve its official environmental status

Project Strategy	OVI	Baseline	MTR status	EOP target	SV	MTR comment and rating	TE Status, Comment and rating (2017 May)
						will not be achieved.	from local importance to republican importance one)
	Emission reductions through re-wetting of disturbed areas in Yelnya PA (see table on carbon benefits below for details)	In the baseline scenario emissions reduction would be 0 tCO ₂ equ	Activities are planned for 2015-2017	Target emission reduction over 20 years 545,624.20 tCO ₂ equ	Carbon monitoring reports prepared by the project	On target to be achieved. The progress of preparing the restoration works is underway. It will, however, be important to ensure that baseline data will be collected <i>before</i> the restoration occurs.	Achieved: Rating: HS In-fact estimates suggest the target will be exceeded by just under 5,000 tCO ₂ equ
	Enhanced management effectiveness at planned local reserves as measured by METT (local reserves have been clustered in to 3 groups based on	Vitebsk Poozerie Cluster (Krasniy Moch, Uzgon, Bolshoy Moch, Potoki, Lebediny Moch, Zaborovski Moch, Rossonski Moch): 6% Eastern Cluster	Contract is under concluding for assessment of emission reduction in Yelnya after completion of works on restoration of hydrological regime.	Each of the 3 clusters: 42%	METT Scorecard	As above (see indicator on Yelnya and Morochno).	Achieved: Rating: HS Each of the 3 clusters of newly established regional zakazniki are scored in the June 2017 METT as 45%. This actually exceeds the target (42%) and was achieved through strengthening of its protective status to reserves of local importance; local authorities duly approved documents, containing restrictive measures to maintain ecological status of the territories. Additional measures on rehabilitation of the reserve's hydrological regime

Project Strategy	OVI	Baseline	MTR status	EOP target	SV	MTR comment and rating	TE Status, Comment and rating (2017 May)
	geographic location)	(Esmonovski Moch, Ushlovskoe, Yasen, Velikiy Ostrov, Oster, Beloe): 6% Central Cluster (Ushanskoe, Chertovo boloto, Surazhinskoe, Turshevka-Chertovo, Ositskoe): 6%					
	A network of caretakers is operational in the internationally important peatland PAs	At present, system of local caretakers are in 8 important peatland PAs	Activities are planned for 2014--2016	Network exists for 18 internationally important peatland PAs by Year 3	Field reports from caretakers	Not started. As a result, it is impossible for the MTR to comment on how effective this 'network' of caretakers is being in improving the management of the peatlands (see comment in PRF analysis in Section 4.1.2); the TE should examine this issue	Achieved: Rating S Agreement was concluded in 2015 with the key environmental NGO in Belarus - Akhove Ptushal Batskauschyny (Birdlife) and based on their existing experience 10 new reserves were targeted to introduce the warden / caretaker approach (8 original PAs with wardens plus 10 new-total of 18 reserves with warden system in place). Number of wardens equals 120 people – interviews with contractor, beneficiaries (i.e. PA staff) and wardens found approach was working well so far and overall

Project Strategy	OVI	Baseline	MTR status	EOP target	SV	MTR comment and rating	TE Status, Comment and rating (2017 May)
						including securing evidence that there is a marked impact on effectiveness.	seen positively by local people, PAs and local authorities.
	Plans for restoration of hydrological regime in the Yelnya peatland PA are elaborated and implemented	Plan for Yelnya at the stage of elaboration, but not finished and not implemented	The project is developed and passing through state ecological expertise. Project is expected to be completed by December 2015	Plans are elaborated and implemented by Year 4	Documentation in Min. of Env., District authorities, and PA management units	On target to be achieved. Progress is satisfactory with the plans currently under review. As indicated, the process is expected to be complete by December 2015.	Achieved Rating: S Plans for rehabilitation of hydrological regime in the Yelnya peatland PA are elaborated and implemented. All canals that drained the bog were blocked by a cascade of dams. It resulted in the restoration of hydrological regime of the bog. The project launched a comprehensive monitoring in the territory to evaluate results of the project interventions. See PIR 2016
	Increase in local tourism organization income from wildlife viewing	Approx. \$1200	The project is developed and passing through state ecological expertise. Project is expected to be completed by December 2015	Increase in revenue from wildlife viewers estimated at \$5,000 per year at all pilots	Final evaluation	Unable to comment or rate. However, see comment in Table 3 (in Section 4.1.2).	Achieved Rating S The total increase in annual revenues from the organization of local tourism as a result of the development of wildlife surveillance increased by 9600 US dollars, from 4,300 to 13,900 US dollars. The total annual number of visitor-observers increased by 2030 people, from 800 to 2830 people.
	Increase in local hunter association income from	0	Assessment will be conducted in 2015-17	Increase in revenue from sustainable hunting estimated at \$2,500 per year per site	Final evaluation	Unable to comment or rate. However, see comment in Table 3 (in Section 4.1.2).	Achieved: Rating: S According to natural conditions, hunting activities were carried out only in 6 project areas - Yelnya, Nalibokskaya Pushcha, Kopysch, Vol'sinskoye, Svyatoye, Cherven-2.

Project Strategy	OVI	Baseline	MTR status	EOP target	SV	MTR comment and rating	TE Status, Comment and rating (2017 May)
	sustainable hunting						The increase in income due to the sustainable management of hunting in these project areas increased by 60.3 thousand US dollars, from 98.9 to 159.2 thousand US dollars. As a consequence, an increase in income over 4 years in all project areas amounted to about 15 thousand US dollars or an average of 2.5 thousand US dollars per hunting enterprise.
	A network of environmental corridors in the Vitebsk Oblast Poozerie landscape, ensuring the continuity of the natural landscapes and unrestricted wildlife migration	Isolated elements of the network are in place, which are not considered in territorial planning	Environmental Network for Vitebsk Oblast Poozerie was established	An environmental network of the Vitebsk oblast is developed, comprised of the key territories and environmental corridors linking bogs and wet areas together by Year 3. Proposals to include the Vitebsk oblast network into the national environmental network formulated.	The network is approved by the Vitebsk Oblast Executive Committee and is mandatory for consideration in territorial planning	Achieved. Satisfactorily completed. The approval by the Vitebsk Oblast Executive Committee means that all territorial planning must take into account the network	Achieved Rating S Achieved before MTE (2015) The network is approved by the Vitebsk Oblast Executive Committee and is mandatory for consideration in territorial planning. It provides corridors between national PA core areas (and transborder areas) and protection of key habitat/species.
	Flow of polluted waters from	Baseline level of pollutant flow to be	The project is developed and passing through	Decrease in pollutants from baseline levels by 50% by Year 4,	Field survey/measurements of	On target to be achieved. The 1st PIR level	Achieved Rating: S To test a method of water purification for the water

Project Strategy	OVI	Baseline	MTR status	EOP target	SV	MTR comment and rating	TE Status, Comment and rating (2017 May)
	drainage areas into nearby natural water bodies	measured in first quarter of project	state ecological expertise. Project is expected to be completed by December 2015.	which creates conditions for the restoration of biodiversity	level of water contamination	suggests that Drogichin district was selected as the pilot for this work – although there is no explanation or justification why. In addition, the <i>baseline level of pollutant flow</i> (which as supposed to be measured in Q1 of the project – i.e., in Q4 of 2012) has not been specified. Nonetheless, the pilot is well under way and is expected to be complete by the end of 2015.	discharged from drainage facilities to the territory of Zvaniec fen mire, a special settling facility was constructed as part of the project with the area of 300 ha. The monitoring showed the effectiveness of the settling facility: at the inlet water salinity is 400 mg/l, at the outlet - 200 mg/l.
Component 2: Restoration and management of degraded agricultural and forested peatlands for improved biodiversity	Water levels at re-wetted agricultural peatlands (F1 pilots)	60 cm and more below soil	Measurements will be conducted in 2015--2017 after completion of respective construction works.	10 to -30 cm (except for Mgle and Yurievo where target is 0 to -40 cm)	Report of experts from monitoring plots	Unable to comment or rate – although data loggers have been installed to measure changes in water levels.	Achieved Rating: S Before rewetting water level on agricultural peatlands – 40 cm below soil. First year after rewetting 31 cm below soil.

Project Strategy	OVI	Baseline	MTR status	EOP target	SV	MTR comment and rating	TE Status, Comment and rating (2017 May)
conservation, sustainable land management and carbon sequestration within landscapes	Water levels at re-wetted forest peatlands (F3 pilots)	40-80 cm below soil	Measurements will be conducted in 2015-2017 after completion of respective construction works.	0-30 cm below soil	Report of experts from monitoring plots	However, the <i>background</i> fluctuation in water levels should be still being recorded with the data loggers in place; these data should be reported.	Achieved Rating: S Before rewetting water level on forested peatlands – 31 cm below soil. First year after rewetting 10 cm below soil.
	Perennial grass cover at arable peatlands that are converted to improved grassland (F2 pilots)	More than 70% of pilot sites are arable land	400 ha of F2 sites are improved grassland	100 ha of F2 sites are improved grassland	Report of monitoring expert and land planning data	Achieved. The target for the project has been surpassed and further meadows will be established in 2016. The project needs to find mechanisms to ensure sustainability.	Achieved: Rating S Sporovo OAO, Beryozovskaya MTS OAO of Biaroza District of Brest Oblast-the example of the conversion of 494 ha of inefficiently used peat lands into perennial meadows On average, between 2014-2016 the cropping capacity of grass pastures on the newly created meadows amounted 4.9 t/ha fodder units. Plus saving approximately 1,000 tons of the peat organic matter a year; its provisional value is 50,000 US dollars. On the less positive side, there are clear barriers to replication.
	Content of organic matter in soil (F4)	Organic matter in soil 50-70% (F4 sites)	The works on deep plowing on 10 hectares were	Content of organic matter in soil decreases by no more than 5%	Report of Institute (IP) impleme	On target to be achieved. The key here is not	Achieved: Rating S The specific indicator target was reached - Content of organic matter

Project Strategy	OVI	Baseline	MTR status	EOP target	SV	MTR comment and rating	TE Status, Comment and rating (2017 May)
	sites)		conducted. Scheduled monitoring works are underway. Results of analysis of content of organic matter in soil will be in 2016		nting and monitoring project activities and soil at F4 sites	necessarily the acreage that has been tilled using deep-ploughing technology (i.e., 10ha vs. 100ha) but the <i>proportion of organic matter</i> in the soil. This will only be reported in 2016. In addition, it is essential that a <i>cost-benefit analysis</i> is carried out.	in soil before deep ploughing 79-82%, after – 70-75%. Decreasing by around 7-9%. However, this pilot addressed only 10% of the originally planned territory (10 ha. not planned 100 ha.) due to the unexpectedly high cost of using the approach – despite this the pilot is considered to have “done its job” as it effectively proved that, though the technique has productivity and carbon loss reduction benefits, it is prohibitively expensive and therefore probably unviable (at least under current conditions).
	Improvement in biodiversity indicator species at pilot sites	See baseline values for pilot sites in table below	Biodiversity inventory at pilot sites (8 territories of over 6,000 ha) was completed before re-wetting. Monitoring works will continue in 2015–2017 after re-wetting.	See target values for pilot sites in table below	Data collected from field surveys	On target to be achieved. The baseline data have been collected and once the re-wetting is complete, the surveys will be repeated. However, see notes in Table 3 (Section 4.1.2) and	Achieved: Rating: S The number of most 'elastic' (adaptable) species reached the target levels in the first year after the flooding. See updated BD species table in text
	Reduction in GHG emissions	See baseline values for	Respective assessments for	See target values for pilot sites in table below	Carbon monitoring		Achieved: Rating S Overall GHG emission reduction from peatlands areas after

Project Strategy	OVI	Baseline	MTR status	EOP target	SV	MTR comment and rating	TE Status, Comment and rating (2017 May)
	and enhanced carbon sequestration at pilot sites	pilot sites in table below	sites (agriculture lands) completed before re--wetting (3455 ha) Total balance GHG emission comprised: 33030 t(CO2--eq.)/year. Respective assessments for other sites (forested peatlands) completed in 2014–2015 before re-wetting for 3384 ha) Total balance GHG emission comprised: 15031 t(CO2--eq.)/year.		reports produced by the project	Recommendations (Section 5.2.3)	implementation of project activities (20 years period CO2 equivalent): Environmental rehabilitation of disturbed agricultural peatlands - 265,868 tonnes; Conversion of arable land to pasture meadows - 55,200 tonnes. Deep layer ploughing – 2,120 tonnes; Rehabilitation of disturbed forested peatlands - 1,341,760 tonnes; Restoration of the hydrological regime of Jelńia Bog - 550,301 tonnes. Planting alder the absorption of CO2 - 4,930 tonnes. Therefore, project activities will result in the reduction of 2,220,179 tonnes of GHG emissions (CO2 equivalent) over the 20 years period.
	Revised GESTs developed covering drained and rewetted bogs for recently rewetted agricultural fens, and for the	Current GESTs apply only to extracted peatland areas	As for 1st PIR	Gaps in GESTs are filled by Year 4 such that agricultural and forestry biotopes are covered	Submission of revised GESTs to scientific journals	On target to be achieved. Progress is being made to calibrate certain vegetation communities and water levels (as per the methodology) to the GHG emissions.	Achieved; Rating HS See PIR 2016 - Gaps in GEST (Greenhouse gas Emission Site Types) methodology were covered by a 2-year field study of GHG emission at agricultural and forested peatlands.

