Renaturalization and sustainable management of peatlands in Belarus
to combat land degradation, ensure conservation of globally valuable biodiversity, and mitigate climate change

UNDP/GEF - Government of Belarus

TERMINAL EVALUATION

FINAL VERSION

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0 Executive summary

1. Peatland is a valuable but also threatened type of natural habitat, as it forms a buffer for atmospheric CO2 storage and water in catchments, as well as a rich environment for biodiversity. Belarus is covered by a considerable area of peatland amounting to 2,939,000 ha before its exploitation accelerated in the 1950s. Since then, more than 54% of peatlands were drained for peat extraction and agriculture. Drainage of peatlands leads to peat mineralisation resulting in CO2 emission and degrading soil fertility. Drained peatlands are prone to fire and wind erosion, both accelerating the degradation of the land, which results in fire hazard, smoke, dust storms, biodiversity decrease, dispersion by fires of radio-active compounds left after the Chernobyl disaster, and climate change due to CO2 emissions and change of solar reflection level.

2. The Medium-sized Project " Renaturalization and sustainable management of peatlands in Belarus to combat land degradation, ensure conservation of globally valuable biodiversity, and mitigate climate change" addresses peatland degradation in Belarus. Its strategy is based on three main intervention axis: (1) creation of an enabling environment for sustainable peatland management, (2) development of experience on sustainable peatland management by re-wetting degraded peatlands in a pilot setting, (3) capacity development and promotion of degraded peatland rehabilitation to encourage replication. The project is considered to demonstrate the potential for managing degraded peatlands while generating multiple global benefits.

3. The project is implemented by a partnership of key stakeholders of peatland management, the Ministry of Forest having the lead. Funds are provided by grants ($1.408.052) from the GEF through its executing organisation UNDP, and from RSPB/KfW and Birdlife Finland. Co-funding ($2,639,166) is provided by the several agencies of the Government of Belarus. The project became operational in March 2006 and ends on 31 December 2010. In 2008 a Mid-term Review has been carried out, which lead to some adjustments regarding budget and implementation. The current Terminal Evaluation is done at the end of the project to assess the project's accomplishments, draw the lessons learned, provide feedback on previously identified issues and report back to GEF to monitor the performance of its operational programme. This terminal evaluation is carried out according to the UNDP guidelines and the Terms of Reference provided by the project.

4. The project has achieved to develop a framework for the renaturalization of degraded peatlands and made considerable progress in the development of sustainable peatland management, including methodologies, capacity building and the creation of an enabling environment. Crucial contributions of the project addressed among others the section on sustainable use of degraded peatlands in the National Action Program to Combat Land Degradation, the "Sectoral Program on Renaturalization of Degraded Peatlands" of the Ministry of Forestry, Technical Codes of Practice on rehabilitation, site selection and techniques, and Methodological Recommendations of peatland rehabilitation. Re-wetting was realised in 15 degraded peatlands and damaged mires for demonstration and to develop methodologies and procedures in the real context. Pure and simple methods were applied, using local materials, resulting in straightforward structures, easy and cheap to maintain. The re-wetting of 15 demonstration sites has lead to visible/measurable impacts regarding biodiversity, land degradation, fire control and CO2 balance. Capacity building was provided on the job and through training to assure taking over of the rewetting infrastructure by the forest enterprises responsible for the management of the peatlands.

5. The main constraint affecting the progress of the project, was a rise of government rates for construction activities and inflation, both resulting in shortage of funding. Fortunately additional funding to complete rewetting in all selected sites could be secured from a partner project implemented by RSPB and funded by KfW. A last factor limiting progress was an under-estimation in the project design of the needs in terms of time and capacity to deal effectively with all the administrative and formal procedures, related to (a) the requirements of different donors and the government on the one hand, and to (b) the absorption by the Government of the approach developed by the project on the other hand. The time required for the completion of all restoration work and management plans appears to be underestimated in the project design.

6. The project made an effort to promote renaturalization of degraded peatlands by enhancing the policy and regulatory framework and by extensive communication of the approach and results of the project to interested parties in- and outside Belarus. So far the gains of the project are used in new projects in Belarus and Ukraine, and also peatland managers and authorities from the Russia have shown interest to adopt the Peatland Project's expertise.

7. Lessons to be drawn for the benefit of future projects include (1) more attention to the elaboration of logical frameworks in the design of projects, (2) maintain regular Steering Committee meetings at least twice a year, (3) address logistical needs effectively in the project design, (4) include wider margins for price fluctuations in project budget estimates, (5) include sufficient capacity for process management, administration and procurement, (6) take into account the duration of the entire rewetting process in the planning of future projects based in the current experiences, (7) strengthen dams with wood and stone to reduce vulnerability to damage by Wild Boar and Beaver and (8) develop compartmentalisation in renaturalized sites to optimize water level and restoration processes.

8. The benefits of the project could be strengthened by elaborating sustainable utilisation and integrated management at the level of the renaturalized areas, considering the potential of different ecosystem functions and the impacts of users. Further landscape development can follow and elaborating on the landscape ecological approach initiated by the project, including fine tuning of the re-wetting infrastructure to the characteristics of the land and to the management objectives. A gradual adaptive approach of rewetting is generally recommended, while the elaboration of a rationale –as in-depth feasibility study- proceeding the elaboration of the re-wetting design contributes to cost effectiveness, functionality, risk reduction, and to consensus on goals among stakeholders.

9. Perspectives for further development of sustainable peatland management are to be found particularly on degraded agricultural lands and lands which have not been assigned any economical function in the Land Code of Belarus, and which have been affected by drainage in adjacent areas. Vast areas of these lands require intervention to halt mineralisation and fire hazard. The current project achieved to establish synergy between the Ministries of Forests and Environment's collaboration in the field of sustainable peatland management. The next challenge is to involve other crucial Ministries in this partnership, particularly the Ministry of Agriculture.

10. It is evident that, further on the road, extra funding is required to extend rehabilitated areas which are not covered by existing budgets, and to take further crucial or innovative steps. A potential funding mechanism and incentive for sustainable peatland management would be gaining access to the carbon market.

11. Opportunities for policy change leading to sustainable peatland management are the current reviews of the "Scheme for Rational Use of Peat Deposits (2000)" and the "Forest Development Programme 2007-2011". The continued formation and extension of integrated sustainable peatland management would benefit from a more permanent consultation platform liaising different stakeholders.

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Acronyms

APB	APB-Birdlife Belarus (Conservation NGO)
APR	Annual Project Review
BLF	Birdlife International - Finland (Conservation NGO)
EIA	Environmental Impact Assessment
FE	Forest enterprise
GEF	Global Environment Facility
GHG	Greenhouse gases
GPO Beltopgaz	State Production Enterprise on Fuel and Gasification "Beltopgaz"
KfW	Kreditanstalt für Wiederaufbau, German Development Bank
MoE	Ministry of Environment
MoF	Ministry of Forestry
MSP	Medium-sized project
MTE	Mid-term Evaluation
NAP	National Action Program
NGO	Non-governmental organization
NASB	National Academy of Sciences of Belarus
NBSAP	National Biodiversity Strategy Action Plan
NCSA	National Capacity Self-Assessment for Global Environmental Management
NEMS	National Environmental Monitoring System
ProDoc	Project Document
PIR	Project Implementation Review (GEF)
PIU	Project Implementation Unit
RSPB	Royal Society of the Protection of Birds
SC	Steering Committee
SGP	Small Grants Programme
TE	Terminal Evaluation
TPR	Tripartite Review
UNCCD	United Nations Convention to Combat Desertification
UNFCCC	United Nations Framework Convention on Climate Change
UNDP	United Nations Development Programme

1 Introduction

1.1 Project background

12. The project "Renaturalization and sustainable management of peatlands in Belarus to combat land degradation, ensure conservation of globally valuable biodiversity, and mitigate climate change", further referred to as "The Peatland Project" aims to address peatland degradation in Belarus by achieving multiple environmental benefits in the areas of sustainable land management, climate change mitigation and biodiversity conservation. The project builds on both national and international experience to introduce wetland renaturalization on 15 degraded peatlands covering a total area over 28,207.7 ha. To address existing barriers to renaturalizing degraded peatlands and ensure long-term interest and commitment to renaturalization, actions have been taken at three levels: strategic (enabling policy environment for peatland restoration), on-the-ground investments in 15 pilots on peatland restoration, research and capacity development (monitoring, trainings) to support learning and replication.

13. The project, funded by UNDP/GEF, RSPB/KfW,BLF and the Belarus Government, has been implemented since March 2006 and will be completed on 31 December 2010.

1.2 Purpose of the evaluation

14. The UNDP/GEF project management cycle for medium size projects requires mid-term and terminal evaluations in order to assess the project performance and to draw lessons from the project's experience. A Mid-term Evaluation of the project has been carried out in 2008 and a Terminal Evaluation has been scheduled during at the end of the project. The purpose of the Terminal Evaluation of the Peatland Project" is:

(1) To promote accountability and transparency, and to assess and disclose levels of project accomplishments;

(2) To synthesize lessons that may help improve the selection, design and implementation of future GEF activities;

(3) To provide feedback on issues that are recurrent across the portfolio and need attention, and on improvements regarding previously identified issues;

(4) 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.

1.3 Key issues

15. 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 objectives, including an examination of the relevance of the objectives and of the project design. Subsequently, the factors have been identified that facilitated or impeded the achievement of the objectives. An in-depth analysis is used to elaborate detailed recommendations and lessons learned for the future.

16. 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 basically a pilot project, the perspectives of replication.

1.4 Methodology and structure of the evaluation

17. This terminal evaluation is carried out according to the UNDP guidelines (Annex 7) and the Terms of Reference provided by the project (Annex 2).

18. Based on a preparatory study of

(1) documents related to the project cycle (ProDoc, Inception report, PIRs, APRs, MTE, minutes),

(2) documents produced by the project on technical and strategic issues,

19. a preliminary list of important issues has been determined, and a workplan and programme prepared (Annex 5). 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 (Annex 7),
- project logical framework (Annex 1) and monitoring data from various project reports,
- meetings and interviews with stakeholders (Annex 6),
- project site visits.

20. Assessment of the components under the evaluation perspectives have been done according to a set of specific evaluation criteria (Annex 3). During the mission in Belarus from 18 to 28 October meetings and interviews were held with key stakeholders of the Peatland 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 (Annex 4). Apart from this, discussions have been structured by early identification of other important issues requiring particular attention. Assessment of the pilot areas have been presented in a number of tables, according to criteria related to implementation, result and outcome. Ratings have been applied to the key criteria as defined in the Terms of Reference.

21. Next to the Project Document, the Inception Report and Terminal Evaluation's Terms of Reference - the Mid-Term Evaluation has been used as an important reference point of the final evaluation in order to assess the implementation and outcome of strategic and implementation adjustments made.

22. 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 will be drafted integrating the reviewers' comments.

2 The project and its development context

2.1 Project status

23. Initially the project was scheduled to run from April 2005 to December 2009. However, it was approved by GEF in December 2005 and subsequently approved by the Government of the Republic of Belarus. It has been implemented since March 2006 and the completion of the project was rescheduled at 31 August 2010.

24. A Mid-term Evaluation of the project has been carried out in 2008. After the MTE a major budget revision was done due to supplementary funding from RSPB/KfW and the final term of the project was extended to 31 December 2010. The project is nationally executed by the Ministry of Forestry of Belarus. The total GEF contribution amounts to $975,854, matched by $,432,197.6 from international project partners (RSPB/KfW, BLF), and by $2,639,166 from local project partners (co-funding).

2.2 Problems addressed by the project

25. Peatlands have been globally recognized as one of the most valuable and at the same time most threatened types of natural habitats. Belarus is a country with a substantial share of peat- and non-peat wetlands (6.4% of the country is covered by peatlands, compared to 3.4% for the globe on average) . The overall area of natural peatlands in Belarus before drainage (1950) was 2,939,000 ha. As a result of large-scale drainage between 1950-1990, more than 54% of peatlands were drained for peat extraction and agriculture.