Project Strategy	OVI	Baseline	MTR status	EOP target	SV	MTR comment and rating	TE Status, Comment and rating (2017 May)
	transient stages						

4.3.2 Replication, mainstreaming and catalytic role.

167. The primary outcome of the project is a national policy document and practical peatlands category/use plan that will guide peatlands conservation and wise (sustainable) use until 2030. By bringing all stakeholders together, building on past experiences and demonstrating practical means to implement the strategy the project has been highly successful in mainstreaming peatlands sustainable use into national level development planning until 2030.

168. In doing so the project, and the previous projects, have played a crucial catalytic role – this is little doubt that without this and previous project support - to highlighting and identifying the key issues, identifying practical means to address them, bringing initially antagonistic stakeholder together and showing them the possibilities for win-win solutions, and ensuring that this momentum was converted into a realistic and stakeholder driven policy instrument – the current policy and prospects for peatlands in Belarus would be little different from the past. As numerous stakeholders commented during the TE mission, just having constructive meetings between many of the stakeholders would have been virtually impossible 10 years ago and achieving a genuine agreement and commitment of all key parties to the NPS would have been fantasy. This, and the past GEF financed projects, can be said therefore to have played a very significant and valuable catalytic role in the context of peatlands conservation and sustainable use in Belarus and an example of how important such assistance can be.

169. Due to the very specific nature of the Belarus governmental system the TE Team has a very high confidence that the NPS and the Outline Document on Directions of use (2030) will have political backing for its implementation and will in practice be used as the basis to define practical actions at national, oblast and rayon levels. Though highly centralized planned economic systems have many limitations (and the existing agricultural land use system in Belarus is a classic example still) they do also have the advantage that when central high-level policy is decided it gets followed through. In this case, apart from the high level governmental decision, there is the advantage that almost all stakeholders were consulted, became committed and have their own self-interests to follow through on practical application of the policy and planning.

170. The pilot activities undertaken by this and previous projects can also be rated as important catalytic agents in Belarus – this is, to a large degree, due to the fact that within a GEF funded project it's possible to undertake activities for which there is no or little past experience and a certain risk of failure. In-fact a key reason to do pilots is to know if the “idea” is a practical one and thus failure can be just as valuable as success as it allows an informed decision to be made about using such approaches (or not) in the future and / or what different maybe needed to achieve better results – in essence they are experiments. Within governmental institutions, especially a very centralized command system such as exists in Belarus, doing experiments with state funds is not something any institution can dare to do. Thus, the availability of donor funds for such purposes in Belarus is extremely valuable and can play an important catalytic role in changing practical field activities and even overall policy directions.

171. *Pilot Projects replication:* Most of the pilot / demonstration activities undertaken by the project have a reasonable chance of replication (see section below on sustainability for more details). In the case of the re-wetting pilots, these were in many ways just variations on an existing theme – i.e. they were taking the experience from past projects and events (particularly re-wetting undertaken in the previous GEF MSP project in former peat extraction

areas) and showing they could be applied in other land use areas (agricultural degraded drained peatlands and forestry degraded drained peatlands). In this context, they were fairly risk limited especially as rewetting addresses a key problem that has high profile – i.e. reducing risk of peat fires. Thus, it is considered these pilots are likely to be replicated especially as they are specific measures included into the NPS.

172. Other pilots were dealing with more innovative issues and as such were perhaps more valuable but also more open to risk, and also more in need of dedicated efforts / systematic planning to encourage replication. The Black alder planting on degraded peat lands had a high possibility of replication if results in the field were positive because of the close involvement of the key stakeholder i.e. Ministry of forestry and in the field the Lida Leshoz. This has been borne out by events as there was evidence during the TE evaluation that the Ministry of Forestry is already taking significant steps and making investments itself to replicate the experience. The “deep ploughing” pilot, apart from other issues (see below) was always a more doubtful item in terms of replication because the main stakeholder involved is the least open, least committed and most tightly bound by current centralized command management (i.e. the Ministry of Agriculture). The water purification pilot, though much more positive in terms of results, is also unclear in terms of stakeholder ownership and commitment to wider replication.

173. Results and products of the Revised GESTs activities: These are considered highly likely to be utilized in the future and could play an important catalytic role in furthering the possibilities for Belarus to access and benefit from GHG and carbon trading opportunities in the future – this would greatly strengthen the objectives of the NPS as it would provide additional economic justifications for the approaches and plans it contains.

<i>Catalytic Role</i>		
Production of Public Good	HS	The project has effectively implemented pilots that introduced new techniques, technologies and approaches.
Demonstration	S	Effective steps have been taken to disseminate the results and encourage replication -however, the project contained no dedicated output/s for this and possibly was impacted by centralization of PR Specialist to UNDP CO – thus S rating
Replication	S	Most of the techniques / approaches piloted have are being replicated or have high likelihood of replication.
Scaling Up	HS	The approval of the NPS will result in the national level application and scaling up of most of the techniques or approaches piloted

4.3.2 Prospects of sustainability

174. The Terminal Evaluation assessed the sustainability of the activities and results of the project, considering the different facets of sustainability.

Institutional Sustainability:

175. All institutions involved in the project (or almost all)– notably the MNREP, MF and ME – are stable, sustainable institutions. Unlike in other countries, reshuffling government

176. departments is not an issue with the GOB. Therefore, at the republican level, at least, institutional sustainability is assured. The only exception might be the Ministry of Agriculture as clearly this is essentially dysfunctional at the present time and there has to be a small risk at least that it will be subject to major reform in the near / mid future. Certainly, this is required but perhaps realistically is not likely to happen unless major economic pressures precipitate significant reforms.

177. Similarly, the regional and district level executive committees are robust and sustainable institutions and their sustainability is considered high.

178. One area of potential concern is perhaps the continuity of the continued involvement of the scientific institutions that have been involved in the project. Their role in the process of monitoring, design works assessment / EIA is a less clear one and apparently subject to change as they are not officially mandated to fulfil these roles (they have to tender for such activities and may or may not always be involved).

179. The MTE also raised the point that *de facto* only a limited number of key people are involved during a project time frame (i.e. members of the PB, WG, consultants, etc) and these individuals can be subject to reassignment or removal from positions and in this way capacity is lost and sustainability / continuity is impacted. There is some grounds for such concerns given that the Deputy Minister who was National Project Director and chair of the PB, was removed during the TE mission and no meeting with him was possible. This definitely puts the potential future role of the WG into question and may have some initial impact on the commitment / will to implement the NPS, at least from the MNREP side. On the other hand, this level of change is relatively limited in Belarus (especially compared to some other countries in the region) and the fairly high number of people with a direct involvement and role in the project from the key institutions, makes this risk relatively small. For example, it was clear during the TE Mission that numerous high-level individuals from MNREP were highly supportive of the project and its results and viewed them as their own.

180. In terms of the pilots the institutional ownership and sustainability was more open to question. In regard to re-wetting (in agricultural or forestry drained peatlands considered not economically productive) there appears to be no reason against and a number of reasons for the institutions involve supporting re-wetting. Regarding the Black Alder planting it is clear there is already strong institutional commitment and clear economic benefits and thus sustainability. It was unclear to the TE team who institutionally would have ownership / vested interest in replicating the water purification pilot. Sustainability in this case is unclear. In the case of the “deep plough” pilot the sustainability is considered very minimal.

181. In summary, the though there are some doubts and limitations in the context of the pilot activities, the overall project results institutional sustainability is considered *moderately likely*.

Financial Sustainability:

182. The fundamental question for the financial sustainability of this project is whether the primary product i.e. the NPS and Outline on Use 2030 is going to be adequately financed by state institutions and generate sufficient economic benefits to ensure the main stakeholders

remain committed and supported of approaches and actions it contains (at national, oblast, rayon, agricultural enterprise/leshoz and local community levels). In terms of the first part of this question (state financial support) it is considered highly likely that the state, having reached a decision at the Cabinet of Ministers level, will meet the various costs involved. The main risk in this context is the ongoing economic status of the country and therefore the availability of funds in state budget. Though the Belarus economy may certainly be facing significant challenges it seems safe to assume based on the past 20 years that it will not collapse any time soon to the extent that major shortages of funding for implementing the NPS would occur. Furthermore, many of the NPS contents are related to either limiting real costs that exist today (i.e. fire prevention and control of drained peatlands) or improving productivity of degraded drained peatlands either by re-wetting it and utilizing for cranberries, tourism or hunting, or increasing effectiveness of its conservation and use (perennial grasslands, etc). Thus, even with if there were to be challenges at a national economic level there would still remain economic incentives for the NPS implementation.

183. At Oblast and rayon level similar factors suggest there will be adequate financial inputs to ensure the bulk of NPS is implemented. At local community level the economic assessment work done by the project suggests that there are sufficient economic incentives for local communities to support the rehabilitation of peatlands and to participate in joint management of protected areas.

184. In terms of the pilots specifically the picture is less clear – as mentioned above re-wetting bring numerous cost avoidance benefits and new income generating opportunities and thus is likely to be financially sustainable. The Black Alder pilot also is a case of converting unproductive land into land producing a wood crop and already has the full commitment of the Ministry of Forestry. The water purification pilot would seem on face value to be a cost-effective approach to addressing a problem but without a better understanding of institutional responsibilities and who pays the costs for failure to treat water effectively it is difficult to assess its financial sustainability. The “deep ploughing” pilot clearly not financially sustainable (but this can be seen as a positive lesson learned by the project which allows sensible real data decisions on it in the future)

185. In summary, as there are some doubts with some of the pilots, the overall financial sustainability of the project Outcomes is considered *moderately likely*.

Social Sustainability:

186. In the context of Belarus, the project has included a significant amount of focus on building local community involvement and social sustainability ranging from establishment of protected area boards that include local representation, the establishment of warden / caretaker system with locally interested people, the support to cranberry collection, etc. The project general has looked to balance improved protection of peatland ecosystems and high value species with maintaining or improving economic productivity, including those to local communities. This includes impacts of benefits to women in the relevant local communities in terms of improvements in income generation options and decision-making roles in bodies related to peatlands use and conservation. There are however still many unknowns in terms of how in practice the wide scale application of measures envisaged in the NPS will impact local communities and particularly the main rural economic activity – agriculture. With the agricultural sector

remaining essentially un-reformed at present there are risks that increasingly dysfunctional agricultural enterprises will impact social sustainability generally in rural areas including peatlands. In this context, the social sustainability is considered at *Moderately Likely*.

Environmental sustainability:

187. None of the approaches piloted by the project appear to entail risks in terms of negative environmental impact, and, on the contrary have significant environmental benefits. If the NSP and Outline for Directions on Use 2030 is implemented and these practices become widespread the ongoing environmental sustainability of the project results will be high. There is the slight risk that changing the hydrology of one area (re-wetting) may have unexpected negative impacts for the hydrology of adjacent areas (drained peatlands used for agriculture for example) – however, the experience of this project (and past projects) has shown such unexpected impacts can be mitigated by a gradualist approach and have not in practice been a major issue. The only caveat in this scenario is the impact of climate change which may alter water availability (rainfall) and evapotranspiration rates and shift ecological ranges of species and habitats northwards. As peatlands are highly sensitive to water balances the impact of even minor climate shifts could be severe and the resulting impact on carbon emissions very negative as they dry out. Equally shifts north in species ranges could result in PAs no longer covering the ranges of habitats and species they were intended to conserve.

188. On balance, it is assumed that though foreseen climate change (1.5 to 2 degrees rises in next 40-50 years) will very likely occur, these will not sufficiently impact water balance or species ranges to the extent that existing peatlands are heavily affected or PAs cease to provide effective coverage. In conclusion, the environmental sustainability is considered *Moderately likely*.

Conclusions on Sustainability:

189. In conclusion, it seems probable that the outcomes of the project will be **Moderately likely** to be sustainable, assuming limited climate change impacts and no severe economic or political crisis that impact land use, rural social stability, and implementation of policy.

Sustainability	Rating *	Comment
Overall likelihood of sustainability	Moderately likely	Overall sustainability is considered likely but with some risks and unknowns- thus an overall rating of Moderately likely
Institutional	Moderately Likely	Assuming continued economic and political stability
Financial	Moderately Likely	Ditto
Social	Moderately likely	Ditto
Environmental	Moderately likely	CC impacts bring risks

*As per *Guidelines for GEF Agencies in Conducting Terminal Evaluations* and *UNDP Evaluation Guidelines for GEF-Financed Projects*, sustainability is rated as: Likely (L), Moderately Likely (ML), Moderately Unlikely (MU), Unlikely (U), Highly Unlikely (HU).

4.4.4 Project Impact

190. The project impact can be assessed based on whether it reached its outcomes and thereby the overall project objective, and if it has achieved the global environmental benefits described in the project document.

191. This was a very ambitious project and its outcomes and overall objective were challenging. However, it has been extremely successful in, not just carrying out effectively the outputs, but in ensuring those outputs culminated in long term outcomes that have changed the development trajectory of Belarus in terms of peatlands sustainable use and conservation.

192. Most significant in this context is of course the NPS and the Outline for Directions on Use to 2030 – as described in previous sections this was developed in a way that was intelligent and carefully crafted to the specific reality and mindset of the Belarus conditions and with the meaningful involvement and commitment of all key stakeholders (with perhaps the exception of the Ministry of Agriculture). As a result, the NSP and Outline were not just approved by government but is already deeply embedded in the plans and approaches of most of the key stakeholders. It rests largely on win-win approaches and sound economic justifications. As a result, it is one of the best examples the TE Team have seen of a policy document developed with the support of GEF funds and has a high probability of achieving real impact at a national and landscape scale on peatlands in Belarus.

193. In terms of the field activities related to demonstrating and directly impacting peatlands management in practice the project has in terms of area exceeded its impact significantly (see Summary of results table). In particular, impact to the protection of conservation high value peatlands through establishment and strengthening on a sustainable basis PAs, plus the re-wetting and alternative sustainable land use of degraded agricultural and forest peatlands.

194. Many of these pilots are clearly now part of land use institutions, oblast and rayon governments and PA managers accepted thinking and approaches and this is a very significant change and measure of impact that this (and previous projects) have had. Indeed, probably the greatest impact this and previous GEF MSP project had on peatlands management in Belarus is the impact on understanding, awareness and readiness of stakeholders to work together towards solutions rather than unproductive inter-institutional conflicts over territory and resources. Unfortunately, (as discussed elsewhere) this aspect has not been effectively monitored or measured and so placing any quantifiable measure on impact in this context is difficult. In summary, in terms of the projects impact in achieving its objective it is clear it has been highly successful in “promoting a landscape approach to management of peatlands that conserves biodiversity, enhances carbon stocks, ensures sustainable land management, and sustainable forest management, with demonstrations in a number of pilot sites (peatland PAs, agricultural peatlands, and forested peatlands)”.

195. In terms of meeting the global environmental benefits detailed in the project document the table below summaries impacts.

Table 14: Biodiversity focal area benefits

<i>Benefit sort</i>	<i>Assessment of impact</i>
Management effectiveness of two existing protected areas (Morochno and Yelnya) is strengthened with scores for each improving over the baseline as follows: Yelnya (Baseline 48% → Target 60%); Morochno (Baseline 20% → Target 45%)	This impact was achieved

New protected areas (Local Zakazniks) created covering 25,036 hectares of underrepresented bogs and mesotrophic mires	This impact was exceeded
Network of environmental corridors in the Vitebsk oblast established over 45,000 ha, wherein land use is managed to minimize adverse effects on core conservation areas with proposals to include the corridors into the national environmental network.	This impact was achieved.
Water contamination from drainage facilities in agricultural peatlands (15,000 ha) minimized through construction of sedimentation ponds at the exit canals resulting in reduced water pollution, retention of organic content in soil and minimization of eutrophication impact on riverine and wetland species	This approach was successfully demonstrated – the only caveat to its long term impact would be questions regarding its replication on a scale that has landscape relevance.
Restored hydrology and improved habitat for threatened species has a positive impact on populations of several IUCN Red List species	This impact was exceeded in terms of area re-wetted and largely achieved in terms of changes in Red list species (remarkable given the short period between habitat improvement and species return/increase)

Climate Change focal area benefits:

<i>Benefit sort (impact expected)</i>	<i>Assessment of impact *</i>
Carbon monitoring, reporting and verification system for agricultural and forest peatland biotopes	Achieved
Total lifetime direct GHG emissions avoided in tonnes of CO ₂ eq over 20 years are 1,851,779.8	Achieved (exceeded)
Total lifetime direct carbon sequestration benefits in tonnes of CO ₂ eq over 20 years are 7,290	Achieved (exceeded)
Total lifetime indirect GHG emissions avoided in tonnes of CO ₂ eq over 20 years are 14,534,614.10	Achieved (exceeded)
Improved management effectiveness at Yelnya and Morochno will also result in carbon benefits by securing the current amount of carbon contained within these protected areas in their peat soils. Estimates are as follows: Morochno 7,325 tCO ₂ equivalent/ha, and Yelnya 9,176 tCO ₂ equivalent/ha	Achieved
Designation of new local zakazniks will also lead to potential carbon benefits in terms of enhancement of carbon stocks. Estimates of carbon stock in these local zakazniks taken together is approximately 99,341 tons of CO ₂ equivalent per hectare	Achieved

*Based on estimates using standard approaches

Land Degradation focal area benefits:

<i>Benefit sort (impact expected)</i>	<i>Assessment of impact *</i>
Enhanced cross-sector enabling environment for integrated landscape management as manifested in (1) a National Strategy on Peatlands that provides a national framework strengthening INRM on peatlands; and (2) 12 integrated land management plans under implementation at the pilot sites of the project	This impact was achieved as evidenced by the NSP and the land use plans.
Improved agriculture management over 595 hectares (F2 and F4 pilot sites), improved forest management/ restoration of forested peatlands over 2,027 hectares (F3 sites), and restoration of degraded agricultural lands covering 4,311 hectares (F1 sites) to reverse land degradation trends in these areas	This impact overall exceeded
The nature of land degradation to be addressed over the above target area is the loss of soil carbon. This is estimated at 13.21	This impact is estimated to have been exceeded

tons/ hectare/ year in the baseline. The target for re-wetted pilot sites is to reduce loss of soil carbon to 0 tonnes per hectare per year and to 2-4 t for agriculture areas.	
Restored ground-water table over 6,933 ha	Impact achieved
The techniques applied at F1, F2, F3 and F4 pilot sites can be replicated to an additional 77,000 hectares to generate similar benefits in terms of reduced land degradation	This impact is not so clearly possible to define as present or not. Techniques were applied and some are replicated, others have possibility to be replicated and one at least has very little possibility to be replicated. Whether 77,000 ha. additional is likely to be impacted is beyond the TE teams ability to access.

Based on estimates using standard approaches

Sustainable Forest Management benefits:

<i>Benefit sort (impact expected)</i>	<i>Assessment of impact *</i>
Carbon stored in forest ecosystems and emissions avoided from deforestation and forest degradation from this project (Direct lifetime) are estimated at 942,944 tonnes of CO ₂ eq over 20 years and generated from 4,593 hectares	Impact estimated to have been achieved (possibly exceeded)
Carbon stored in forest ecosystems and emissions avoided from deforestation and forest degradation from this project (Indirect lifetime) are estimated at 8,152,701.2 tonnes of CO ₂ eq over 20 years and generated from 20,000 hectares	Impact estimated to have been achieved
Enhanced enabling environment for conservation of forested peatlands through approval and implementation of a National Strategy for Peatlands that explicitly covers forested peatlands	Impact achieved through the approval of NPS
Ability to generate payments for ecosystem services (carbon sequestration) enhanced with a potential financial volume of USD 4,132,645 (this is the expected tCO ₂ eq emissions reductions at the F3 pilot sites multiplied by the lowest price of a carbon credit which is USD 5)	This impact achieved through development of basis to accurately estimate carbon balance in forest peatlands
Enhanced institutional capacity to account for GHG emission reduction and increase in carbon stocks (at present such a system is in the design phase but by project-end, Belarus will be able to implement a science-based inventory/ monitoring system)	Ditto
Diversified revenue of local communities from alternative forest peatland use (cranberry collection, sustainable hunting, wildlife viewing).	Impact achieved (and basis for enhancing of such revenues in future established).

196. In conclusion, the project actual impacts can be considered to have been achieved and in many instances exceeded. Most importantly through the NPS the basis of a landscape approach to the sustainable use and conservation of peatlands in Belarus is now in place and has a reasonable likelihood of being implemented over up to 2030.

4.4.5: Rating of level of achievement of project outcomes and objective

197. Based on the above review of the projects attainment of its outputs, outcomes and overall objective, the following rating is allocated (see table below) and an explanation for each rating provided.

<i>Outcome</i>	<i>Relevance</i>	<i>Effectiveness</i>	<i>Efficiency</i>
<i>Outcome 1.1:</i> Policy framework and institutional capacities for a landscape approach to peatlands management are in place.	HS	HS	HS
<i>Outcome 1.2:</i> Landscape approach to conservation of peatlands piloted through a network of wetland PAs, buffer zones and corridors in the Poozerie landscape	HS	HS	HS
<i>Outcome 2.1:</i> Sustainable use of peatlands in agriculture	HS	S	S
<i>Outcome 2.2:</i> Restoration of approximately 2,027 ha of forest peatlands in the Poozerie landscape.	HS	HS	HS
<i>Outcome 2.3:</i> Readiness of government for implementation of carbon projects in agricultural and forest peatlands enhanced	HS	HS	S
<i>Overall rating for achievement of project outcomes and objective</i>	S		

198. All Outcomes were considered Highly Satisfactory in terms of relevance based on the project analysis, interviews in Balarus, background documents, and findings in the field.

199. The Highly Satisfactory rating for effectiveness and efficiency of Outcome 1.1. is based on the result i.e. the successful development and approval of the NPS and Outline for Direction of Use 2030 Outcome, and the careful and intelligent approach used to develop it.