26. Drainage of peatlands leads to peat mineralisation resulting in CO2 emission and degrading soil fertility. Drained peatlands are prone to fire and wind erosion, both accelerating the degradation of the land. The consequences of this are (a) fire hazard, (b) smoke, (c) dust storms, (d) dispersion by fires of radio-active compounds left after the Chernobyl disaster, (e) biodiversity decrease, and (f) climate change due to CO2 emissions and change of solar reflection level.

27. The project is supporting the Belarus Government's policies addressing land degradation and climate change. Its strategy is based on three main intervention axis:

(1) the creation of an enabling policy and institutional environment for sustainable peatland management;

(2) the development of experience, knowledge and methodologies on sustainable peatland management by re-wetting a number of degraded peatlands in a pilot setting and the implementation of a monitoring programme;

(3) capacity development and promotion of degraded peatland rehabilitation through re-wetting to encourage replication of the practices developed by the project in the context of sustainable peatland management.

2.3 Project objectives and expected outcomes

28. Long-term goal: To promote integrated approaches to ecosystem management on degraded peatlands, so as to generate multiple global benefits by preventing land degradation, mitigating climate change, and ensuring biodiversity conservation.

29. Project objective: To strengthen the enabling environment for integrated ecosystem management on degraded peatlands, and to demonstrate the feasibility of generating multiple global benefits through such a management approach at 17 pilot sites.

30. Project Outcomes:

Outcome 1: Enabling environment strengthened for integrated ecosystem management on degraded peatlands;

Outcome 2: Sustainable integrated peatland management and rehabilitation demonstrated

Outcome 3: Capacities built and awareness raised for integrated peatland management and monitoring (GEF funding);

Outcome 4: Capacities built and awareness raised for integrated peatland management and monitoring (BLF, RSPB/KfW funding);

Outcome 5: Enhanced replicability and financial sustainability of project impacts.

2.4 Main stakeholders

31. The point of departure of the partnership strategy is to involve all stakeholders according to their actual role in the process. The Ministry of Forestry is the implementing partner of the project, being the umbrella of the forest enterprises managing the areas selected by the project for rehabilitation,. The Ministry of Natural Resources and Environment Protection (referred to as Ministry of Environment hereafter) and Ministry of Forestry jointly have the lead in the development of the regulatory framework. A third key partner is the Enterprise "Beltopgaz" that formulates the national peat extraction strategy, having considerable influence on sustainable peatland management. Furthermore, various institutes under the National Academy of Sciences assure the technical and scientific substantiation of the interventions. A permanent project team (Project Implementation Unit, PIU) facilitates project implementation and assures daily coordination, while overall coordination is taken care of by a Steering Committee representing all key stakeholders.

32. The following agencies and groups are the stakeholders of peatland management and utilisation and they are involved as such in the Peatland Project:

- Ministry of Forestry,
- Ministry of Environment,
- Ministry of Energy,
- Ministry of Emergencies (peat fire),
- APB-BirdLife Belarus,
- Royal Society for the Protection of Birds (RSPB),
- Institute of Nature Managment (previously: Institute of Problems of the Use of Natural Resources and Applied Ecology),
- Institute of Experimental Botany of the National Academy of Sciences,
- Centre on Bioresources of the National Academy of Sciences,
- GPO Beltopgaz Concern (peat mining industry),
- Belgiprovodhoz, state service for land development and drainage,
- Forest enterprises,
- Regional, district and local executive authorities, collective farms, etc.,

· Local people using peatlands for forest product collection and recreation.

3 Findings and Conclusions

3.1 Project design

3.1.1 Project relevance

33. The project targets crucial policy issues of national and global importance such as land degradation, peat fire risk, energy requirements, radioactive contamination 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 State Program of Protection and Rational Use of Lands, and the National Program to Cope with the Consequences of the Chernobyl Nuclear Power Plant Catastrophe. The project also relates to the UN Convention to Combat Desertification, the UN Framework Convention on Climate Change and the Convention of Biological Conservation.

34. Carbon fixation is a key driver behind the project, but the direct economic incentive for many stakeholders is cost reduction related to fire prevention and rehabilitation of degraded land.

35. The project includes the development of a methodology of CO2 emission reduction and a methodology for monitoring CO2 balance, being both important elements to assist the country's access to the carbon market. The development of the marketing itself is however not the scope of this project.

36. There is a certain tension between the Ministry of Energy's target to increase peat production expressed in the State Programme Peat" and sustainable peatland management. This tension is presently controlled by the concluded "Scheme of Rational Use of Peat Deposits (2000)" which stipulates that all CO2 extracted as peat should be balanced by CO2 fixation by peatlands. However, this ten year term directive requires to be renewed in 2010. In the reviewed scheme, optional requirements regarding CO2 fixation to supply the carbon market should be considered in this balance.

3.1.2 Implementation approach

37. The Logical framework as presented in the Project Document and revised in the Inception Report of the project is inconsistent and basic elements are not all SMART:

- the project objective is actually just combining output 1 and 3 without addressing any higher strategic level;
- outcomes are not defined from a results based perspective (see also MTE);
- outcomes 3 and 4 are actually one output, but this outcome has been split for administrative reasons[1];

[1] Outcomes 3 and 4 were a result of splitting Outcome 3 of the original project design during the inception phase since this was the only way for separate financial reporting to the donors covering awareness activities (RSPB, BLF). Subsequently, activities under Outcome 3 were focusing on research and monitoring, while Outcome 4 activities were dealing with awareness raising.

- outcome 3 covers a number of activities which outputs certainly contribute to capacity building and awareness, but their principal purpose is different (preparation of rewetting, impact monitoring, development of the rewetted area's management regimes);
- overall, outcomes are used as administrative components rather than as elements of a strategic framework.

38. Although the poor structure of the design complicates financial analysis, monitoring, reporting and assessment of outputs, it does not appear to have affected the project performance.

39. The basic strategic concept for change adopted by the project is strong. This approach is based on the following elements:

(a) creating an enabling environment required for the development and implementation of an innovative approach (policy and legislation to facilitate and promote rewetting of degraded peatlands to address peat fires, land degradation and CO2 emission);

(b) developing the new approach through learning by doing in the real context (pilot rewetting in a number of areas to learn and to demonstrate);

(c) capacity building and promotion to ensure sustainability and replication (training and awareness raising).

40. The time required to complete activities was in a number of occasions underestimated in the project design. This was particularly the case in the project's inception and the completion of the rewetting process. As a result management plans will be completed after the project's end.

3.1.3 Country ownership/Driveness

41. The issues addressed by the project are positioned high on the agenda of the Belarus Government. At a small scale, the idea of rewetting degraded peatlands evolved as a cost effective solution to the expensive drainage systems in several agencies involved in peatland management at the end of the 1970s. Serious peat fires in the 1990s motivated more stakeholders to investigate the option of rewetting, which initiated the development of this project under the umbrella of the Ministry of Environment. The Ministry of Forestry, being the main responsible agency for the management of peatlands after exploitation and transfer to the Forest Fund, has been approached by the Ministry of Environment to foster the project as all the project sites are situated on the territory of the Forest Fund.

42. The success of the project can be explained by (a) the result of joining national and international expertise on peatland management, and by (b) the increased commitment for sustainable peatland management due to peat fires, land degradation and climate change. The Government's commitment is expressed by the significant co-funding (65%) by various Government agencies. Most project activities are implemented in close collaboration between the project and the various stakeholders and involvement in the project's water management interventions by stakeholders is high.

3.1.4 Stakeholder participation

43. The project plan was ambitious with regard to stakeholder participation focussing at sector-wide involvement. For each "Outcome" stakeholders are identified and mechanisms are described such as Steering Committee, cross-sectoral task force for the analysis of specific peatlands and working

partnerships with local land users. Some companies were contracted who were previously involved in draining and managing peatlands.

44. A point of departure for stakeholder consultations and the development of the scientific rationale, made in preparation of the intervention in the project sites, was the avoidance of negative impacts on local economic activities such as agriculture, forestry, mushroom collection and berry collection. A crucial step to gain acceptance and support is the approval of this rationale by the stakeholders at the level of the Rayon Administration, where local stakeholders are represented through the Rural Council.

45. Generally, options for direct involvement of local populations are limited. The project work is carried out at state land managed by the forest enterprises and community organisation is not very developed, apart from the Hunting and Fishing Associations.

3.1.5 Replication approach

46. Outcomes 1 – 4 generate most essential elements to be used in a replication strategy: policy and legal instruments, best practices for peatland renaturalization, skills and knowledge. Outcome 5 adds to that a systematic approach to area identification (degraded peatland database) and fund raising.

3.1.6 Cost-effectiveness

47. In the Project Document the following contributions were envisaged for the project funding: GEF $975,854, RSPB $40,000, BLF $37,839 and Government of Belarus $ 2,237,000.

48. Half-way the project's life, budget estimates of the Project Document turned out to be not sufficient to cover the rewetting of all sites. This budget shortage was due to (a) changes of the government index rate for construction and design of engineering documentation, (b) inflation of the dollar and (c) the absence of budgetary provisions for cost variation (annual indexing, contingencies). Following the MTE, adjustments have been made to the project activities and targets (particularly training, site management protocol and the elaboration of field guides), effecting also budget requirements. Budget shortage was solved through the collaboration with project partner RSPB and the project "Restoring peatlands and applying concepts for sustainable management in Belarus" funded by KfW, which covered the re-wetting costs of areas that could not be funded anymore from the GEF grant.

49. The adjusted contributions to the project are: GEF $975.854, UNDP $898, RSPB/KfW $396.124, BLF $35.176 and Government of Belarus 2,639,166 (including in-kind NASB).

50. Comparing the expenditures to the initial budgets shows that the costs under component 1 have been estimated too high and the cost under component 5 have been estimated to low in the project document. The reason for overspending under component 5, is that the original project design did not envisage a separate component and budget for general project management (PIU). Costs related to project management and monitoring were supposed to be covered under component 2. After the project inception, these costs have been shifted to component 5.

Table 1. Disbursement rate during the project's lifetime. The disbursement rate is calculated as the accumulated annual expenditures in relation to the initial project budget. In the last column the supplementary budget provided by RSPB/KFW has been included, showing the correction on the different budget components.

Project outcomes / components	2006	2007	2008	2009	2010*	2010**
1. Enabling environment strengthened for integrated ecosystem management on degraded peatlands	37%	50%	64%	76%	79%	79%
2. Sustainable integrated peatland management and rehabilitation demonstrated	6%	27%	48%	101%	127%	83%
3. Capacities built and awareness raised for integrated peatland management and monitoring	26%	43%	85%	117%	124%	105%
4. Capacities built and awareness raised for integrated peatland management and monitoring	29%	61%	78%	91%	105%	125%
5. Enhanced replicability and financial sustainability of project impacts	20%	38%	70%	108%	143%	123%
TOTAL	15%	36%	61%	102%	125%	95%

*, as of 26/10/10, based on initial project budget GEF, UNDP, RSPB, BLF
** the same, but additional RSPB/KfW funding taken into account

3.1.7 Sustainability

51. The project plan has an elaborate sustainability strategy with a strong focus on the mainstreaming of norms and procedures related to sustainable peatland management into the administrative practice. Key instruments in this respect are the Programme on Peatland Renaturalization under the UNDCC, Technical Codes of Practice, methodological recommendations and Management plans, budget allocation, capacity building and awareness raising.

3.1.8 Linkages between project and other interventions within the sector

52. The GEF Peatland Project was the first of its kind in Belarus but it was formulated in connection with other interventions supporting national strategies and action plans related to climate, energy and environment such as:

- GEF Project “Catalyzing sustainability of the wetland protected area system in Belarusian Polesie through increased management efficiency and realigned land use practices”
- Project “Capacity Development for Sustainable Land Management in Belarus”
- Project “Biomass Energy for Heating and Hot Water Supply in Belarus”

53. The Inception Report recommended also sharing and coordination with the project “Capacity Building for Implementation of Flexible Mechanisms of Kyoto Protocol in Belarus” that started in 2008.