200. The Highly Satisfactory rating for effectiveness and efficiency of the results achieved under Outcome 1.2 is a reflection of- a). the fact that the area on which protection status of some kind exceeded the original target and, b). the effectiveness of management at both existing and new sites was strengthened either through substantial infrastructural developments, development of capacity or introduction of more participatory and inclusive management approaches. Efficiency is likewise considered HS as it displayed numerous examples of adaptive management, pro-active fund raising, and an end result that exceeded expectations.

201. The rating of S for effectiveness of Outcome 2.1: The perennial meadows pilot was efficiently implemented and was effective in demonstrating the benefits (environmental and economic) of the approach – but based on a review of the situation in the field and in an interview with the Ministry of Agriculture, its real practical replication and proper upscaling seems in serious doubt. Efficiency is nonetheless considered Satisfactory because the pilots (conversion of dried peatlands and deep plough technique) were implemented effectively.

202. Outcome 2.2 is rated HS for effectiveness, since the area impacted by the project activities exceeded expectations, the targets aimed for (in terms of water tables, alder growth, replication potential, GHG sequestration, etc.) were met or exceeded. The S rating for efficiency is a reflection of the well-executed activities to achieve these results.

203. The HS rating for the effectiveness of Outcome 2.3 is based on the results, in particular the improvement in the readiness of government for implementation of carbon projects in agricultural and forest peatlands as a result of the work to adjust and operationalize MRV methods for previously unaccounted biotopes at open agricultural peatlands and forests. Efficiency is rated as Satisfactory based on the efficient execution of the activities leading to these results.

204. The overall Satisfactory (S) rating is in recognition that the project met or exceeded expectations in almost all areas.

5. Conclusions and recommendations

5.1 Findings

205. The overall conclusion of the Terminal Evaluation is that it was a reasonably designed project, of very high relevance to Belarus, and that it was implemented extremely efficiently by UNDP (and in particular the project PIU they employed). The effectiveness was therefore, despite some weakness in the original project document, very good and in most cases exceeded targets and expectation.

206. The project is considered to have achieved almost all its outcomes fully (the exception being Outcome 2.1) and that the outcomes will genuinely (and already do to an extent) meet the objective of creating “a landscape approach to management of peatlands that conserves biodiversity, enhances carbon stocks, ensures sustainable land management, and sustainable forest management”.

207. In terms of meeting the expected Global Benefits (that justify GEF incremental support) the conclusion reached (section 4) was that it meets fully or exceeds almost all of them all.

208. This very positive outcome can be traced to many factors but the key ones can be summarized as:

- The project design built on the experience, relationships and awareness created in previous UNDP / GEF initiatives and maintained a momentum for change that these provided
- The project PIU and UNDP E&E unit “translated” the project document into practice very effectively – a project document, however good, is just a framework for action and it is the intelligent and adaptive implementation that makes the difference between a project that succeeds or fails. In this case full credit should be given to the PIU particularly but also the UNDP E&E unit for the highly successful outcomes of this context and the contribution this has made to peatlands sustainable use and conservation up to 2030 and beyond.

209. However, despite the above there were a limited number of aspects of the project that were not so positive. In the context of attained results Output 2.1.1 (the perennial grass meadows), though successful technically, is open to serious doubts in terms of likelihood of accurate replication (replication that follows the full agro-technical procedures as demonstrated by the project rather than a “light” version normally practiced). The project PIU cannot be held to account for this as the root of the problem lies in the dysfunctional current agricultural planning/management. In the case of the “deep plough” pilot it could be argued that once the real costs involved were known it had achieved its purpose (i.e. it proved it was not cost effective / economically viable) and so could have been terminated and funds used elsewhere. However, its implementation did still prove the technical effectiveness of the approach (in terms of productivity, soil maintenance, and reduced carbon loss) and thus its continuation can be justified.

210. In the context of management, though overall exemplary, the episode related to the marred introduction by UNDP CO of a centralized PR/Communications Unit cannot be overlooked. From the feedback received during the TE in country mission this clearly had some level of negative impact, not just on the capacity of this project to develop and implement high quality PR and communications, but a number of other projects also. It has also, it would seem, potentially had impacts in terms of the reputation of UNDP with partners (donors and beneficiaries). It is commendable that UNDP has clearly recognized that the policy was flawed in , and is now seeking to reform and change the way the Unit is managed.

Recommendations and Lessons Learned

5.2 Corrective actions for the design, duration, implementation, monitoring and evaluation of the project which may be for similar project in the future

211. As highlighted in both the MTE and this report, the project indicators were not in all cases “fit for purposes” and were either somewhat meaningless or failed to capture progress towards impact (rather than just progress with process). Greater attention in future project documents on the inclusion of indicators that can best measure in a meaningful way both process and impact is essential.

212. Additionally, though it may seem a minor point, the project title should always be as concise as possible. The more verbal the project title the less clear the real overall development intent and purpose of the project.

213. One issue in terms of actual project strategy relates to the need in any project with a substantial “piloting” or “demonstration” content to ensure sufficient systematic effort is focused not only on successfully implanting and monitoring such pilots or demonstrations, but also on documenting the results, effectively communicating them to those who can benefit (dissemination) and facilitation / addressing barriers to their replication and scale up. In other words, pilots or demonstrations have two basic phases- the implementation 1st phase, and documentation/dissemination/replication 2nd phase. Frequently projects are effective with the 1st phase but weak in the 2nd phase. In this context, the TE TEAM suggest that any project with substantive pilot or demonstration components needs specific dedicated activities / outputs that address the 2nd phase aspects (dissemination, support to upscaling). The lack of any such clear-cut output/s or activities in the project document, though it may not have impacted negatively those pilots with the best environment and conditions for uptake, maybe on the other hand have increased the uptake of others that are not so clearly supported (the pilot water purification pilot and the perennial grass conversion pilot are two possible examples in this context). It would be the TE Team recommendation therefore that any future projects with significant pilot/demonstration components to include more specific systematic 2nd phase replication/uptake aspects and preferably specific outputs devoted to this.

214. *The need to try and better measure and identify key factors that bring changes in awareness, understanding and changing mindsets:* One of the obvious and greatest achievements of the project (and the previous Peatlands MSP and PA projects) is the very significant changes they have managed to achieve in the attitude and constructive involvement of various stakeholders from both the environmental sectors and economic sectors. Without this the final agreed NPS and Outline for Directions of Use 2030 document could not have been produced.

As highlighted numerous times the TE Team were told that the constructive meeting of some of these stake holders even 10 years previously would have been “unthinkable” or “impossible”. Additionally, it would appear that the public perception and valuation of natural peatlands has changed considerably over the last decades, the most obvious example of this being the publicity and public support that resulted when Yelnia zakaznik was threatened by economic developments. However, neither this project, or (as far as identified) the previous Peatlands MSP attempted to specifically measure what actions or factors were key in bringing about these major awareness, understanding and changing mindsets. On the one-hand it is understandable that this is the case as such things are very difficult to meaningfully measure and are often not perceived in countries with histories such as Belarus as significant or tangible – the preference is for measuring very “concrete” things not “attitudes” or “motivations”, etc. However, on the other hand these changes are the fundamental reason why this project has been so successful. Without them there would be no NPS, various stakeholders would not be open to changes in land use such as re-wetting, etc. Therefore, it is strongly suggested that future projects place increased emphasis on ensuring mechanisms are in place for better monitoring of changes in awareness, understanding, attitudes and perceptions of key issues.

215. In fact, given that there has been only limited efforts to do this up to now, there would be potential value in undertaking an assessment of the changes in awareness and attitudes on key issues related to peatlands use and conservation that have occurred in Belarus over the past 10 or 15 years in order to try and understand what the key factors were for bringing about those changes – what role (if any) did projects play in practice, what were the mechanisms that prove critical in achieving those changes, etc.

5.3 Actions to strengthen or reinforce benefits from the project

216. Following up from the point made in the previous section regarding replication and support / facilitation to uptake of results of pilots, probably the most significant and required actions to strengthen or reinforce the benefits of the project would focus on promoting the results of those pilots where uptake is currently still an open question i.e. perennial grass conversion of degraded agricultural peatlands, and the technique/approach demonstrated for purification of polluted run off from agricultural land use areas.

217. The project could also see to identify ways in which the replication of other pilots could be maximized – for example, support to the preparation of technical manuals for the replication of the black alder planting pilot could be considered (a suggestion raised in the Ministry of Forestry during the TE Mission).

218. Generally, the project needs in its final months to focus on ensuring the best possible communication of its results to all relevant stakeholders. This is particularly important as: a) the project contains no systematic communications or replication outputs and this aspect is therefore not so clearly given the financial and managerial emphasis it deserves, b). communications capacity of the project was constrained since late 2015 following the centralization of the PR/communications system in UNDP CO.

219. Whatever the current level of reform / changes to that system, UNDP CO must ensure the project has the fullest possible support in its terminal months in terms of PR and communications in order to ensure the key messages of its achievements and their implications are effectively disseminated.

220. The final issue that should be mentioned in this context is ensuring that the best possible probability that important monitoring mechanisms established during the project have the financial and institutional support needed to continue effectively post project.

5.4 Proposals for future directions underlining main objectives

221. *Support to implementation of the National Peatlands Strategy and Outline for Directions of Use 2030:* The obvious area of opportunity to follow up on this project is moving from policy development to policy implementation. In many ways, this and past biodiversity and multi-focal projects (for example Peatlands 1) have already piloted means and approaches by which to implement aspects of the strategy, but there will be significant opportunities to go beyond this either in terms of more pilots or support to up-scaling of such pilots that proved of value.

222. Given the still highly centralized and command economy nature of the agricultural sector this is probably the least feasible to address at the current time (unless the GOB decides soon to initiate major reforms). Thus, the most viable sector to pursue further directions would probably be the forestry sector. In-fact, this is already the case as the GOB with UNDP support has developed and received approval from GEF for a new project entitled “Conservation-oriented management of forests and wetlands to achieve multiple benefits” (the short concise title is positively noted). This project aims to bring changes to management of forests and wetlands in and outside of key biodiversity areas with the objective of making it financially more sustainable and more efficient with respect to the conservation effect. The focus on both Key Biodiversity Areas (KBAs) and surrounding landscape is justified from the Aichi Target and ecosystem approach perspectives, recognizing that protection of natural capital only within PAs is not going to improve its status. Though this project has mainly a biodiversity and forest focus it is largely involved in carrying out these activities in the context of peatlands of some category or other and thus in furthering the now existing policy defined in the NPS.

223. One direction that the project has initiated is the “*ecosystems service valuation*” methodology which appears to be a very new approach in Belarus at this time. Though the study of Yelnia focused mainly on the regulating services (such as water purification and carbon sequestration, etc.) other work by the project also attempted to estimate increases (and thereby values) of tourism and hunting provisioning services at some sites. This is an area of work that could be greatly extended and mainstreamed in order to gain much greater understanding of the economic values of peatlands under different land uses which would then provide better justifications and rationales for implementing the NSP. Additionally, it could open the door to the application of various instruments and approaches practiced internationally such as “payment for ecosystem services (PES) and “set-aside”. It is suggested that UNDP could seek to develop either dedicated projects in this direction or to consider outputs and outcomes in new projects related to natural resources use and conservation related to improving the capacity to undertake such valuations and their credibility with national institutions and private sector.

224. Finally, the projects work has contributed significantly to laying the basis in the future for peatlands orientated carbon mitigation and trading opportunities. This is not an area that the TE Team have expertise so more detail suggestion is not considered useful but undoubtable very significant potential exists and this could impact the economic value of maintaining and rehabilitating peatlands so significantly that it must be a direction worth investigated more fully.