54. Since 2008 a second project is active in the sector, the project "Restoring peatlands and applying concepts for sustainable management in Belarus"[2], which is funded by KFW and implemented in collaboration with RSPB. This project deals with rewetting of degraded peatlands and GHG balance monitoring and accounting. It receives technical assistance from the University of Greifswald / International Mire Conservation Group, working on the CO2 balance measurement. The GEF

[2] Generally, this project is referred to as "Project Belarus-1"

Peatland Project and Belarus-1 are very complementary and they collaborate very closely in order to maximise synergy. Both projects are represented in the other project's Steering Committees and they make use of the same experts where possible.

3.1.9 Management arrangements

55. The Ministry of Forestry is the national implementing agency of this project and the Ministry of Environment the co-implementing agency. Apart from these Ministries, eight other key partners have been identified and their roles are described in the project document. Partners are represented in the Steering Committee, which is the project institution that plays the key role in decision making and project planning. Daily management and coordination is assured by the Project Implementation Unit. The MTE recommended the establishment of an Operational Board, to support project coordination. However, this was declined by the Steering Committee who perceived this as a duplication of its tasks.

56. The MTE recommended intensifying the collaboration between the project and the Ministry of Forestry with the understandable argument that this would increase ownership. The relations and communication between the Ministry of Forestry appeared during the FE however very good. Apart from the structured meetings unscheduled consultations were held regularly and the fact that two project staff members had previously worked with the Ministry of Forestry - one of them still being based in the Ministry's building during the project - facilitated contact.

57. The structure as proposed in the project document has proofed to function well as roles appeared to be clear for all parties. Due to the composition of SC all partners were involved in project related decisions.

3.1.10 Ratings for project design

58.

Element	Rating	Basis for rating
Relevance	HS	The project addresses effectively a considerable number of national and global issues such as peat fires, land degradation, biodiversity, CO2 and climate,
Stakeholder involvement	HS	The design has been based on an adequate stakeholder analysis and the project partnership is effectively based on this
Management arrangements	HS	The structure as proposed in project document is well understood and adequate
Budget and duration	MS	The project's resources appeared to be insufficient to cover the targets set in the project document. This was partly due to external factors (rise of prices for design and construction) and partly due to wrong estimations (time required to cover administrative requirements and rewetting process)
Monitoring and evaluation	MS	Logical framework was poor, but project documents proposed adequate mechanisms for M&E

The rating is as follows: HS = Highly Satisfactory, S = Satisfactory, MS = Marginally Satisfactory, U = Unsatisfactory

3.2 Project implementation

3.2.1 Financial management

59. The project expenditures are presented in Table 2. As of 26 October 2010 an amount of US$1.328.838 has been spent. Due to among others the rise of rates for contractors during the course of the project, cost were significantly higher than estimated (see also 3.1.6).

60. The project used open tenders for the selection of the companies to be contracted for restoration of the sites as well as for other subcontracts. In Belarus the number of compatible companies skilled and equipped with appropriate machinery is limited, because of the limited state of development of the private sector in relation to work in the peatlands. However, the project managed to identify several companies experienced in Forestry and Water management to carry out the work. The elaboration of "Rationales" for each project site, which were in fact feasibility studies of the renaturalization, helped to provide clear specifications for design and implementation, leading to good cost estimates and the negotiation of sharp prices.

61. Fire management and management planning outputs carried out under the co-funding of the project are evident at field level. Expenditures under the co-funding are however not detailed in the reporting, which focuses more on activities carried out under donor funding. Activities and expenditures under the co-funding (Table 3) are annually reported by the Ministry of Forestry and other co-funding partners to the project and to the UNDP office. Steering Committee meetings address extensively donor funded activities, but not so much co-funded activities.

62. The project followed the UNDP financial reporting system, and separate reporting to RSPB and Birdlife Finland.

63. Separate audits were done for the GEF (March 2010) and the RSPB/KFW (August 2009, August 2010) funding components of the project. According to the audits carried out for the RSPB/KfW funding (two installments), done by respectively PKF Accountants and Business Advisors and Right

Company/DFK International from Minsk, expenditures have been done in accordance with the funding arrangements and rules of UNDP and RSPB. The audit of the GEF grant from 1 January 2006 to 31 December 2009 was carried out by Fabel, Werner and Schnittke GmbH (Germany). The report could not be consulted by the evaluator, but a summery was provided by the PIU, stating that "Combined Delivery Reports", two project inventory ledgers and a statement of cash position checked by the auditors were correctly presenting project expenditures, project inventory balance and cash balance and they were in accordance with UNDP accounting requirements.

Table 2. Project expenditures in US$ as of 26/10/2010

Project outcomes / components	**Total donor budget***	**2006**	**2007**	**2008**	**2009**	**2010****	**Total 2006-2010**
1. Enabling environment strengthened for integrated ecosystem management on degraded peatlands	65,000	23,884	8,364	9,347	7,551	2,050	51,196
2. Sustainable integrated peatland management and rehabilitation demonstrated	838,625	31,099	117,579	114,836	288,127	141,492	693,133
3. Capacities built and awareness raised for integrated peatland management and monitoring	171,403	38,226	23,700	61,149	45,897	10,502	179,475
4. Capacities built and awareness raised for integrated peatland management and monitoring	67,818	23,509	25,734	13,592	10,701	11,157	84,692
5. Enhanced replicability and financial sustainability of project impacts	260,493	44,762	40,510	71,413	83,606	80,051	320,342
TOTAL	1,403,339	161,481	215,887	270,337	435,882	245,252	1,328,838

*GEF, UNDP, RSPB, BLF, ** as of 26/10/10

Table 3. Co-financing Program Reported Contributions (October 2010)

Organization	Co-funding planned*	Output	Total reported October 2010*
Ministry of Forestry	1,984	1.2 Preparation of MOF program of degraded peatland naturalization 2.1 Approximately 42,000 ha of peatland rehabilitated 2.2 Risk of fire and radioactive contamination diminished subtotal	1 ,991
Ministry of Environment	70	3.2.2 Methodology of estimation and study of GHG absorption/emissions	126
GPO Beltopgaz	153	1.3.4 Implementation of engineer project on use of methods of peat extraction without disturbances to the hydrological regime of adjacent territories on the site Morochno after peat extraction 2.1 Peatland rehabilitation costs to prepare the Bulev Makh site by removing a pump station and drainage	425
National Academy of Sciences	30	3.2.2 Methodology of estimation and study of GHG absorption/emissions	97
TOTAL	2,237		2,639

* '000 US$; Source: Project Office Peatland Project

3.2.2 Monitoring and evaluation

64. Progress and impact monitoring have been part of the project implementation. The GEF/UNDP framework of planning reporting is quite consistent and strict, and this has been followed consistently by the project management team in the planning/reporting system. The SC-meetings played a crucial role in linking progress monitoring to planning.

65. As mentioned in section 3.1.2, the project's logframe is not optimal. The different "outcomes" are rather project components and they are used as such. During the MTE this problem and resulting shortcomings in progress monitoring have been identified. It was recommended not to adapt the logframe structure half way the project's lifetime.

66. During the MTE a number of issues were discussed such as the number of sites to be covered by the project, budget shortage and delays in regulatory framework development and capacity building. The results of the terminal evaluation show that the project has responded well to this.

3.2.3 Management and coordination

67. The Steering Committee (SC) has met on 14/1/2007, 19/12/2007, 15/1/2009, 26/8/2009 and 14/1/2010. The last Steering Committee meeting is planned in November, which means that the average frequency was close to every 10 months. During the meetings annual workplans and project implementation reports were presented and finalised. The workplans are according to the UNDP format and they are result-based. Key decisions in the course of the project were normally taken in the SC. For example the budget problems and their solutions troubling the project mid-way, were extensively addressed by the SC. Apart from the SC meetings, (ad hoc) technical meetings were held for specific purposes during the project with project staff, relevant SC members and other relevant specialists. An example of the role of the SC as an inter-sectoral platform for peatland management is the cancelation of renaturalization of the Zhada project site after it turned out that

peat extraction was planned within this site by the Ministry of Energy. The presence of a representative of this Ministry by Beltopgaz made a direct and open dialogue possible[3].

68. Generally the composition and functioning of the Steering Committee presided by the Deputy Minister of Forestry was well appreciated by the stakeholders. The SC was an interface between scientists and governors and a principal platform for knowledge exchange, decision taking and planning. Therefore, it has been an important mechanism promoting an integrated approach to sustainable peatland management and it has significantly contributed to the formation of a common vision on peatland management among the different stakeholders.

69. Stakeholders related to the various Ministries were intensively involved in the process. Local authorities and land users (fishermen, hunters, cranberry collectors, tourist, etc.) were however considered mainly as beneficiaries but not as partners. Since the benefits of the project for these groups are mostly significant, this has not caused a reduction of support by them. The current positive attitude of these groups offers opportunities for support to further steps in the development of degraded peatlands, if their involvement in the process would be increased. However, it is clear that dynamic involvement of local level social structures is a challenge, as social organisation at that level is limited.

3.2.4 Sustainability

70. Re-wetting structures are simple, and they are based on local materials such as earth, timber and stone, which are relatively cheap. Tools and machinery were also kept as simple as possible to match the accessibility of the terrain. Therefore maintenance is simple and maintenance cost will be generally low. However, since these structures consist of relatively light constructions, intensive monitoring and effective maintenance is crucial for sustained functioning.

71. Management plans have been formulated for the future management of the renaturalized sites. These plans have a 10 year review cycle and are based on a template developed by the project specifying required information, conservation, utilisation, substantiation, timing and maps. The format of the template is based on the management plans used by the Forest enterprises, which will facilitate their continued application by the current site managers.

3.2.5 Identification and management of risks (adaptive management)

72. An adaptive approach in planning/funding has been practiced, which was illustrated among others by the arrangement of supplementary funding to cover budget shortage, the exclusion of two project sites, and several adaptations at an early stage applied to rewetting measures/devices.

73. Adaptive management was an essential aspect of the interventions in the drainage systems. Since the scale of available topographic maps was insufficient to make accurate design, and the inaccessibility of some of the areas complicated land surveys, interventions had often to be applied and adjusted in the field. The project was prepared for unpredicted results of rewetting measures

[3] Although re-wetting of Zhada under the GEF Peatland Project was not possible within the time frame of the project, after coordinating the conflicting land allocation among the Ministries involved, the area will later probably be restored under different funding.

and had to correct interventions on a number of occasions. Because they were aware of the risk, response was quick and effective.

74. Involvement of local population's interest is illustrated by the re-wetting of Dokudovskoe raised bog, under the GEF SGP on request of the Rural Council. During the process important cranberry fields were submerged, but the intervention was adapted in consultation with the villagers.

3.2.6 Ratings for project implementation performance and sustainability

Element	Rating	Basis for rating
Projects adaptive management	HS	The project has responded well to both unexpected results of rewetting as to changes to the implementation costs. Adaptive management resulted in synergy with other projects, particularly Belarus-1.
Stakeholder participation, partner strategy	S	Involvement of central government related stakeholders, forest enterprises and scientists is very high, local stakeholder support is strong, but could be made more active.
Financial sustainability	L	The cost for maintenance of rewetting structures is low, since designs take into account local conditions. No funding problems are expected for maintenance.
Socio-political sustainability	L	Commitment of most stakeholders and sectors is very strong, but a rising demand for energy may increase pressure on peatlands. This pressure will target not-exploited peatlands, not restored degraded peatlands. However, pressure in relation to land may change in the far future.
Governance	ML	Currently peatland rewetting and maintenance are internalised in the government system (Ministry of Forestry), poor handing over of rewetted land from agency to agency or related to staff changes may cause a light risk.
Environmental sustainability	L	Environmental risks are hardly playing a role. Moreover, further developed stages of peat restoration, are more environmentally stable.