5.5 Suggestions for strengthening ownership, management of potential risks

225. The project had a very high level of ownership and a very impressive level of involvement and commitment of almost all stakeholders. Thus, in this context the TE Team has little to add. The only major exception would have to be identified as the Ministry of Agriculture. This is a very significant player in terms of land use generally in Belarus and in the case of “managing” the inheritance of misconceived past drainage activities. The agricultural sector clearly should play a major role in reversing peatlands degradation but is inevitably going to have to overcome institutional barriers as probably the major impact is going to be either the complete transfer of land that is now entirely unfeasible for agricultural use or its conversion to grasslands (and thus loss to annual cash crops). The fact that it remains the most centralized and unchanged sector of government also makes the situation very complicated. Nonetheless, in the mid-term the Ministry of Agriculture, and the rural enterprises that actually practice land use, will have to be more involved and finding the positive opportunities and options for achieving that will be key. Above all a major change in mind set is probably required- though that may appear now a very big challenge the example of the Ministry of Energy and the related peat extraction agencies could be put forward as examples of how attitudes can be changed.

226. Generally, the project showed a very effective capacity to manage emerging changes in circumstances and risks during implementation. The one area that was perhaps weakest was when faced by the reality of the cost of the deep ploughing pilot which should have prompted a consideration as to its continued implementation (as its replication was already proved unlikely due to high cost).

227. The one rather unexpected management challenge that emerged during the project was the decision by UNDP to implement its centralization of the PR/communications specialists under a CO based unit. It is without question that the full impacts and ramifications of the approach used to do this were probably not thought through sufficiently. This is an experience the UNDP CO can perhaps learn from and avoid in the future.

6. Lessons learned

228. *Building on past experience and ensuring continuity of direction / institutions i.e. maintain momentum:* The greatest asset this project had was that it built directly on the experience of the designers and participants of the previous Peatlands MSP project and maintained the momentum established by that project to push forward the key issues, concerns and interests that emerged from that project. The continuity of stakeholder involvement and the involvement of key scientific institutions and individuals, as well as key stakeholders, played a critical role in the project success. UNDP and the executing agency are to be commended for their proactive commitment to developing this project in such a timely manner and effectively building on the previous projects results. The value added of doing so cannot be under estimated and in this respect the project can be said to be highly cost effective as a result.

229. *The Peatlands Inventory Website:* The online publishing of the full inventory data for the peatlands inventory is an extremely valuable resource and tool for all institutions, both state and private sector (as well as the public in general). As stated on the opening page “the database will facilitate the organization of the sustainable use of peatlands in the development of land

use plans, development of network of protected areas, action plans, rare species”. The open access to this data is a good example of how to maximize the benefits of such data and ensure its full application. As such it is a positive lesson learned and the approach needs to be built on in future similar initiatives.

230. *The caretakers (warden) system approach to public / Protected area cooperation and collaboration:* Based on the evidence gleaned from the TE mission the PA caretaker/warden concept piloted by Birdlife Belarus and further supported by the project is effective and has a reasonable chance of being sustainable. This is therefore a good example of such public / state cooperation and has the potential for both replication to other PAs but also application to other aspects of environmental management and monitoring.

231. *Ecosystem service evaluation:* As discuss in previous section the use of the Ecosystem service approach to try and place economic values on such services was a valuable new approach tested by the project – this has proved that if applied in the right way it can provide data of potentially great benefit for sound decision making by all sectors. This experience and the lessons learned from its initial application need to be noted when further developing such approaches and seeking to mainstream into wider economic planning.

232. *Private sector co-financing:* Another innovative achievement that should be learned from and pursued further in the future is the project’s success in identifying and accessing considerable private sector co-financing for a specific project site and for building an effective cooperative relationship with the donor during implementation of activities funded. The lessons from this should be applied when seeking such co-financing in the future.

233. *Use of international consultant with both the linguistic capacity and deep experience of the mindset and operation/approaches of post-soviet centralized government systems such as still exist in Belarus:* This is an important lesson in the appropriate application of technical assistance – i.e. technical assistance that brings something new but tailors it in a way that best meets the specific conditions and circumstances of the country. The NPS is a good example of this and a good lesson for future such policy level technical assistance provided by UNDP projects.

Landscape approach to management of peatlands aiming at multiple ecological benefits

PIMS4419, Atlas Award 00066861, Atlas Project No: 00082884

Terminal Evaluation

June 2017

ANNEXES

Annex 1: Terminal Evaluation TOR

INTRODUCTION

In line with UNDP/GEF Monitoring and Evaluation (M&E) policies and procedures, all full-sized and medium-sized projects supported by the GEF should undergo a terminal evaluation upon completion of implementation.

The terminal evaluation must provide a comprehensive and systematic account of the performance of a completed project by assessing its project design, process of implementation, achievements vis-à-vis project objectives endorsed by the GEF including any agreed changes in the objectives during project implementation and any other results.

Terminal evaluations have four complementary purposes:

- To promote accountability and transparency, and to assess and disclose levels of project accomplishments;
- To synthesize lessons that may help improve the selection, design and implementation of future GEF activities;
- To provide feedback on issues that are recurrent across the portfolio and need attention, and on improvements regarding previously identified issues; and,
- To contribute to the GEF Evaluation Office databases for aggregation, analysis and reporting on effectiveness of GEF operations in achieving global environmental benefits and on the quality of monitoring and evaluation across the GEF system.

Project overview

The project has been implemented since March 2013 and is expected to be completed in September 2017. The project is nationally executed by the Ministry of Natural Resources and Environmental Protection of the Republic of Belarus. The total GEF contribution amounts to \$ 2,700,900, matched by \$ 390,000 from UNDP and by \$ 235 000 from Coca-Cola foundation (international project partner), and \$8,988,250 from local project partners.

This project aims to promote a landscape approach to management of peatlands so as to conserve biodiversity, enhance carbon stocks, and secure multiple ecosystem services with demonstration in the Poozerie landscape. The project is going to work out an integrated approach to decision-making on peatland use that takes into account ecological as well as economic criteria, and considers carbon benefits that may be derived from participation in the voluntary and compliance markets, in addition to biodiversity, land degradation and SFM benefits. A National Strategy for Wetlands Management including a scheme for peatlands management must be developed as a consensus policy document and demonstrations of the restoration and sustainable use of peatlands will take place in a number of sites ranging from protected areas, to agricultural and forested peatlands. The existing MRV protocol for emission reductions from peatlands shall be extended to agriculture and forestry biotopes.

The project's prime objective is going to be realized through the following key outcomes:

- Outcome 1.1: Policy framework and institutional capacities for a landscape approach to peatlands management are in place.
- Outcome 1.2: Landscape approach to conservation of peatlands piloted through a network of PAs, buffer zones and corridors in the Poozerie landscape.
- Outcome 2.1: Sustainable use of peatlands in agriculture
- Outcome 2.2: Restoration of approximately 2,027 ha of forest peatlands in the Poozerie landscape

- Outcome 2.3: Readiness of government for implementation of carbon projects in agricultural and forest peatlands enhanced

II EVALUATION OBJECTIVES

The TE has been initiated by UNDP Country Office in Belarus in line with the UNDP/GEF M&E guidelines in order to provide a comprehensive and systematic account of the performance of a completed project by assessing its project design, process of implementation, achievements vis-à-vis project objectives endorsed by the GEF including any agreed changes in the objectives during project implementation and any other results.

The evaluation attempts to determine, as systematically and objectively as possible, the relevance, efficiency, effectiveness, impact and sustainability of the project. The evaluation will assess the achievements of the project against its objectives, including examination of the relevance of the objectives and of the project design. It will also identify factors that have facilitated or impeded the achievement of the objectives. While a thorough review of the past is in itself very important, the in-depth evaluation is expected to lead to detailed recommendations and lessons learned for the future.

The evaluation is expected to work with key project stakeholders, including UNDP Country Office in Belarus, Ministry of Natural Resources and Environmental Protection of the Republic of Belarus, Ministry of Forestry of the Republic of Belarus, National Academy of Sciences of Belarus, APB Belarus, members of the Project Steering Committee.

SCOPE OF THE EVALUATION

The evaluation will focus on the range of aspects described below. In addition to a descriptive assessment, all criteria marked with (R) should be rated using the following divisions: *Highly Satisfactory*, *Satisfactory*, *Marginally Satisfactory*, *Unsatisfactory*. All ratings given should be properly substantiated:

1. Project concept/design, relevance and strategy

1.1 Project relevance, country ownership/drivenness (R): the extent to which the project is suited to local and national development priorities and organizational policies, including changes over time as well as the extent the activities contribute towards attainment of global environmental benefits:

- a. Is the project concept in line with the sectoral and development priorities and plans of the country?
- b. Are project outcomes contributing to national development priorities and plans?
- c. How and why project outcomes and strategies contribute to the achievement of the expected results.
- d. Examine their relevance and whether they provide the most effective way towards results.
- e. Do the outcomes developed during the inception phase still represent the best project strategy for achieving the project objectives (in light of updated underlying factors)? *Consider alternatives.*
- f. Were the relevant country representatives, from government and civil society, involved in the project preparation?
- g. Does the recipient government maintain its financial commitment to the project? Has the government – or governments in the case of multicountry projects – approved policies or regulatory frameworks been in line with the project's objectives?

1.2 Preparation and readiness:

- a. Are the project's objectives and components clear, practicable and feasible within its timeframe?

- b. Were the capacities of executing institution and counterparts properly considered when the project was designed?
- c. Were lessons from other relevant projects properly incorporated in the project design?
- d. Were the partnership arrangements properly identified and the roles and responsibilities negotiated prior to project approval?
- e. Were counterpart resources (funding, staff, and facilities), enabling legislation, and adequate project management arrangements in place at project entry?

1.3 Stakeholder involvement (R):

- a. Did the project involve the relevant stakeholders through information-sharing, consultation and by seeking their participation in the project's design?
- b. Did the project consult and make use of the skills, experience and knowledge of the appropriate government entities, NGOs, community groups, private sector, local governments and academic institutions in the design of project activities?

1.4 Underlying factors/assumptions:

- a. Assess the underlying factors beyond the project's immediate control that influence outcomes and results. Consider the appropriateness and effectiveness of the project's management strategies for these factors.
- b. Re-test the assumptions made by the project management and identify new assumptions that should be made.
- c. Assess the effect of any incorrect assumptions made by the project.

1.5 Management arrangements (R):

- a. Were the project roles properly assigned during the project design?
- b. Are the project roles in line with UNDP and GEF programming guidelines?
- c. Can the management arrangement model suggested by the project be considered as an optimum model? If no, please come up with suggestions and recommendations.

1.6 Project budget and duration (R):

- a. Assess if the project budget and duration were planned in a cost-effective way?

1.7 Design of project M&E system (R):

- a. Examine whether or not the project has a sound M&E plan to monitor results and track progress towards achieving project objectives.
- b. Examine whether or not the M&E plan includes a baseline (including data, methodology, etc.), SMART indicators and data analysis systems, and evaluation studies at specific times to assess results and adequate funding for M&E activities.
- c. Examine whether or not the time frame for various M&E activities and standards for outputs are specified.

1.8 Sustainability:

- a. Assess if project sustainability strategy was developed during the project design?
- b. Assess the relevance of project sustainability strategy

2. Project implementation

2.1 Project's adaptive management (R):

- a. Monitoring systems
 - Assess the monitoring tools currently being used:
 - Do they provide the necessary information?
 - Do they involve key partners?
 - Are they efficient?
 - Are additional tools required?

- Assess the use of the logical framework as a management tool during implementation and any changes made to it.
 - What impact did the retro-fitting of impact indicators have on project management, if such?
 - Assess whether or not M&E system facilitates timely tracking of progress towards project's objectives by collecting information on chosen indicators continually; annual project reports are complete, accurate and with well justified ratings; tracking tools are finalized properly, the information provided by the M&E system is used to improve project performance and to adapt to changing needs.
- b. Risk Management
- Validate whether the risks identified in the project document and PIRs are the most important and whether the risk ratings applied are appropriate. If not, explain why.
 - Describe any additional risks identified and suggest risk ratings and possible risk management strategies to be adopted.
 - Assess the project's risk identification and management systems:
 - Is the UNDP-GEF Risk Management System⁷ appropriately applied?
 - How can the UNDP-GEF Risk Management System be used to strengthen the project management?
- c. Work Planning
- Assess the use of routinely updated workplans.
 - Assess the use of electronic information technologies to support implementation, participation and monitoring, as well as other project activities.
 - Are work planning processes result-based⁸? If not, suggest ways to re-orientate work planning.
- d. Financial management
- Consider the financial management of the project, with specific reference to the cost-effectiveness of interventions. (Cost-effectiveness: the extent to which results have been delivered with the least costly resources possible.). Any irregularities must be noted.
 - Is there due diligence in the management of funds and financial audits?
 - Did promised co-financing materialize (please fill out the co-financing form provided in Annex 2)?.
- e. Reporting
- Assess how adaptive management changes have been reported by the project management.
 - Assess how lessons derived from the adaptive management process have been documented, shared with key partners and internalized by partners.
- f. Delays
- Assess if there were delays in project implementation and what were the reasons.
 - Did the delay affect the achievement of project's outcomes and/or sustainability, and if it did then in what ways and through what causal linkages?

2.2 Contribution of Implementing and Executing Agencies:

- b. Assess the role of UNDP and the Ministry of Natural Resources and Environmental Protection of the Republic of Belarus against the requirements set out in the UNDP Programme and Operations Policies and Procedures⁹. Consider:
- Field visits
 - Participation in Steering Committees
 - Project reviews, PIR preparation and follow-up

⁷ UNDP-GEF's system is based on the Atlas Risk Module. See the UNDP-GEF Risk Management Strategy resource kit, available as Annex XII at <http://www.undp.org/gef/05/monitoring/policies.html>

⁸ RBM Support documents are available at <http://www.undp.org/eo/methodologies.htm>

⁹ Available at <http://content.undp.org/go/userguide/results/project/>

- GEF guidance
- Operational support
- c. Consider the new UNDP requirements outlined in the UNDP Programme and Operations Policies and Procedures, especially the Project Assurance role, and ensure they are incorporated into the project's adaptive management framework.
- d. Assess the contribution to the project from UNDP and the Ministry of Natural Resources and Environmental Protection of the Republic of Belarus in terms of "soft" assistance (i.e. policy advice & dialogue, advocacy, and coordination).
- e. Suggest measures to strengthen UNDP's soft assistance to the project management.

2.3 Stakeholder participation, partnership strategy (R):

- a. Assess whether or not and how local stakeholders participate in project management and decision-making. Include an analysis of the strengths and weaknesses of the approach adopted by the project and suggestions for improvement if necessary.
- b. Does the project consult and make use of the skills, experience and knowledge of the appropriate government entities, NGOs, community groups, private sector, local governments and academic institutions in the implementation and evaluation of project activities?
- c. Consider the dissemination of project information to partners and stakeholders and if necessary suggest more appropriate mechanisms.
- d. Identify opportunities for stronger partnerships.

2.4 Sustainability:

- a. Assess the extent to which the benefits of the project will continue, within or outside the project scope, after it has come to an end; commitment of the government to support the initiative beyond the project.
- b. The evaluators may look at factors such as mainstreaming project objectives into the broader development policies and sectoral plans and economies.

The sustainability assessment will give special attention to analysis of the risks that are likely to affect the persistence of project outcomes. The sustainability assessment should also explain how other important contextual factors that are not outcomes of the project will affect sustainability. The following four dimensions or aspects of sustainability will be addressed:

- *Financial resources:* Are there any financial risks that may jeopardize sustenance of project outcomes? What is the likelihood of financial and economic resources not being available once the GEF assistance ends (resources can be from multiple sources, such as the public and private sectors, income generating activities, and trends that may indicate that it is likely that in future there will be adequate financial resources for sustaining project's outcomes)?
- *Socio-political:* Are there any social or political risks that may jeopardize sustenance of project outcomes? What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? Do the various key stakeholders see that it is in their interest that the project benefits continue to flow? Is there sufficient public / stakeholder awareness in support of the long term objectives of the project?
- *Institutional framework and governance:* Do the legal frameworks, policies and governance structures and processes pose risks that may jeopardize sustenance of project benefits? While assessing this parameter, also consider if the required systems for accountability and transparency, and the required technical know-how are in place.
- *Environmental:* Are there any environmental risks that may jeopardize sustenance of project outcomes? The terminal evaluation should assess whether certain activities will pose a threat to the sustainability of the project outcomes.

On each of the dimensions of sustainability of the project outcomes will be rated as follows:

- *Likely (L):* There are no or negligible risks that affect 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.

3. Project results (outputs, outcomes and objectives)

3.1 Progress towards achievement of intended outputs, outcomes/measurement of change:

Progress towards results should be based on a comparison of indicators before and after (so far) the project intervention, e.g. by comparing current conditions for sustainable reserves management (legal and regulatory frameworks, biodiversity conservation practices and results, etc.) to the baseline ones.

The evaluation should specifically look into:

- Evaluation of strategic programs and documents defining the sustainable use of peatlands before and after the project. Extent of peatland area that is brought under an effective, landscape-based, conservation and/or sustainable use regime under the framework of a National Strategy for Peatlands (NSP)
- Assessment of positive changes in management effectiveness at existing PAs and new local reserves as measured by METT collected and reported by the project;
- Validation of the adequacy and viability of elaborated the reserves' management plans and implemented of primary activities for restoration of hydrological regime (Yelnya, Morochno, Servech, Ostrova Duleby) developed within the project;
- Evaluation of the project efficiency in establishing of a network of environmental corridors in the Vitebsk Oblast Poozerie landscape, ensuring the continuity of the natural landscapes and unrestricted wildlife migration.
- Evaluation of the project efficiency on restoration and management of degraded agricultural and forested peatlands for improved biodiversity conservation, sustainable land management and carbon sequestration within landscapes
- Adequacy of the level and proposed modes of enforcement of the regulatory and programmatic documents developed within the project for creating of an enabling environment for sustainable management of peatlands into agricultural and forestry practices i;
- Verification of the Management Effectiveness Tracking Tool data, as collected and reported by the project;
- Validation of the adequacy and viability of the reserves' management plans developed within the project;
- Adequacy and effectiveness of the proposed measures to reduce adverse impact of agricultural and forestry activities on wetlands.

To determine the level of achievement of project outcomes and objectives following three criteria should be assessed:

- *Relevance*: Are the project's outcomes consistent with the focal areas/operational program strategies and country priorities?
- *Effectiveness*: Are the actual project outcomes commensurate with the original or modified project objectives? In case the original or modified expected results are merely outputs/inputs then the evaluators should assess if there are any real outcomes of the project and if yes then whether these are commensurate with the realistic expectations from such a project.
- *Efficiency*: Is the project cost effective? Is the project the least cost option? Is the project implementation delayed and if it is, then does that affect cost-effectiveness? Wherever possible, the evaluator should also compare the cost-time vs. outcomes relationship of the project with that of other similar projects.

Outcomes should be rated as follows for relevance, effectiveness, efficiency:

- *Highly Satisfactory (HS)*: The project has no shortcomings in the achievement of its objectives.
- *Satisfactory (S)*: The project has minor shortcomings in the achievement of its objectives.
- *Moderately Satisfactory (MS)*: The project has moderate shortcomings in the achievement of its objectives.
- *Moderately Unsatisfactory (MU)*: The project has significant shortcomings in the achievement of its objectives.
- *Unsatisfactory (U)*: The project has major shortcomings in the achievement of its objectives.
- *Highly Unsatisfactory (HU)*: The project has severe shortcomings in the achievement of its objectives.

EVALUATION deliverables

The expected output of the present evaluation is a report that includes:

- Findings with the rating on performance;
- Conclusions drawn;
- Lessons learned concerning best and worst practices in producing outputs;
- A rating on progress towards outputs.

The report is proposed to adhere to the following basic structure:

1. Executive summary
 - Brief description of project
 - Context and purpose of the evaluation
 - Main conclusions, recommendations and lessons learned
2. Introduction
 - Project background
 - Purpose of the evaluation
 - Key issues to be addressed
 - The outputs of the evaluation and how will they be used
 - Methodology of the evaluation
 - Structure of the evaluation
3. The project and its development context
 - Project start and its duration
 - Implementation status
 - Problems that the project seeks to address
 - Immediate and development objectives of the project
 - Main stakeholders
 - Results expected
 - Analysis of the situation with regard to outcomes, outputs and partnership strategy
4. Findings and Conclusions
 - 4.1 Project formulation
 - Project relevance
 - Implementation approach
 - Country ownership/Driveness
 - Stakeholder participation
 - Replication approach
 - Cost-effectiveness
 - Sustainability
 - Linkages between project and other interventions within the sector

- Management arrangements
- 4.2 Project implementation
 - Financial management
 - Monitoring and evaluation
 - Management and coordination
 - Identification and management of risks (adaptive management)
- Results
 - Attainment of outputs, outcomes and objectives
 - Project Impact
 - Prospects of sustainability
- 5. Conclusions and recommendations
 - Findings
 - Corrective actions for the design, duration, implementation, monitoring and evaluation of the project which may be for similar project in the future
 - Actions to strengthen or reinforce benefits from the project
 - Proposals for future directions underlining main objectives
 - Suggestions for strengthening ownership, management of potential risks
- 6. Lessons learned
 - Good practices and lessons learned in addressing issues relating to effectiveness, efficiency and relevance
- 7. Annexes
 - Evaluation TOR
 - Itinerary
 - List of persons interviewed
 - Summary of field visits
 - List of documents reviewed
 - Questionnaire used (if any) and summary of results
 - Comments by stakeholders (only in case of discrepancies with evaluation findings and conclusions)
 - Co-financing table
 - Rating tables
 - METT

The expected length of the report is around 50 pages in total. The first draft of the report is expected to be submitted to the UNDP Country Office in Belarus after the in-country mission for subsequent circulation to the key project stakeholders for comments. Any discrepancies between the interpretations and findings of the evaluator and the key project stakeholders will be explained in an annex to the final report.

METHODOLOGY

It is recommended that the evaluation methodology include the following:

- Documentation review (desk study), to include Project Document, Mid-Term Evaluation report, GEF Project Implementation Reviews, final GEF Tracking Tools (that should be commented by evaluator and finalized after incorporating his/her comments), Minutes of the Project Steering Committee meetings, GEF quarterly project updates, National Comprehensive Project Assessment and other relevant national legislative and policy documents;
- Interviews with Project Management Unit and key project stakeholders, including UNDP Country Office in Belarus, Ministry of Natural Resources and Environmental Protection of the Republic of Belarus, management units of the target reserves and other stakeholders, as necessary;
- In-country field visits.

EVALUATION TEAM

The evaluation will be undertaken by a team composed of an *International Team Leader* and a *Local Consultant*. They will receive the support of UNDP Country Office in Belarus and Project Management Team, and will be assisted by a translator/interpreter (when needed).

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.

The *International Consultant - Team Leader* will be responsible to deliver the expected output of the mission. Specifically, he/she will perform the following tasks:

- Lead and manage the evaluation mission;
- Design the detailed evaluation methodology and plan;
- Conduct desk-reviews, interviews and site-visits in order to obtain objective and verifiable data to substantive evaluation ratings and assessments, including:
 - Assessment of adequacy of the level and proposed modes of enforcement of the regulatory and programmatic documents (National Strategy for Peatlands (NSP) developed within the project for changes in extent of peatland area that is brought under an effective, landscape-based, conservation and/or sustainable use.
 - Assessment of positive changes in management effectiveness at existing PAs and new local reserves as measured by METT collected and reported by the project;
 - Validation of the adequacy and viability of elaborated the reserves' management plans and implemented primary activities for restoration of hydrological regime (Yelnya, Morochno, Servech, Ostrova Duleby) developed within the project;
 - Evaluation of the project efficiency in establishing of a network of environmental corridors in the Vitebsk Oblast Poozerie landscape, ensuring the continuity of the natural landscapes and unrestricted wildlife migration.
 - Evaluation of the project efficiency on restoration and management of degraded agricultural and forested peatlands for improved biodiversity conservation, sustainable land management and carbon sequestration within landscapes
 - Adequacy of the level and proposed modes of enforcement of the regulatory and programmatic documents developed within the project for creating of an enabling environment for sustainable management of peatlands into agricultural and forestry practices i;
 - Verification of the Management Effectiveness Tracking Tool data, as collected and reported by the project;
 - Validation of the adequacy and viability of the reserves' management plans developed within the project;
 - Adequacy and effectiveness of the proposed measures to reduce adverse impact of agricultural and forestry activities on wetlands.
- Draft the evaluation report and share with the key stakeholders for comments;
- Finalize the evaluation report based on the inputs from key stakeholders.