Rating - Implementation performance: Highly Satisfactory (HS), Satisfactory (S), Marginally Satisfactory (MS), Unsatisfactory (U)
- Sustainability dimensions: Likely (L), Moderately Likely (ML), Moderately Unlikely (MU), Unlikely (U)

3.3 Results

3.3.1 Attainment of outputs, outcomes and objectives

75. An overview of the achievement of project outcomes and indicators is presented in Annex 10.

76. The project achieved considerable improvement of the enabling environment for sustainable peatland management. A number of clear and concrete directives has been incorporated in the current framework for peatland management, such as (a) Technical Codes of Common Practice on peatlands restoration, site selection and peatland rehabilitation, (b) Methodological Recommendations for ecological mire rehabilitation and prevention of disturbances from drainage to the hydrological regime of mire ecosystems, (c) a model for the elaboration of management

plans of renaturalized peatlands, (d) development of the sectoral peatland renaturalization programme of the Ministry of Forestry, (e) contributions to the development of normative documents on EIA related to impact of peat extraction on biodiversity and hydrology [4], as well as (f) contributions to the National Programme to Combat Land Degradation by inclusion of a section "Sustainable Use, Renaturalization, and Protection of Degraded Peatlands", which is expected to be approved before the end of 2010. The main result of this is that at present new peat extractions are only done in areas which have already been drained and normally after peat extraction, areas have to be brought back in their initial state. In most cases (approximately 90%) only rewetting is applied for this purpose, in some cases afforestation.

77. Also at local level the achievement of an "enabling environment" is relevant, since local authorities and civilians have to live with a new element in their close environment. The direct benefits of re-wetting (less smoke and dust, more cranberries and fish) contributed to this, but the communication campaign implemented parallel to the work in the demonstration sites as well. This campaign made use of radio and television at local, national level and international level. The forest field staff played an important role for the information of local stakeholders. It was for example reported that in Stolin Forest Enterprise a ranger was stationed for a longer period at a site to inform local resource users in the field on the purpose and approach of peatland renaturalization. The communication strategy of the project resulted in 1 website, 20 TV interviews, 3 TV documentaries (Belarus, Russia and Deutsche Welle), 1 documentary on DVD, 25-30 radio interviews.

78. Fifteen sites have been renaturalized in the time frame of the project, with a total area of 28,208 ha at the cost of US$ 814,138, which is equal to 30 dollar per ha (Table 4)[5]. Management plans are completed for four of these areas, and the Ministry of Forestry has started the elaboration of five more management plans and are expected to be ready in Spring 2011 (Annex 9). The last six management plans are expected to be ready by the first quarter of 2012. At this time, four of these areas have been earmarked to receive protected area status.

79. The rewetting strategy consisted of the following subsequent phases for each site (time required for completion in parenthesis):

- preparation of land allocation act and approval by the local authority (1-2 months);
- development of scientific rationale (2-4 months);
- development of engineering design (4- 6 months);
- ecological expertise of engineering documentation (2 months);
- state expertise of engineering documentation (2-4 months);
- construction works (4- 6 months);
- elaboration of a management plan.

80. Management plan elaboration for rewetted areas takes according to the Ministry of Forestry at least two years. Since preparation and implementation of rewetting also required significant time

[4] In accordance with article 13 of the Law of the Republic of Belarus dated November 9, 2009, No. 54-3 "On state ecological expertise", Environmental Impact Assessment is required for peat extraction sites with an area of 250 ha and above

[5] Estimates of rewetting cost in an earlier stage of the project were US$ 50/ha, which is still far less than the investments required if the land would be made suitable for agriculture ($2000/ha) or forestry ($1250/ha) for drainage reconstruction, fertiliser, ploughing, etc. (source Beltopgaz)

(between 15 and 24 month), most construction was completed during the 4th and 5th project year. As a result there was not sufficient time left to complete the management plans within the project's lifetime.

81. The achievements of the project are a solid basis for the Government's efforts to access the Carbon market. CO2 credits may be sold when a CO2 monitoring and benefit sharing structure has been elaborated. This activity was delayed in the first phase of the project due to defect instruments purchased by the project, but could be proceeded. The CO2 monitoring and accounting is further developed by the Belarus-1 project (RSPB/KFW). Both projects are testing various measuring methodologies, since optimal measuring of CO2 balance in peatland is still in development.

82. The project stakeholders assess the level of achievement of the project high. Ministry of Forestry for example mentions as important contributions: the updated degraded peatland database, renaturalized peatland management plans, mire restoration training, legislation review, review of technical documents, success in fire fighting, improvement of revenues for hunters and fishermen, general change of attitude regarding re-wetting, dissemination of experience to other countries. An overview of all the realisations in the project demonstration sites is presented in Annex 9.

3.3.2 Project Impact

83. The degree of imbedding of the project practices in the institutional framework related to peatland management is high due to significant achievements regarding governmental stakeholder participation, capacity building, the mainstreaming of strategies and codes of practice, etc. The frequent field visits of senior staff from Ministries in the frame of the project were an important factor in this respect.

84. During the project different government agencies, research institutions and companies have learned to work together on peatland restoration and all of their staff have developed experience in restoration techniques. The process has led to a positive change of attitude towards renaturalization of peatlands and synergy between the Government agencies involved, particularly the Ministries of Forestry and Environment. The initiative to establish an (inter)ministerial team for the renaturalization of degraded peatlands is an indicator of this positive attitude.

85. The full impact of the rewetting in the 15 project sites cannot be measured now, since peat regeneration processes are slow. However, (a) vegetation succession is yet visible on all rewetted sites, (b) a shift to aquatic bird populations is observed on all sites and (c) most sites have attracted people for fishing, hunting and tourism since rewetting has been completed.

86. The impact on wildlife of rewetting is significant. Tracks indicate abundance of Wild Boar, Beaver, Otter, Roe Deer, Red Deer and Elk in different areas. At Grichino Starobinskoe a new breeding colony of 150 pairs White Heron settled. In the same area the number of hunting licenses could be increased more than tenfold after rewetting, and the daily number of fishermen estimated during weekends and holidays in the area is around 200.

87. Measurements on CO2 balance in the project sites have showed so far that rewetting reduced CO2 emission due to mineralisation of peat with 283,584 tonnes per year and increased CO2 fixation with 43,306 tonnes per year, whereas 5,675 tonnes was emitted by rewetted peatlands, which puts the final balance at 321,215 tonnes CO2 reduction (Table 5). To give a rough sense of its theoretical value, this would represent over 5 million US$ expressed in carbon credits (Certified Emission

Reductions/UNFCCC[6]). On the voluntary market however its value may be in the order of 1,6 million US$.

88. Another direct benefit from the rewetting was the immediate reduction of fire occurrence to zero in all project demonstration areas. Villagers and people in larger towns near re-wetted sites (Lida, Orsha) are happy due to the reduction of smoke and dust which was brought by wind from the degraded peatlands before water levels had been increased by the project. The cost for fire fighting and prevention was estimated in the Stolin Forest enterprise at US$ 0.5 /ha, in Lida Forest enterprise at US$ 0.8 /ha, and in Orsha Forest enterprise this is estimated at US$ 0.1 /ha. Extrapolating these figures to the area restored by the project, annually approximately US$ 13,000.- has been directly saved on fire fighting and prevention in the areas. In reality, however, the savings are higher, because rewetting is usually carried out in areas with high fire risk, and the prevention in these areas reduces the risk in adjacent areas.

89. The project contributed substantially to the promotion of sustainable peatland management and the replication of its approach in- and outside Belarus. New sites are being rewetted under the GEF Small Grants Programme, an extensive communication programme was rolled out in Belarus and presentations were given on the project in for example Germany, Slovakia, Iran (peatlands workshop, October 2010), Japan (CBD meeting October 2010), Indonesia and Denmark (CoP, UNFCCC). Russia (Ministry of Environment, and Tver Peat Institute) requested collaboration from the project following the fierce peat fires in that country last summer. In Ukraine, a sister project of the GEF Peatland Project has been started last year, building on the experiences in Belarus. Intensive contact is maintained with this project through exchange visits.

[6] The estimated price of CER for December 2010 is estimated at €12.22 by Point Carbon's OTC. On the voluntary market the price would be much lower and could be set at US$ 5.- (pers. com. M. Silvius, Wetlands International)

Table 4. Total cost for the renaturalization of the project sites

	Renaturalized Peatlands	Area (ha)	Rationale, monitoring (US$)	Field visits (US$)	Design (US$)	Expert review (US$)	Construction work (US$)	Total (US$)
1	Bartenikha	192			2,004	321	8,163	10,488
2	Dokudovskoe	2,744			4,969	555	47,289	52,813
3	Galoe	1,153			2,091	334	24,357	26,783
4	Miranka	514			1,964	362	10,290	12,616
5	Ladovo	1,039			3,613	308	9,586	13,507
6	Zhada	5,382			33,928	0	0	33,928
7	Grichino-Starobinskoe	3,505			2,958	334	32,468	35,759
8	Morochno	5,721			4,338	394	22,977	27,708
9	Osveiskoe	4,519			5,327	511	36,094	41,932
10	Obol-1	1,097			6,034	501	47,191	53,726
11	Bulev Mokh	1,913			4,087	416	19,976	24,479
12	Osinovskoe-1	1,189			6,805	621	16,636	24,061
13	Osinovskoe-2	2,131			6,964	656	41,577	49,198
14	Poplav Mokh	415			10,598	1,141	35,583	47,323
15	Scherbinski Mokh	1,323			22,912	1,449	18,001	42,362
16	Zhadenovski Mokh	753			11,454	1,019	36,400	48,874
17	Belozerskoe	7,136			0	0	0	0
	Total	40,726	194,923	107,586	130,047	8,922	406,589	848,066

Table 5. Carbon balance of drained peatlands and rewetted by the Peatland Project

Renaturalized Peatlands	**Actual area of peatlands, ha**	**CO_2 emissions drained peatland (non-rewetted), tons CO_2 ha yr-1**	**CO_2 fluxes from restored peatlands (after rewetting)**	
			Rate of CO_2 sink, tons CO_2 ha yr-1	**Emissions CO_2, tons CO_2 ha yr-1**
Bartenikha	191.6	2,165	-159.5	71.5
Miranka	514.2	5,759	-483.3	-
Dokudovskoe	2,744.1	30,734	-1,603.5	-
Galoe	1,153.0	10,096	-2,782.6	1,009.8
Ladovo	1,039.0	10,399	-594.0	-
Morochno	5,721.0	56,924	-6,565.9	1,928.4
Osejskoe	4,519.0	44,964	-8,246.2	1,943.0
Obol-1	1,096.8	9,608	-1,535.8	721.8
Grichino-Starobinskoe	3,505.0	39,256	-5,411.9	-
Bulev Mokh	1,913.0	21,426	-1,112.1	-
Osinovskoe 1	1,189.3	11,774	-3,546.5	-
Osinovskoe 2	2,131.0	21,097	-5,911.5	-
Poplav Mokh	414.6	3,837	-973.4	-
Zhadenovski Mokh	753.3	5,095	-1,598.7	-
Scherbinski Mokh	1,322.8	10,450	-2,780.8	-
Total	28,207.7	283,584	-43,305.7	5,674.5

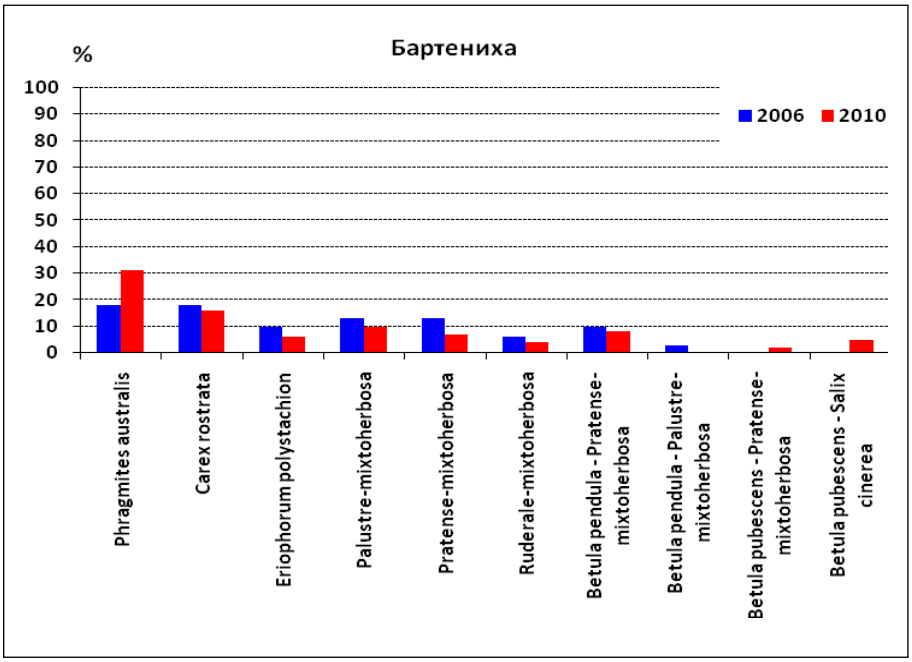


Figure 1. *Changes in plant cover following re-wetting in the period 2006 to 2010 in the Bartenikha project site.* Rewetting of Bartenikha was completed end 2007.

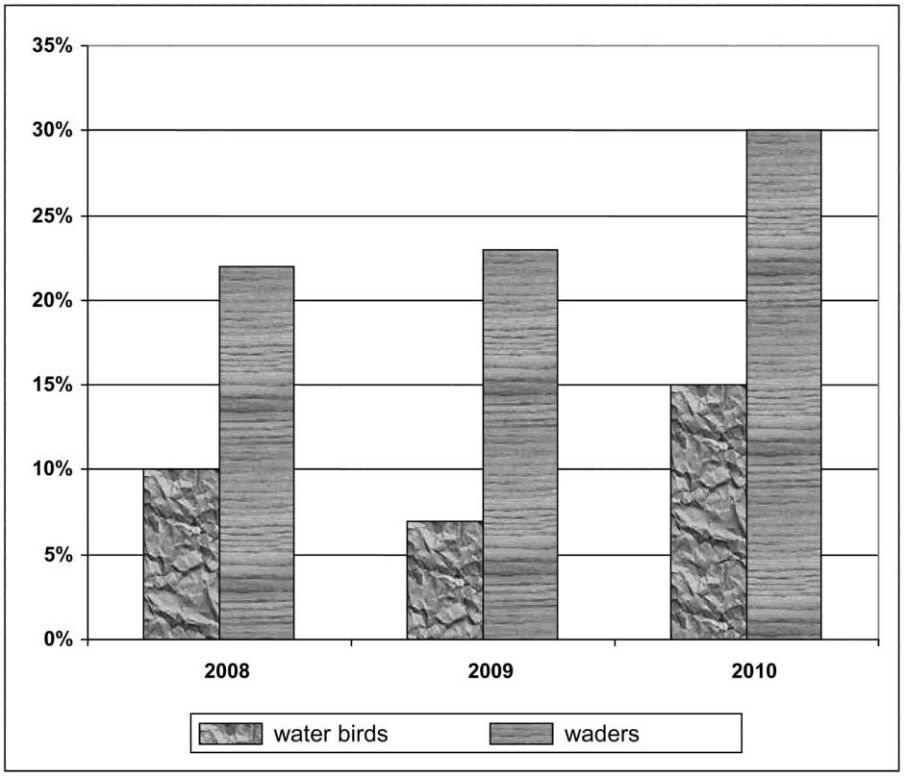


Figure 2. *Dynamics of the number of water bird species, and the number of waders and marsh birds as proportion of the total number of bird species in the project site Grichino-Starobin following re-wetting in the period 2008-10.* Rewetting of *Grichino-Starobin* was completed mid 2009.

3.3.3 Prospects of sustainability

90. Sustainability depends on commitment, funds and skills. To assure the transfer of skills in the human resource base of the forest enterprises, the project has developed a training programme in 2010, which has been incorporated in the annual recycling training programme for foresters. It targets approximately 1000 staff of the higher levels. The training includes modules on (a) peatland dynamics and management, (b) sustainable peatland management strategy, (c) management options for degraded peatlands, and (d) rehabilitation of degraded peatlands. The first training cycle has been completed in September and the training modules are also made available at the project's website.

91. Rewetting structures are delivered by the contractors with a two-year warranty. Although service providers of the project are contracted through UNDP, eventual problems will in practice and in the first place be solved between the contractor and the respective Forest enterprise who will monitor the state and functioning of the water management structures. When the structures are transferred to the owner by the contractor, the Warranty Certificate is handed over to the Forest enterprise and the contractor signs the Acceptance Act which transfers full ownership and warranty to the Forest enterprise. Budget will/should be allocated for maintenance. After the warranty period, Forest enterprises will take the full responsibility for the re-wetting structures, including maintenance cost. Budget allocation for maintenance has been discussed in the SC-meeting of January 2010, but not all forest enterprises seemed to be aware of budget allocations in this regard at their level.

92. In the framework of the project, the Forest enterprises have elaborated management plans for the rewetted areas according to directives developed by the project and compatible with current forest management planning practice. When rewetted areas are classified as protected areas, specific aspects related to renaturalized peatlands have to be included into the management plans to be elaborated by the state body to which the governance of these protected areas will been mandated, or by the state nature protection entity carrying out the management of these areas.

93. Handing over of territories classified as protected areas from Forestry to other national or local state bodies responsible for their management, also involves the transfer of skills and knowledge related to rewetting in general and related to the specific site and water management structures. The project has left clear instructions with the Forest enterprises on the issues and tasks concerning management of the rewetted areas. The remaining question is if Forest enterprises have at a later stage (after the project) the possibility to pass this completely on to local executive and administrative bodies responsible for protected area management. This is a risk factor beyond the responsibility of the project. It should be noted here that the project has developed training for the Forestry Training Centre where Forestry staff of all levels receives recycling training. In the future, staff from other entities managing rewetted areas should be provided the same training.

94. Most stakeholders underlined the importance of the continuation of monitoring in order to improve the understanding of peatland management and to validate its resources. During the project 10 new monitoring plots located in different vegetation types of 3 project sites (Annex 9) were included in the National Environmental Monitoring Programme (NEMP). Additionally, the site Belozerskoe where no re-wetting measures were taken to allow natural peatland recovery was included in the NEMS as reference for the natural process. The monitoring implemented according to this programme will generate sufficient information to cover the main monitoring objectives to assess the ecological impact and succession following the rewetting. Additional to that the Forest enterprises will monitor water level in all sites, providing information on the functioning of all

rewetted systems. Moreover, water level monitoring offers elementary information on the CO2 balance (Annex 7, reference 25). Some institutes have expressed their interest to continue specific monitoring elements within the limitations of their own workplans and budgets. The project management team concludes that limited monitoring as currently arranged in the NEMP provides sufficient information for follow up. However, some research institutions and some Forest enterprises would like to see full monitoring in more or all sites to cover their specific scientific and managerial questions and interests. This opinion can be interpreted as a good sign of the growing interest in this issue, which could even lead to generating more national funds for this purpose in the future.

3.3.4 Replication

95. A project replication strategy has been developed in 2010 by an independent expert and presented to the Ministry of Forestry. The strategy involves action plans on the dissemination of the project experience for the short and long-term. Activities proposed are further restoration of depleted peatlands, inventory of natural mires, and the development of documents supporting the restoration and sustainable management of peatlands. Potential financial sources are indicated.

96. During the project some drivers for the renaturalization of peatlands were established under Project Outcome 1, and have proved to be effective.

97. Since 2009, peat extraction enterprises are obliged to re-naturalize depleted sites after exploitation to Forest enterprises according to the TCPs developed by the project (Decree 626 – Land Issues 2009). Most of the sites after peat extraction are to be re-wetted. Peat enterprises are happy with this obligation, since rewetting is cheaper than rehabilitation for agricultural purposes or forestry (see also 3.3.1). Re-wetting degraded peatlands not subject to peat extraction would require however external funding. Experts at the Ministry of Forestry estimate that 50,000 more hectares of the Forest Fund are suitable for re-wetting.

98. Several Forest enterprises have indicated their interest in rewetting more sites if funds would be available. Sources that should be investigated are proper revenues of Forest enterprises, central government budget, SGP, local authorities and the National Hunting and Fishing association. There is international interest from the German Michael Otto Foundation to support renaturalization of peatlands.

99. Among the various stakeholders there is also a common vision with regard to the challenge of renaturalization of degraded agricultural peatlands, which cover a vast part of the country and contribute significantly to CO2 mineralisation and fire hazard.

100. The international interest to build on the experience of the Belarus GEF Peatland Project is evident through the recent interest from Russia following the serious peat fires last summer. The GEF Peatland Project started last year in Ukraine is another example of international replication of the current project. A team from Indonesia came to Belarus to learn from the experiences relevant for the management of peat fires and land degradation in Kalimantan.

3.3.5 Rating of level of achievement of project outcomes

Outcome	Relevance	Effectiveness	Efficiency
1. Enabling environment developed	HS	HS	HS
2. Re-wetting in demonstration sites	HS	S	MS
3. Capacities built, awareness raised (GEF)	HS	S	S
4. Capacities built, awareness raised (other donors)	HS	S	S
5. Enhanced replicability	HS	HS	S

Rating: Highly Satisfactory (HS), Satisfactory (S), Moderately Satisfactory (MS), Moderately Unsatisfactory (MU), Unsatisfactory (U), Highly Unsatisfactory (HU)

101. All outcomes are very relevant in the context of the focal areas, operational program strategies and country priorities.

102. Achievements concerning the development of an enabling environment for rehabilitation of degraded peatlands (outcome 1) were highly satisfactory, particularly because most efforts in this field started to give fruits in 2009 and 2010.

103. The efficiency of the re-wetting of demonstration sites (outcome 2) has been rated Moderately Satisfactory because 70% has been realized of the area initially planned and only a part of the management plans have been finalized within the project's life time. However, the decision on re-wetting of a smaller area was well motivated on reasons out of the project's control. Reduced performance regarding this outcome is also due to a rise of construction prices, which forced the project to search for supplementary funding to enable completion of even the reduced target. However, apart from that the impression remains that the required capacity and time required to complete the targets set in the project document have been underestimated. Nevertheless, being a pilot, the results of the rewetting in the demonstration sites are satisfactory, and would have scored highly satisfactory if management plans could have been completed for all.

104. The development of the CO2 measurement methodology has been delayed due to equipment problems in the first phase of the project, but these problems were solved and the work on this could be proceeded. The methodology will be further developed under the Belarus-1 project with technical assistance from the Kreigswald University, Germany.

105. The replication strategy has already generated highly satisfactory results, despite its late start (see MTE). The expenditures under component 5 were significantly higher than estimated in the project document (Table 1), but this is a consequence of underestimated project management costs, which were also brought under this component. The national and international outreach of the project has resulted in worldwide communication and transfer of practices.

106. The ratings of the Terminal Evaluation are relatively higher than the MTE ratings. This is certainly related to the fact that at the time of the MTE, the project was struggling with some issues hampering progress, particularly the issues related to Zhada and Belozerskoe demonstrations sites, the rise of construction prices, extra fund raising, some technical problems regarding CO2 measurement, capacity problems regarding procurement and awareness. Moreover, the time required to address administrative issues has been underestimated, certainly during the first phase of the project. Solving these issues mid-way has resulted in an observable acceleration in the second phase of the project.

4 Conclusions and recommendations

4.1 Main conclusions

107. The Peatland Project has achieved within its five year life time to develop a framework for the renaturalization of degraded peatlands, including methodology, capacity and an enabling environment. Future activities in this field will benefit considerably from the experience and tools developed by this project.

108. Re-wetting of peatlands has resulted on the short term in vegetation succession and significant reduction of CO2 emission, but completion of the restoration process may take a few decades. The impact concerning peat and forest fire reduction was immediate and even benefits in relation to fishing and hunting increased shortly after the interventions were completed.

109. The Peatland Project managed to develop a wide consensus among policy makers and peatland managers on sustainable management of degraded peatlands.

110. Generally, methods for renaturalization of degraded peatlands are cheap compared to other land rehabilitation methods, and technically simple. However, they require careful and extensive consultation, design and planning in order to be well integrated in the landscape and land management system, involving all stakeholders.

111. The project team managed with limited resources to play a key role in the development of a new approach to land management, involving many stakeholders, a complex institutional setting and a vast area of land.

112. The implementation of the project was confronted with delays and costs exceeding estimates, due to various reasons, particularly the complexity and time requirements of administrative procedures, underestimation of the duration of the project site development, and price increase for construction work.