Qualification requirements for the *International Team Leader*:

- Advanced university degree in environmental management, biodiversity conservation, or related area;
- Extensive (at least 10-year) experience and proven track record with policy advice and/or project development/implementation in biodiversity conservation or wetland ecosystem management;
- Proven track record of application of results-based approaches to evaluation of projects focusing on biodiversity conservation or wetland ecosystem management (relevant experience in the CIS region and within UN system would be an asset);
- Experience in the assessment of projects aimed at the conservation and sustainable use of peatlands / wetlands;

- Knowledge of and recent experience in applying UNDP and GEF M&E policies and procedures;
- Excellent English communication skills , knowledge of Russian would be an asset;
- Demonstrable analytical skills;

The *Local Consultant* will provide input in reviewing all the project-relevant documentation and provide the Team Leader with a compilation of information prior to the evaluation mission. Specifically, the Local Consultant will perform the following tasks:

- Review the original documents;
- Participate in the design of the evaluation methodology;
- Organize the mission program, arrange and facilitate meetings with key stakeholders;
- Provide regular translation/interpretation as necessary, including interpretation during working meetings;
- Draft related parts of the evaluation report, as relevant;
- Assist the International Team Leader in finalizing the draft report by incorporating inputs received;
- Provide other support services for the International Team Leader.

Qualification requirements for the *Local Consultant*:

- University degree in environment related area or in business or economics;
- At least 5-year experience in project development and/or evaluation, preferably in the field of environment management;
- Excellent time-management skills;
- Proficiency in English;
- Prior experience with UNDP would be an asset.

management ARRANGEMENTS

The principal responsibility for managing this evaluation lies with UNDP Country Office in Belarus. It will be responsible for liaising with the project team to set up the stakeholder interviews, arrange the field visits, coordinate with the Government.

These Terms of Reference follow the UNDP GEF policies and procedures, and together with the final agenda will be agreed upon by the UNDP-GEF Regional Coordinating Unit, UNDP Country Office in Belarus and the Ministry of Natural Resources and Environmental protection of the Republic of Belarus. These three parties will receive a draft of the final evaluation report and provide comments on it prior to its completion.

The evaluation is expected to start from 1 April 2017 and will be completed in June 2017. The in-country mission is expected to take place in mid May 2017. The total duration of the assignment will be 22 working days. The following timetable is recommended for the evaluation:

Desk review, development of methodology	4 days
In-country field visits, interviews	9 days
Drafting of the evaluation report	6 days
Finalization of the evaluation report (incorporating comments received on first draft)	3 days

The draft report is should be submitted in electronic format (MS Word) to UNDP Country Office in Belarus by 20 May, 2017, upon completion of the mission to Belarus. The final version of the evaluation report should be submitted in electronic format (MS Word) to UNDP Country Office in Belarus no later than 10 June, 2017. The hard copy should be sent by mail as well.

Schedule and terms of payment

1st payment – 15% of the total contract amount (which includes the travel expenses) - upon preparation of a work plan for the evaluation;

2nd payment upon completion of in-country mission and approval of a mission report (with supporting financial documents (receipts) by the respective UNDP Belarus Programme Officer;

3rd payment – the rest of the contract amount, upon approval of the final report by the respective UNDP Belarus Programme Officer and Regional Technical Adviser from the UNDP Bratislava Regional Centre;

Annexes:

- Annex 1: GEF terminology and project review criteria
- Annex 2: Co-financing table
- Annex 3: List of documents to be reviewed by the evaluators
- Annex 4: Evaluation Rating tables
- Annex 5: Cost breakdown template

Annex 2: TE Mission Schedule and Stakeholders Met.

Date/Time	Description	Participants	Where	Responsible	Notes
10 May, Wednesday					
	Arrival, Hotel accommodation		Airport Minsk 2, Hotel "Minsk"	Alexey Artushevsky (AA)	Flight: from Vienna Arrival 12.45 Transport: project's car
	Meeting with the UNDP-GEF project staff				Depending of the arrival time
	Meeting in the UNDP Country Office	Sanaka Samarasinha, Zachary Taylor Igar Tchoulba	UNDP Belarus, 6 th floor, 17, Kirova Str.	Igar Tchoulba (IT)	Depending of the arrival time
	Meeting with the UNDP-GEF project staff				
11 May, Thursday					
9.30-13.00	Meeting with the Ministry of Environment	Andrei Kuzmich , Marina Filipyuk, Nikolay Svidinski	Ministry of Environment, Kollectornaya Str. 10, off. 425	AA	Transport: project's car, interpreter
13.00-14.00	Lunch		Free		
14.00-15.30	Meeting with the Ministry of Energy, Beltpogaz	Alexey Osipov	Beltpogaz V. Khoruzhei 3	AA	Transport: project's car, interpreter
15.30-17.00	Meeting with the Institute of Experimental Botany	Alexander Pugachevski Alexander Sudnik Maxim Ermochin Dmitry Grummo	Institute of Experimental Botany Akademicheskaya Str. 27	AA	Transport: project's car, interpreter - LC
12 May Friday					
09.00-12.00	Meeting with the Centre on Bioresources of the National Academy of Science (NAS)	Oleg Borodin Alexander Kozulin Alexander Chaikovski Vasily Shakun Igor Novik Michail Maksimenkov	Centre on Bioresources Akademicheskaya Str. 27	AA	The Centre provided scientific support to the project activities Transport.: project car interpreter - LC
12.00-13.00	Meeting in the UNDP Country Office	Igar Tchoulba (E&E unit) Aliaksei Tchistodarski PR unit	UNDP Belarus, 6 th floor, 17, Kirova Str.	AA	
13.00-14.00	Lunch		Free	AA	
14.00-16.00	Meeting with the Institute of Nature management of the National Academy of Science (NAS)	Nina Tanovitskaya Nikolay Bambalov	Institute of Nature management Scorina str. 10	AA	Institute of Nature management Centre provided scientific support to the project activities Transport: project's car, interpreter - LC

Date/Time	Description	Participants	Where	Responsible	Notes
16.00–18.00	Meeting with the NGO “Akhova prushak Bat’kauschyny”	Alexander Vinchevsky	NGO “Akhova prushak Bat’kauschyny Makaionka Str. 8, off. 317	AA	NGO “Akhova prushak Bat’kauschyny” is a NGO key partner for the project Transport: project’s car, interpreter - LC
13 May, Saturday (project sites visit)				AA	Transport: project’s car Interpretation – LC
08.30	Departure from Minsk	<i>UNDP-GEF Project:</i> Alexey Artushevsky			
10.30-12.30	Arrival at the Lida; The site inspection, visiting black alder plantations	<i>UNDP-GEF Project:</i> Alexey Artushevsky Director of Naliboksi reserve Vassily Gurkov	Lida forestry reserve, Lida district		Project sites – established black alder plantations interpreter - LC
12.30-14.00	Travel to Grodno district	<i>UNDP-GEF Project:</i> Alexey Artushevsky			
14.30-18.30	Arrival at the Ozery reserve (Grodno). The site inspection. Meeting with locals.	<i>UNDP-GEF Project:</i> Alexey Artushevsky Ozery Reserve Director Morozik Dmitry	Ozery Reserve (Grodno district)		Project sites – Sviatoo restored peatlands and ecocenter interpreter - LC
18.30	Overnight				
14 May , Sunday (project sites visit)				AA	Transport: project’s car Interpretation – LC
8.30-11.30	Travel to Bereza district	<i>UNDP-GEF Project:</i> Alexey Artushevsky			
12.00 – 17.30	The site inspection in peatlands grasslands created under the project	<i>UNDP-GEF Project:</i> Alexey Artushevsky Director JSC “Berezovskaya MTS” Nikolay Tostyak Director JSC “Sporovo” Eduard Verishko	Bereza district JSC “Berezovskaya MTS” JSC “Sporovo”		Project sites – meadows on disturbed peatlands, established with the project support
17.00	Overnight in Bereza district				
15 May, Monday (project sites visit)				AA	Transport: project’s car Interpretation – LC
9.00-11.30	Travel to Cherven district – mires Cherven-2 and galoe	<i>UNDP-GEF Project:</i> Alexey Artushevsky			
11.30-16.30	The site inspection of the re-wetting mire Cherven-2 and mire Galoe	<i>UNDP-GEF Project:</i> Alexey Artushevsky Cherven forestry Director Alexander Barbuk	Cherven Forestry		

Date/Time	Description	Participants	Where	Responsible	Notes
	(rewetted under Peatlands 1 project)				
16.30-18.00	Departure to Minsk				
18.00	Arrival to Minsk				
16 May, Tuesday				AA	Transport: project's car Interpretation – LC
10.00–11.15	Meeting with Ministry of agriculture	Yadlovski V.M. Head of department of meadow growing and fodder production <i>UNDP-GEF Project: Alexey Artushevsky</i>	Ministry of agriculture (Kirova Str. 15)	AA	Transport: project car Interpreter -LC
11.30-12.30	Meeting with Ministry of forestry	<i>Yurevich N.N. Head of department of forestry UNDP-GEF Project: Alexey Artushevsky</i>	Ministry of forestry Myasnikova str. 39	AA	Transport: project car
13.00–14.00	Lunch		Free		
14.00-18.00	Meeting with the project staff	Alexey Artushevsky	UNDP Belarus, 6 th floor, 17, Kirova Str.	AA	Transport: project car
17 May, Wednesday(project sites visit)					
8.00-11.00	Travel to Myory District	<i>UNDP-GEF Project: Alexey Artushevsky</i>			
11.00–17.00	<i>Site inspection of the project pilot sites Elnya and Germanovich school</i>			AA	Transport: project car
17.00–20.00	Departure to Minsk			AA	Transport: project car
20.00	Arrival to Minsk				
18 May, Thursday					
9.00-11.00	Meeting with the Centre on Bioresources of the National Academy of Science (NAS)	Oleg Borodin Alexander Kozulin Alexander Chaikovski Vasily Shakun Igor Novik Michail Maksimenkov	Centre on Bioresources Akademicheskaya Str. 27	AA	The Centre provided scientific support to the project activities Transport.: project car interpreter - LC
11.15-12.00	Debriefing with UNDP Belarus	Sanaka Samarasinha, Zachary Taylor Igar Tchoulba	UNDP Belarus, 6 th floor, 17, Kirova Str.	AA	Transport: project car

Date/Time	Description	Participants	Where	Responsible	Notes
13.00–14.00	Lunch		Free		
14.00–17.00	Meeting with stakeholders deom the Ministry if Environment	<i>Y. Malkina</i> <i>First deputy Minister, GEF</i> <i>Focal Point</i> <i>S. Melnov</i> <i>Director of</i> <i>BelNitsEcologia Institute</i>	Ministry of Environment, Kollectornaya Str. 10, off. 425	AA	Transport: project's car, interpreter
19 May, Friday					
5.45	Departure from Minsk				

UNDP Belarus:

Igar Tchoulba – Programme Officer, Energy & Environment
Aliaksei Tchistodarski – PR unit

UNDP-GEF project:

Alexey Artushevsky – Project Manager
Alexander Kozulin - Scientific Coordinator
Dmitry Mizhihurskii – Admin/Fin Assistant

Ministry of Environment (National Implementing Agency)