113. The various initiatives and support generated by the project will certainly assure the preservation of the current results and the replication of the approach elsewhere. However, in view of the pressure on natural resources (particularly energy, but in future perhaps also other resources) the long term sustainability of some sites that have remaining exploitable peat deserves concern.

114. The next challenges in peatland management are :

- identify funding and incentives for the re-wetting of degraded peatlands
- introduce and mainstream renaturalization as key management strategy for the rehabilitation of degraded lands in other sectors, particularly agriculture.
- mainstream integrated sustainable peatland management in all sectors involved

4.2 Corrective actions for design, implementation, M&E, applicable to future projects

115. The logical framework of the project should have been better developed with an emphasis on its strategic aspects. This was also concluded during the MTE, but it was decided not to change the logical framework to avoid confusion of the running managerial and reporting routines. The evaluator of the Terminal Evaluation supports this opinion and decision, but it is evident that future projects require attention in this regard.

116. The SC meetings were an important instrument for the communication between key stakeholders and the management of the project. The frequency of these meetings was planned to be two meetings per year. For a number of reasons, the actual number of meetings has been five. In view of the complexity of the process and the number of different stakeholders, maintaining a minimum of two meetings per year seems to be prerequisite for the SC to fulfil its role.

117. The PIU was sometimes confronted with logistical problems due to the vast area to be covered regularly for consultation and supervision. The project, funded by a medium grant, did not provide budget for the purchase of a car, and alternatively, the hiring of cars turned out to be expensive and not always reliable, particularly in case of field trips. Finally, the project managed to settle a regular arrangement for an affordable car with a reliable driver. During project design, logistic options should have been elaborated further, looking into procurement, car-rent and lease.

118. The duration of the entire implementation cycle of rewetting from site selection to management plan, appeared to be long to allow completion of all sites within the project's lifetime. Future projects should count on timeframes between 39 and 48 month to complete the entire cycle of a site.

119. GEF project monitoring and evaluation requires reporting of co-funding. Project partners did report their contributions to the project, but this was not fully included in the project reporting.

120. The funding problems of the planned project activities half-way the project's course could have been partly avoided by anticipating cost increment by price indexing and including a contingencies budget line.

121. Earth structures are prone to damage by beaver. At several sites erosion due to beavers crossing dams has been observed and the same damage was reported by forest enterprise staff from other sites. Solid reinforcement of structures using wood or stone is recommended and appears to be effective. At the Bartenikha demonstration site dams were damaged by crossing Wild Boar and effective reinforcements and obstacles were made.

122. An important lesson learned during the implementation of the project, was that this type of work involves considerable sub-contracting and procurement to be arranged according to the rules of the Government as well as the UNDP/GEF (Annex 11). The project employed a procurement officer at a later stage to deal with the amount of work in this regard, and to reduce the work load of the Project Manager and Assistant Manager who dealt with this in the beginning of the project.

4.3 Actions to strengthen or reinforce benefits from the project

123. The land management system of Belarus is well controlled, but it could be worthwhile to think about further development of mechanisms to facilitate integrated management. The intended formation of a permanent peatland renaturalization team would be a good example of such a mechanism, particularly if this team would involve key stakeholders from different relevant sectors and Ministries.

124. Alternative use of peatlands (cranberries, fishing, hunting, tourism, CO2) has significant value in terms of wellbeing as well as economics. Better knowledge of the values related to functions of the peatlands would lead to better balanced decisions regarding their use, which would support sustainability. An interesting idea in this regard is an investigation of the feasibility of wildlife

ranching in restored peatlands, which was suggested by staff of the Institute of Nature Management.

125. Increase of utilisation of rewetted areas leads to accumulation of waste disposal by fishermen, hunters and other visitors. The increase of use of some of these areas is the challenge for the Forest enterprises and eventual other entities managing the areas in the future. This type of problems can be managed by measures such as awareness raising, zoning, fencing, law enforcement, and other.

4.4 Proposals for future directions underlining main objectives

126. The experience gained in the Peatland Project needs to be replicated now in other areas in order to implement the country's strategy to cope with land degradation. Pursuant to the article 6 of the Code of Land of the Republic of Belarus, lands of the Republic of Belarus is divided into the following categories: (1) agricultural lands, (2) lands of settlements, horticultural societies, dacha cooperatives, (3) industrial lands, lands of transport, communication, energy, defence and for other purpose, (4) lands for nature protective, health-improving, recreational, historical and cultural purposes, (5) lands of forest fund, (6) lands of water fund, and (7) reserved lands (land without determined purpose). Degraded peatlands may be found as classified under categories (1), (4), (5) and (7). In category (1), agricultural lands, more than 250,000 ha have been degraded due to drainage and deep-ploughing. Due to this unsustainable practice the production has become uneconomic and more land will reach this degraded stage in the near future. Also under category (7) more than 250,000 ha of peatland is degrading due to unsustainable land use in adjacent land. Re-wetting could attribute new values to these "evolving deserts".

127. The Government recurrent funding can certainly not cover the cost of all these degraded peatlands and therefore the identification of funding options is crucial to expand renaturalization. Sources are to be found at national (e.g. National Environmental Fund, forest enterprises' proper funds) and international level (biodiversity, climate and CO2 related funding mechanisms).

128. Gaining access to the carbon market requires further development of carbon measurement and accounting and the development of a benefit sharing mechanism.

129. Possibilities of continued elaboration of the methodology for peatland renaturalization could be investigated by further development of landscape modelling in the landscape ecological context of restored areas based not only on current drainage systems but also inspired by pre-exploitation natural drainage systems. GIS simulations and Digital Elevation Modelling may be helpful.

130. To address the increased utilisation of natural resources and recreational functions of rehabilitated peatlands, management plans need to elaborate on this aspect. For this purpose several management measures could be considered such as zoning, spatial planning of activities and facilities, parking places, garbage bins, and information dispersion. In some areas such measures have already been initiated by the project.

131. The GEF Peatland Project contributed considerably to mainstreaming of sustainable management practices in the Ministries of Environment and Forestry. The next step will be to raise awareness in other Ministries, particularly the Ministries of Agriculture and Energy that play a very important role in the management of peatlands. Bringing administrators and governors to the field helps. For example, one helicopter flight over peatlands with the Minister of Forestry resulted in extra budget for fire fighting

132. An important window of opportunity for further development of sustainable peatland management is the review of the "Scheme for Rational Use of Peat Deposits (2000)", which is phasing out in 2010.

133. The review of the "Forest Development Programme 2007-2011" is another window of opportunity for the consolidation of renaturalization of peatlands in the policy on forest development in Belarus.

134. To reduce the pressure on peatlands, the development of policies and practices of alternatives for peat as fuel deserve priority. The Government of Belarus encourages alternatives for mineral oil as fuel resource, but the country has a poor potential for solar, geothermal, wind and hydro power[7]. The most significant renewable energy resource is wood and other biomass sources (about 1,000 MWe technical potential).

135. To carry the momentum gained from this project forward and to support a multi-sectoral approach, the formation of a (inter-)ministerial team on integrated and sustainable peatland management should be pursued.

4.5 Suggestions for strengthening ownership, management of potential risks

136. Currently rewetted peatlands are appreciated by hunters and fishermen. In the future open water will be partly overgrown and hence loose attraction for fishermen. This may lead to the desire from these stakeholders to maintain open water, which would be conflicting with the objectives of rewetting. Such desires can however also be appreciated as opportunities for support and collaboration and they are typical issues for an integrated management approach that strives for the coverage of interests of different stakeholders. An example of the commitment of such stakeholders to contribute to the process is the decision of the Miranka Hunting and Fishing Association to suspend hunting and fishing in the re-wetted part of their area to support the proliferation of animal populations.

137. To ensure the management of rehabilitated peatlands by other state entities than those affiliated with the Ministry of Forestry, such as entities related to the Ministry of Environment or local executive and administrative bodies responsible for protected area management, staff of these entities need to be trained in the training programme developed by the project and delivered at the forestry training centre.

138. Some experimenting has been done on peatland vegetation regeneration. Such experimental research projects could contribute to improvement of regeneration processes, for example by developing methods to stimulate the settlement of Sphagnum species.

139. Another suggestion for research is the impact of nitrogen deposition through precipitation. When certain levels are exceeded through air pollution, encroachment by other plants (e.g. pine, Molinea and other grasses) will increase and may inhibit growth of Sphagnum. In Belarus this could be the case in the vicinity of industrial and urban areas.

140. Presently, peat from raised bogs is exported to Western Europe (Sweden, Germany, Netherlands), mainly as fertiliser. This exploitation involves environmental costs for Belarus, but does not directly address the country's energy needs. The economic value and expediency of this activity for Belarus

[7] Source: EBRD Renewable Development Initiative 2009. Belarus country profile

should be reconsidered taking into account benefits and costs, including the foreign currency income generated by these exports.

141. The country's current policy on energy has a target of 25% self-sufficiency in 2012, and 30% in 2019. peat is currently providing 3% of the national energy provision, but this figure is supposed to rise to 5%. Even amplified by the increasing energy needs of the country, this pressure on peat resources underlines the need for further elaboration of sustainable peatland management, and also the development of alternative sources of energy.

5 Lessons learned

142. The project generated a wealth of new knowledge and skills on sustainable peatland management. All this information is recorded in project documentation, directives and manuals for practitioners and in scientific publications such as articles in the Belarus Journal of Nature Management, a contribution to a book on peatlands and climate change published by the Poznan University in Poland and various electronic publications.

143. The elaboration of extensive rationales, being actually feasibility studies and concept designs, is a very useful first step in the process leading to the renaturalization of degraded peatlands. It helps to investigate potential development options of the terrain, and supports the dialogue among the stakeholders leading to agreed goals of the final design. A better focus of the plan also contributes to reduction of cost for the design and construction.

144. The use of simple techniques and local materials is not only cheap, but usually also easier to apply in areas with limited access to heavy machines. Moreover, rehabilitation measures will be easier to adapt later. This characteristic is an important element of the rehabilitation strategy developed, which is partly determined by learning-by-doing.

145. Design should take into account possible damage by animals (e.g. Wild Boar, Beaver) and humans. The former type of damage is usually avoided by simple wooden or stone reinforcements, while the latter should be dealt with by information campaigns in the first place.

146. The limited elevation differences in peatlands lead to large variations in areas flooded resulting from small variations in water level. As a consequence unexpected results are not uncommon and undesired impacts on for example existing infrastructure and resources have to be avoided. In such cases, the rewetting can be implemented at gradual levels or step by step. It appears useful to mention here that peatland restoration in the Netherlands, which started in the 1950s, is a long term process whereby with the course of time compartmentalisation is progressively developed in order to shape the landscape and optimise ecological conditions equally over the area. Re-wetting depth should not exceed 0.5 m and water table fluctuations should not be more than 0.3 m to allow optimal rehabilitation of Sphagnum vegetation.

147. The design of re-wetting structures offers opportunities for other land users including peat extractors in adjacent areas. The construction of impermeable dykes for example may reduce cost for drainage required for peat extraction. Utilizing such opportunities strengthens collaboration of stakeholders involved.

148. Bringing high level authorities from crucial governmental agencies to the field to demonstrate problems, solutions, progress and results is extremely helpful to raise awareness and support from decision makers.

Annexes

ANNEX 1. PROJECT LOGICAL FRAMEWORK MATRIX (REVISED)

Project Strategy	Objectively verifiable indicators			Sources of verification	Assumptions
	Indicator	Baseline	Target		
Long-term goal: To promote integrated approaches to ecosystem management on degraded peatlands, so as to generate multiple global benefits by preventing land degradation, mitigating climate change, and ensuring biodiversity conservation.					
Project objective: To strengthen the enabling environment for integrated ecosystem management on degraded peatlands, and to demonstrate the feasibility of generating multiple global benefits through such a management approach at 17 pilot sites.	Area of degraded peatlands renaturalized	No peatland renaturalization undertaken	42,110 ha by project end	Project reports	No changes in political or economic priorities Complete and accurate information on demonstration sites; no errors in design plans for renaturalization works; no unusual climate factors; effective interaction between local communities and authorities
	CO_2 emissions from renaturalized peatlands	App. 311,000 tons of CO_2 emitted annually	Not more than 22,000 tons of CO_2 annually by project end	Monitoring reports	
	Area of wetland plant associations at the project sites (sedge, reed communities)	Less than 10% at the majority of sites	Up to 50-80% at each site by project end	Monitoring reports	
	Avifauna structure (species composition and population size)	Less than 10 % of wetland species in the avifauna structure	Over 50% of wetland species in the avifauna structure by project end	Monitoring reports	
Outcome 1: Enabling environment strengthened for integrated ecosystem management on degraded peatlands	- A section to the National Action Program to Combat Land Degradation on renaturalization and sustainable use of degraded peatlands - List of stakeholders that have agreed the program	No renaturalization program for degraded peatlands available to date	The section prepared and approved by 34th project month	- Final evaluation - Project reports	No changes in political or economic priorities
	New sectoral program on renaturalization of degraded peatlands	2002 program is outdated	The program prepared and approved by the MoF by 24th project month	- Final evaluation - Official MoF documentation	
	Guidelines on prevention of disturbances in the hydrological	No guidelines available	The guidelines elaborated and tested at least on one pilot site by	- Official documentation of MoF	

Project Strategy	Objectively verifiable indicators			Sources of verification	Assumptions
	Indicator	Baseline	Target		
	regime of the adjacent mires during peat extraction		48th project month	and Beltopgaz - Final evaluation	
	Regulatory document "Guidelines on rehabilitation of depleted peat deposits and other degraded peatlands by rewetting"	No guidelines	The regulatory document elaborated and approved by 33rd project month	Ministry of Environment documentation	
	Regulatory document "Guidelines on selection of sites for renaturalization of depleted peatlands and other degraded mires"	No guidelines	The regulatory document elaborated and approved by 33rd project month		
Outcome 2: Sustainable integrated peatland management and rehabilitation demonstrated	Positive mire formation processes	None	Visible in at least 15,000 ha by project end	Project reports	Complete and accurate information on demonstration sites; no errors in design plans for renaturalization works; no unusual climate factors; effective interaction between local communities and authorities
	Forest management plans for 17 project sites	No forest management plans	17 plans incorporated into the MoF planning	MoF documentation	
	Occurrence of fires	13 sites suffered from regular peat fires over past 5 years	No peat fires at 17 project sites by project end	Fire monitoring reports	
Outcome 3: Capacities built and awareness raised for integrated peatland management and monitoring	Scientific rationales for renaturalization of the project sites as a basis for engineering construction projects	No scientific rationales	17 scientific rationales	Project reports	No changes in political or economic priorities
	Methodology of estimation of CO_2, CH_4 emissions and absorption	No methodology	Methodology elaborated by 34th project month	Ministry of Environment documentation	
	Inclusion of newly created monitoring plots into National Environmental Monitoring System	Monitoring plots are not included into NEMS	5 plots included into NEMS by 33rd project month	Official documentation of NEMS	
	Reserving, extensions and/or establishment of protected areas	6 protected areas at the project sites	10 changes in status of existing protected areas or establishment of	- Project reports - Scheme of protected	

Project Strategy	Objectively verifiable indicators			Sources of verification	Assumptions
	Indicator	Baseline	Target		
	and/or other conservation regime on the project sites		new ones, or reserving for creation of protected areas	areas' distribution	
Outcome 4: Capacities built and awareness raised for integrated peatland management and monitoring	Trainings on methods of rehabilitation of depleted peatlands, sustainable uses	0	At least 5 trainings held	Training reports	No changes in political or economic priorities
	Information materials about significance of peatlands and the need for their conservation and sustainable management	Limited amount	1 web-site, 1 film (produced and broadcasted on TV), 2 posters, 20 articles in mass media, 6 radio interviews, 4 TV interviews by project end	Copies of the articles, poster, etc.	
Outcome 5: Enhanced replicability and financial sustainability of project impacts	Change in designated use of peatlands after peat extraction	Peatlands after peat extraction are used in agriculture or forestry (only 1,600 ha due for renaturalization)	6,000 ha due for renaturalization	BelTopGaz and/or BelNICZem documentation	No changes in political or economic priorities
	System of record of degraded peatlands (amount and distribution) in the Ministry of Forestry's network	No system	A database for record of degraded peatlands created by 34th project month	MoF data	
	Number of forestries involved in implementation of sectoral program on renaturalization of degraded peatlands	0 forestries	At least 40 forestries involved by project end	MoF data	
	International project(s) on renaturalization of degraded peatlands with funding sources	No projects	A project with at least USD 5 mln (in-kind and cash) in commitments drafted by project end	Letters of commitment	The application is approved by all stakeholders

ANNEX 2. TERMS OF REFERENCE TERMINAL EVALUATION OF PEATLAND PROJECT

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 July 2006 and is expected to be completed in 2010. The project is nationally executed by the Ministry of Forestry of Belarus. The total GEF contribution amounts to $975,854, matched by $,432,197.6 from international project partners, and by $2,639,166 from local project partners.

The project aims to address peatland degradation in Belarus by achieving multiple environmental benefits in the areas of sustainable land management, climate change mitigation and biodiversity conservation. The project builds on both national and international experience to introduce wetland renaturalization on 17 degraded peatlands covering a total area over 40,000 ha. To address existing barriers to renaturalizing degraded peatlands and ensure long-term interest and commitment to renaturalization, actions will be taken at three levels: strategic (enabling policy environment for peatland restoration), research and capacity development (monitoring, trainings), and on-the-ground investments in 17 pilot sites (actual restoration of 17 degraded peatlands).

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 Forestry, Ministry of Environment, Royal Society for the Protection of Birds, National Academy of Sciences of Belarus, APB-BirdLife 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:

- Is the project concept in line with the sectoral and development priorities and plans of the country?
- Are project outcomes contributing to national development priorities and plans?
- How and why project outcomes and strategies contribute to the achievement of the expected results.
- Examine their relevance and whether they provide the most effective way towards results.
- 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.
- Were the relevant country representatives, from government and civil society, involved in the project preparation?
- Does the recipient government maintain its financial commitment to the project? Has the government – or governments in the case of multi-country projects – approved policies or regulatory frameworks been in line with the project's objectives?

1.2 Preparation and readiness:

- Are the project's objectives and components clear, practicable and feasible within its timeframe?
- Were the capacities of executing institution and counterparts properly considered when the project was designed?
- Were lessons from other relevant projects properly incorporated in the project design?
- Were the partnership arrangements properly identified and the roles and responsibilities negotiated prior to project approval?
- Were counterpart resources (funding, staff, and facilities), enabling legislation, and adequate project management arrangements in place at project entry?

1.3 Stakeholder involvement (R):

Did the project involve the relevant stakeholders through information-sharing, consultation and by seeking their participation in the project's design?

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; 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 System 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-based? 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 1)?.

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:

a. Assess the role of UNDP and the Ministry of Forestry against the requirements set out in the UNDP Programme and Operations Policies and Procedures. Consider:

- Field visits
- Participation in Steering Committees
- Project reviews, PIR preparation and follow-up
- GEF guidance
- Operational support

a. 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.

b. Assess the contribution to the project from UNDP and the Ministry of Forestry in terms of "soft" assistance (i.e. policy advice & dialogue, advocacy, and coordination).

c. 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 peatlands restoration (legal and regulatory frameworks, results of restoration activities, etc.) to the baseline ones.

The evaluation should specifically look into:

- Adequacy of the level and proposed modes of enforcement of the regulatory and programmatic documents (section on peatlands to UNCCD action program, Ministry of Forestry's program, methodological recommendations, technical codes of common practice) developed within the project for creating of an enabling environment for sustainable management of peatlands and prevention of impacts from peatland drainage on adjacent intact lands;
- Validation of the proposed restoration strategies for the project sites from the point of view of generation of mutual benefits in the three focal areas (land degradation, climate change, biodiversity conservation);
- Validation of the project restoration monitoring program within flora, fauna and hydrological components;
- On-site verification of the immediate effects of renaturalization at the renaturalized sites from the hydrological, biodiversity and land degradation perspectives;
- Validation of the proposed GHG measurement and estimation methods applied within the project and verification of the actual calculations done to assess its climate mitigation impact;

- Assessment of the proposed risk mitigation strategy to address rising construction costs and changing government priorities inasmuch as they constrain completion of renaturalization activities all 17 project sites.

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;
- Recommendations for improving delivery of project outputs;
- 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)

4.3 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)

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, 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 Forestry, Ministry of Environment, local forestry enterprises, and other stakeholders, as necessary;

· In-country field visits.

EVALUATION TEAM

The evaluation will be undertaken by an international consultant. He/she will receive the support of UNDP Country Office in Belarus and Project Management Team, and will be assisted by a translator/interpreter.

The international consultant will be responsible to deliver the expected output of the mission. 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;
· Validate the strategies for renaturalization of project sites and monitoring of restoration processes applied within the project;
· Verify on-site immediate effects of renaturalization from the hydrological, climate change, biodiversity and land degradation perspectives;
· Draft the evaluation report and share with the key stakeholders for comments;
· Finalize the evaluation report based on the inputs from key stakeholders.

Qualifications required:

· Advanced university degree in environment management, conservation, sustainable land management, or related area;
· Extensive (at least 10-year) experience and proven track record with policy advice and/or project development/implementation in integrated ecosystem management, wetland ecosystem restoration;
· Proven track record of analysis and evaluation of projects focusing on integrated ecosystem management, combating land degradation, biodiversity conservation (relevant experience in the CIS region would be an asset);
· Familiarity with peatland restoration technologies and relevant international best-practices;
· Knowledge of UNDP-GEF M&E policies and procedures;
· Proficiency in English, knowledge of Russian would be an asset;
· 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 Forestry. These three parties will receive a draft of the final evaluation report and provide comments on it prior to its completion.

The evaluation mission will take place in October 2010. 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 10 days
· Drafting report and comments collection 5 days
· Finalization of report 3 days

The draft report is should be submitted in electronic format (MS Word) to UNDP Country Office in Belarus by 04 November, 2010, 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 11 November , 2010. The hard copy should be posted as well.

ANNEX 3. CRITERIA FOR THE ASSESSMENT OF EVALUATION COMPONENTS

Evaluation components	*Evaluation Criteria*
Project Design	
1.1 Project relevance, country ownership/drivenness	▪ Government staff and other contributions ▪ Participants willingness to engage in project activities and to contribute in-kind toward the project ▪ Extent to which project achievements and strategies are integrated with environmental policies and departmental programs
1.2 Preparation and readiness	▪ Inception phase outputs and follow-up actions ▪ Timeliness of budgets, workplans and activity completion
1.3 Stakeholder involvement	▪ Extent to which national and local community participation are an integral part of the project concept ▪ Mechanisms for stakeholder input to project design, operations and follow-up
1.4 Underlying factors/ assumptions	▪ Extent to which the factors identified in the project design affected project activities to date ▪ Factors or assumptions that have appeared that were not originally identified in the project design
1.5 Management arrangements	▪ Partner understanding of roles and responsibilities ▪ Observable management responses to issues and needs during implementation (adaptive management) ▪ Effective working relationships between members/agencies involved in the project management decision making
1.6 Project budget and duration	▪ Extent to which disbursements are proceeding as planned ▪ Changes in the budget to accommodate unforeseen events
1.7 Design of project M&E system	▪ Presence and quality of an M&E plan ▪ Use of the M&E Plan in data collection and reporting
1.8 Sustainability	▪ Presence of explicit sustainability strategies in the project design ▪ Feasibility of these strategies given experience to date

Project Implementation	
2.1 a. Monitoring systems	▪ Use of the logical framework in monitoring and reporting ▪ Modification of the logical framework in response to issues ▪ Implementation of an effective, operational monitoring system
2.1 b. Risk Management	▪ Identification of risks and observable management efforts to mitigate or manage risks
2.1 c. Work Planning	▪ Submission of work plans as per UNDP standards and timing ▪ Implementation of work plans as scheduled
2.1 d Financial management	▪ Costs of Outputs and their general reasonableness ▪ Effective procurement system ▪ Fulfillment of the planned co-financing commitments. ▪ Financial reporting in accordance with UNDP norms

2.1 e. Reporting	▪ Quality, objectivity, frequency and relevance of project reporting ▪ Usefulness of reporting to management decision makers
2.1 f. Delays	▪ Completion of activities in relation to schedule ▪ Explanations for delays and effects on project results to date
2.2 Contribution of Implementing and Executing Agencies	▪ Specific guidance and direction provided by UNDP staff on key issues and delays ▪ Activities completed by Ministry of Forestry in relation to the work plans, including policy support ▪ Fulfillment of Roles and Responsibilities in relation to UNDP Policies and Procedures document
2.3 Stakeholder participation, partnership strategy	▪ Stakeholder analysis carried out ▪ Mechanisms for stakeholder participation in the project ▪ Extent of cooperative relationships between project partners
2.4 Sustainability	▪ Degree to which outputs and outcomes are embedded within the institutional framework (policy, laws, organizations, procedures) ▪ Implementation of measures to ensure financial sustainability in government budgets or cost recovery mechanisms ▪ Observable changes in attitude, belief and behavior related to peatlands conservation of stakeholders

Project Results	
3.1 a Progress toward Objectives	▪ Long term changes in peatland management policies, processes, practices and awareness that can be observed in Belarus
3.1 b Achievement of Outcomes	▪ Indicators of outcomes as per the logical framework ▪ Perceptions of project participants regarding output quality
3.2 Validation of restoration strategies	▪ Data on completed project impacts ▪ Issues and constraints identified by contacts on proposed projects ▪ Expert views on GHG reduction estimates
3.3 Risk mitigation for restoration projects	▪ Risk potential as identified by project participants ▪ Risk mitigation opportunities as identified by project participants

ANNEX 4. EVALUATION QUESTIONS FOR INTERVIEWS

The following questions have been used to orient information collection in interviews and meetings.