Yia Malkina- First Deputy Minister, GEF National Focal Point
Marina Filipyk - Head of the Department of International Cooperation
Andrei Kuzmich - Deputy Head Division of Biological and Landscape diversity

Ministry of Forestry (partner in re-wetting forested degraded peatlands, in establishment of balck-alder plantations on peatlands) – Deputy Minister

Ministry of Energy, Beltepogaz (partner in development and coordinating of the Strategy for Conservation and Wise (sustainable) use of peatlands)
Alexey Osipov – Depury director” BelNIITopproekt”

Centre for Bioresources (partner in development and coordinating of the Strategy for Conservation and Wise (sustainable) use of peatlands, preparing econetwork for Poozer’e region, development of management plans for peatlands reserves, monitoring of pilot peatlands prior and after re-wetting, data base for peatlands, assessment of GHG exchange on pilot sites)

Oleg Borodin – Director
Mikhail Maksimenkov - Leading specialist
Alexander Chaikovski– Leading specialist
Vasily Shakun - Leading specialist
Igor Novik - Leading specialist

Institute of Nature Management (partner in development and coordinating of the Strategy for Conservation and Wise (sustainable) use of peatlands, data base for peatlands, deep plowing testing)

Institute of Experimental Botany of the National Academy of Sciences of Belarus (partner in preparing scientific rationale for re-wetting pilot peatlands, monitoring of vegetation on pilot sites prior and after re-wetting)
Alexandre Pugachevsky –Director
Alexandre Sudnik – Head of Sector for Flora Monitoring
Maxom Ermokhin - Leading specialist

APB (partner in establishing of a wardens network on peatlands reserves in Belarus)

Alexander Vinchevsky – Executive director

Ozery Reserve (partner in re-wetting Sviatoe pilot site and establishing of a eco-educational center in Ozery reserve)

Dmitry Morozik – Director of the Ozery reserve

Lida district

Lida forestry (partner in establishment of balck-alder plantations on peatlands)

Yermeichik A.V. Chief Forester

Bereza district (partners in organizing long-term meadow cultivation on disturbed peatlands)

Eduard Verishko – Director of JSC “Sporovo”

Annex 3: Documents Reviewed

Item #	Items (electronic versions preferred if available)
1	Project doc and Terminal Evaluation of Peatlands 1 project (to provide background for evaluating Peatlands 2)
2	Peatlands 2 Project original PIF and PPG
3	Peatlands 2 Prodoc and GEF CEO Endorsement doc
4	Peatlands 2 Inception report
5	PIR reports and Quarterly reports (2013-16)
6	Steering Committee / Project Board meeting minutes (2013-16)
7	Mid-term Evaluation report and Management response matrix
8	Printed copy “Strategy for the Conservation and Wise (Sustainable) Use of Peatlands. (English)
9	Methodological Recommendations for Ecological Rehabilitation of damaged mires and prevention of disturbance to the hydrological regime of mire ecosystems in the process of drainage (English)
9	GEF Tracking Tools (METT, LD, SFM REDD) – final versions received in June
10	On-line Inventory data base (peatlands.by) - Russian
11	Financial data (AWP’s, summary tables of co-financing planned and actual, delivery, etc)

Annex 4: METT, LD TT, SFM RED TT

Provided in separate electronic files

Annex 5: Carbon benefit indicators

Category (emission reductions)		Pilot site name	Area	Baseline emissions	Emissions after project	Emission Reductions	Emission Reductions over 20 yr lifetime	EOP Emission Reductions over 20 yr lifetime
				(t CO ₂ -equ. yr-1)	(t CO ₂ -equ. yr-1)	(t CO ₂ -equ. yr-1)	(t CO ₂ -equ. over 20 yrs)	(t CO ₂ -equ. over 20 yrs)
I. Emission reductions from re-wetting ag peatlands (F1 sites), converting ag petalands to pasture (F2 sites), rewetting forest peatlands (F3 sites), replacing traditional ploughing with deep layer ploughing at ag peatlands (F4 site)								
Agricultural peatlands to be re-wetted	F1	Voľsinskaje	669.00	4,811.00	3,409.00	1,402.00	28,040.00	28,040.00
Agricultural peatlands to be re-wetted	F1	Sviatoje	1,482.00	16,744.40	7,239.00	9,505.40	190,108.00	190,108.00
Agricultural peatlands to be re-wetted	F1	Bobrovka	911.00	9,991.00	9,039.00	952.00	19,040.00	19,040.00
Agricultural peatlands to be re-wetted	F1	Mgle	109.00	1,230.00	872.00	358.00	7,160.00	7,160.00
Agricultural peatlands to be re-wetted	F1	Yurievo	213.00	3,669.00	2,593.00	1,076.00	21,520.00	21,520.00
<i>Sub-total for re-wetted agricultural peatlands</i>			<i>3,384.00</i>	<i>36,445.40</i>	<i>23,152.00</i>	<i>13,293.40</i>	<i>265,868.00</i>	<i>265,868.00</i>
Agricultural peatlands to be converted from arable to pasture	F2	Site1, Site2	494.00	9,600.00	6,840.00	2,760.00	55,200.00	55,200.00
Agricultural peatland where deep layer ploughing is to be tested	F4	Luninets	10.00	128.00	22.00	106.00	2,120.00	2,120.00
<i>Sub-total for all agricultural (non-forest) peatlands</i>			<i>3,888.00</i>	<i>46,173.40</i>	<i>30,014.00</i>	<i>16,159.40</i>	<i>323,188.00</i>	<i>323,188.00</i>
Forested peatland to be re-wetted	F3	Pukhovichi-Kopysh	1,222.00	26,298.00	4,966.00	21,332.00	426,640.00	426,640.00
Forested peatland to be re-wetted	F3	Cherven-Gorodishche	664.00	19,533.00	4,045.00	15,488.00	309,760.00	309,760.00
Forested peatland to be re-wetted	F3	Veterevichskoe	1,571.00	38,213.90	7,945.90	30,268.00	605,360.00	605,360.00
<i>Sub-total for forested peatlands</i>			<i>3,457.00</i>	<i>84,044.90</i>	<i>16,956.90</i>	<i>67,088.00</i>	<i>1,341,760.00</i>	<i>1,341,760.00</i>
<i>Sub-total for all F1, F2, F3 and F4 sites</i>			<i>7,251.00</i>	<i>130,218.30</i>	<i>46,970.90</i>	<i>83,247.40</i>	<i>1,664,948.00</i>	<i>1,664,948.00</i>
Protected area: strongly disturbed parts to be re-wetted		Yelnya PA (only disturbed area; not total area) Jelnia	7,595.50	75,145.08	47,577.00	27,515.08	550,301.00	550,301.00
<i>Sub-total for forested peatlands and PA</i>			<i>14,846.50</i>	<i>205,363.40</i>	<i>94,547.90</i>	<i>110,762.50</i>	<i>2,215,249.00</i>	<i>2,215,249.00</i>
II. Carbon sequestration from black alder regeneration at rewetted agricultural peatland sites (tree growth over 20 years)	F4	Lida Forestry	216				4,930.00	4,930.00
Total for all emissions reduction (F1 to F4 pilot sites + Yelnya PA)			15,156.50	205,363.40	94,547.90	110,762.50	2,220,179.00	2,220,179.00

				EOP estimates
Lifetime (20 yrs) direct GHG emission avoided (reported in CCM TT)		2,215,249.00	tCO2 eq	2,215,249.00
Lifetime (20 yrs) direct carbon sequestration (reported in CCM TT and in SFM TT as Conservation & enhancement of carbon in forests Direct Lifetime)		4,930.00	tCO2 eq	4,930.00
Total Lifetime (20 yrs) direct GHG emission avoided and carbon sequestered		2,220,179.00	tCO2 eq	2,220,179.00
Direct Lifetime Avoided deforestation and forest degradation (reported in SFM TT)		935,653.84	tCO2 eq	935,653.84
Lifetime indirect GHG emission avoided (reported in CCM TT)		14,534,612.39	tCO2 eq	14,534,612.39
Lifetime Indirect avoided deforestation and forest degradation (reported in SFM TT)		8,152,701.20	tCO2 eq	8,152,701.20

Annex 6: Biodiversity Indicators

BD Indicator species	Baseline	Target	Status EOP	Source of data and comment (if any)
F.1.1 Mgle				
<i>Botaurus stellaris</i>	0	2 pairs	1 pair	Expert report (2014) and field data (2016-2017)
<i>Emberiza schoeniclus</i>	2-5	Not less than 15 pairs	>30 pairs	Expert report (2014) and field data (2016-2017)
F.1.2 Yurievo				
<i>Botaurus stellaris</i>	0	2 pairs	2 pairs	Expert report (2014) and field data (2016-2017)
<i>Circus aeroginosus</i>	0	2 pairs	3 pairs	Expert report (2014) and field data (2016-2017)
<i>Emberiza schoeniclus</i>	0	Not less than 15 pairs	>80 pairs	Expert report (2014) and field data (2016-2017)
F.1.3 Bobrovka				
<i>Emberiza schoeniclus</i>	0	About 30 pairs	>30 pairs	Expert report (2014) and field data (2016-2017)
<i>Circus aeroginosus</i>	1	10 pairs	3 pairs	Expert report (2014) and field data (2016-2017)
<i>Gallinago gallinago</i>	1-3	Not less than 20 pairs	8 pairs	Expert report (2014) and field data (2016-2017)
F.1.4 Volsinskoe				
<i>Emberiza schoeniclus</i>	0	About 30 pairs	>30 pairs	Expert report (2014) and field data (2016-2017)
<i>Circus aeroginosus</i>	0	5 pairs	5 pairs	Expert report (2014) and field data (2016-2017)
<i>Gallinago gallinago</i>	5-10	Not less than 20 pairs	>20 pairs	Expert report (2014) and field data (2016-2017)
F.1.5 Svyatoe				
<i>Emberiza schoeniclus</i>	0	About 30 pairs	>150 pairs	Expert report (2014) and field data (2016-2017)
<i>Circus aeroginosus</i>	1	10 pairs	8 pairs	Expert report (2014) and field data (2016-2017)
<i>Gallinago gallinago</i>	1-5	Not less than 20 pairs	>20 pairs	Expert report (2014) and field data (2016-2017)
F.2 Sporovo village, Berezovskaya MTS				
<i>Alauda arvensis</i>	0	Increase by 100 pairs	>100 pairs	Breeding density 40 pairs/100 ha
<i>Aquila pomarina</i>	2 pairs breed in adjacent Sporovsky Reserve	Stability of species number	2 pairs	Feeding area for 2 pairs <i>Aquila pomarina</i>
<i>Crex crex</i>	0	Increase by 10-30 pairs	15 pairs	Mainly around fields
F.3.1 Pukhovichi-Kopysh				
<i>Numenius arquata</i>	0 (disappeared after peat fire)	At least 5 pairs	0	Species not appear because decreasing last years in all Europe
<i>Lirurus tetrix</i>	Few remain after peat fire	Increase to 40 pairs	20-40 males	Numbers increasing but very slowly
<i>Grus grus</i>	0 cranes nesting at present	At least 3 nesting pairs	4 pairs	

BD Indicator species	Baseline	Target	Status EOP	Source of data and comment (if any)
F.3.2 Cherven-Gorodishche				
<i>Numenius arquata</i>	0 (disappeared after peat fire)	At least 5 pairs	0	Species not appear because decreasing last years in all Europe
<i>Lirurus tetrix</i>	Few remain after peat fire	Increase to 30 pairs	About 20 males	Numbers increasing but very slowly
<i>Grus grus</i>	0 cranes nesting at present	At least 3 nesting pairs	2 pairs	
F.3.3 Veterevichi				
<i>Lirurus tetrix</i>	Only a few species remain	Population increase to 30 pairs	15 males	Numbers increasing but very slowly
<i>Grus grus</i>	1 cranes nesting at present	At least 3 pairs	2 pairs	