Project design

1. What is your opinion and vision on peatland management in Belarus?
2. Does the project respond to crucial problems regarding peatland management in Belarus?
3. How has the project strategy been tuned with Belarus' policies?
4. Has the project strategy been tuned with activities of other actors in this field?
5. Has the project strategy been effective?
6. Which improvements regarding strategy could have lead to better results?
7. Have project partners been well chosen?
8. Did the project offer sufficient opportunities for stakeholder participation?
9. Were the arrangements for project implementation laid out in the project document, agreements and other guiding documents adequate?
10. Have the costs for implementation been well estimated?
11. Have risks been well taken into account?

Project implementation

1. What have been major implementation constraints?
2. Which factors have been helpful for the project implementation?
3. Have unpredicted changes in the project environment influenced the project?
4. How did the project respond?
5. How effective was the relation between the project and the government agencies involved?
6. Have scientific rationales and engineering designs for renaturalization been effective and practical ?
7. Did stakeholders feel sufficiently engaged in the process?
8. Have government agencies absorbed well the project outputs (policy, law, institutional, procedures)?
9. Where contributions of government and non-government partners sufficient?
10. Has the financial management and project administration been effective and efficient?
11. Has monitoring and reporting been effectively used for project panning?
12. Was stakeholder participation in planning process adequate?
13. Which role played the steering committee in guiding the project and was the communication system adequate?

Project results and outcome

1. What visible results have been achieved in the policy and regularly framework of Belarus regarding integrated ecosystem management in peatlands as envisaged by the project?
2. To what extent is MOF actively engaged in peatland renaturalization now?
3. What visible and measurable results have been achieved in the 17 project sites?
4. Have stakeholders changed attitudes and approaches regarding peatland management?
5. Have stakeholders adopted skills and techniques provided by the project?
6. Have experiences acquired by the project been practiced elsewhere in Belarus?
7. Has MOF planned further peatland renaturalization ?

ANNEX 5. ITINERARY, MEETINGS AND PERSONS MET

Date/Time	Description	Participants	Where
18 Oct, Monday			
16.30 pm	Arrival, Hotel accommodation. Discussion of the program		Airport Minsk 2, Hotel Planet
19 Oct, Tuesday			
09.30-10.00	Meeting with UNDP Belarus	UNDP Belarus: Farid Garakhanov, UNDP-GEF Project: Olga Chabrovskaya	UNDP Belarus, 6th floor, 17, Kirova Str.
10.30-15.30	Meeting with the UNDP-GEF project staff	UNDP-GEF Project: Olga Chabrovskaya, Alexandre Kozulin, Olga Stepaniuk	Project Office Akademiches-kaya str., 27, office 324
15.30-17.00	Meeting with APB (BirdLife Belarus)	BirdLife Belarus: Viktor Fenchuk, Merten Minke, UNDP-GEF Project: Alexandre Kozulin	Project Office Akademiches-kaya str., 27, office 324
17.15-18.30	Meeting with GEF SGP	GEF SGP: Alexandre Levchenko, UNDP-GEF Project: Olga Chabrovskaya	Office GEF SGP Avangardnaya str., 46
20 Oct, Wednesday			
09.00-13.00	Meeting with the Ministry of Forestry	Ministry of Forestry: Valentsin Shatravko, Sergei Bulakh, Egor Sharag, Dmitry Sinyukovich, Nicholay Stanilevich, UNDP-GEF Project: Olga Chabrovskaya	Ministry of Forestry, 6th floor, Myasnikova str., 39
14.00-16.00	Meeting with the Ministry of Environment	Ministry of Environment: Vladimir Savchenko, Alexandre Dobritskij, UNDP-GEF Project: Olga Chabrovskaya	Ministry of Environment (Kollectornaya Str. 10)
16.30-17.30	Meeting with the expert of UNDP-GEF project	UNDP-GEF project: Alexandre Vasilijevskij, Olga Chabrovskaya	Hotel “Planeta”
21 Oct, Thursday			
09.00-11.00	Meeting with Beltopgaz	Beltopgaz: Alexei Osipov, UNDP-GEF Project: Olga Chabrovskaya,	Beltopgaz 2nd floor, V.Horuzhei, 3
11.30–13.00	Meeting with Belgiprovodhoz	Belgiprovodhoz: Anatolij Krasutskij, Stanislav Krupenchik, Vitalij Bobrov, Svetlana Dunaevskaya, Nicholay Zhuk, UNDP-GEF Project: Olga Chabrovskaya, Alexandre Kozulin	Belgiprovodhoz 4th floor, Masherov avenue, 25
13.15-14.15	Meeting with UNDP Belarus	UNDP Belarus: Igor Tchoulba, UNDP-GEF Project: Olga Chabrovskaya	UNDP Belarus, 6th floor, 17, Kirova Str.

Date/Time	Description	Participants	Where
22 Oct, Friday	(project sites visit)		
	Departure from Minsk	UNDP-GEF Project: Olga Chabrovskaya, Alexandre Kozulin	
10.30-13.00	Arrival at the Grichyno-Starobinskoe peat bog. The site inspection. Meeting with the local forest enterprise	UNDP-GEF Project: Olga Chabrovskaya, Alexandre Kozulin, Starobin forest enterprise: Alexandre Voroshkevich, Local inspection of nature resources: Alexandre Garnishevskij	Grichyno-Starobinskoe peat bog
15.00-18.00	Travel to Pinsk. Accommodation in Pinsk hotel. Overnight	UNDP-GEF Project: Olga Chabrovskaya, Alexandre Kozulin	
23 Oct, Saturday	(project sites visit)		
09.00-14.00	Arrival at the Morochno peat bog; The site inspection. Meeting with local forest enterprise.	UNDP-GEF Project: Olga Chabrovskaya, Alexandre Kozulin; Stolin forest enterprise: Nicholay Leonovets, Peat factory "Glinka": Vasilij Nevdah	Morochno peat bog
15.00-19.00	Travel to Lida. Accommodation in the hotel. Overnight	UNDP-GEF Project: Olga Chabrovskaya, Alexandre Kozulin	
24 Oct, Sunday	(project sites visit)		
9.00-11.00	Arrival at the Dokudovskoe peat bog. Site inspection; Meeting with the local forest enterprise	UNDP-GEF Project: Olga Chabrovskaya, Alexandre Kozulin; Lida forest enterprise: Cheslav Borko, Alexandre Sidorovich; Dokudovskij rural council: Alexei Demjyanovich	peat bog Dokudovskoe
12.30- 15.30	Inspection of the site Bartenikha; Meeting with the local forest enterprise	UNDP-GEF Project: Olga Chabrovskaya, Alexandre Kozulin; Volozhin forest enterprise: Oleg Sadovskij, Petr Boldovskij	Bartenikha peat bog
17.00 – 21.00	Travel to the city Orsha. Accommodation in the hotel. Overnight.	UNDP-GEF Project: Olga Chabrovskaya, Alexandre Kozulin	
25 Oct, Monday	(project sites visit)		
09.00-11.00	Meetings with Orsha forest enterprise	UNDP-GEF Project: Olga Chabrovskaya, Alexandre Kozulin; Orsha forest enterprise: Alexandre Novikov,Alexandre Svishchev, Grigorij Barsuk; Dubrovenskoe reclamation company: Alexei Shatravko	
11	Departure from Orsha.	UNDP-GEF Project: Olga Chabrovskaya, Alexandre Kozulin	
12.00- 14.30	Arrival at Scherbinski Mokh peat bog. The site inspection.	UNDP-GEF Project: Olga Chabrovskaya, Alexandre Kozulin, Arkadij Skuratovich, Orsha forest enterprise: Alexandre Svishchev, Grigorij Barsuk	Scherbinski Mokh peat bog
15.30- 19.00	Departure to Minsk		

Date/Time	Description	Participants	Where
26 Oct, Tuesday			
09.00-11.00	Meeting with the Centre on Bioresources of the National Academy of Science (NASB)	Centre on Bioresources: Mikhail Nikiforov, Mikhail Maksimenkov, Dmitry Zhuravlev; UNDP-GEF Project: Alexandre Kozulin	Centre on Bioresources Akademiches-kaya str., 27,
11.00-13.00	Meeting with the Institute of Experimental Botany of NASB	Institute of Experimental Botany: Alexandre Pugachevsky, Irina Vershitskaya; UNDP-GEF Project: Alexandre Kozulin	Institute of Experimental Botany Akademiches-kaya str., 27,
14.00-17.00	Meeting with Institute of nature management. Discussion on climate and GHG emission related issues	Institute of nature management Vyacheslav Rakovich,Nicholay Bambalov, UNDP-GEF Project: Olga Chabrovskaya	Institute of nature management, F.Skaryna str., 10
27 Oct, Wednesday			
09.00-11.00	Meeting with Mr. Lisitsa, the National Project Director	Ministry of Forestry: Fedor Lisitsa, Valentsin Shatravko, Sergei Bulakh; UNDP-GEF Project: Olga Chabrovskaya	Ministry of Forestry 6th floor, Myasnikova str., 39
11.20-14.20	Meeting with the project staff	UNDP-GEF Project: Olga Chabrovskaya, Alexandre Kozulin, Olga Stepaniuk, Alexei Tchistodarski	Project office Akademiches-kaya str., 27, office 324
28 Oct, Thursday			
11.00-13.00	Debriefing with UNDP Belarus	UNDP Belarus: Igor Tchoulba	UNDP Belarus, 6th floor, 17, Kirova Str.
14.00-15.30	Meeting with the project staff	UNDP-GEF Project: Olga Chabrovskaya, Alexandre Kozulin, Olga Stepaniuk, Alexei Tchistodarski	Project office Akademiches-kaya str., 27, office 324
15.30	Departure from the hotel to the Minsk-2 airport		

ANNEX 6. PERSONS MET AND INTERVIEWED

Name	Position
CHABROVSKAYA Olga	UNDP-GEF Project, Project Manager
STEPANIUK Olga	UNDP-GEF Project, Assistant Project Manager
KOZULIN Alexandre	UNDP-GEF Project, Scientific Coordinator
SHARAG Egor	UNDP-GEF Project, Forestry Expert
TCHISTODARSKI Alexei	UNDP-GEF Project, Information Officer
SKURATOVICH Arkadij	Botanist, Institute of Experimental Botany (NASB)
GARAKHANOV Farid	UNDP - Deputy Resident Representative
TCHOULBA Igor	UNDP - Programme Officer, Energy & Environment
LISITSA Fedor	Min. Forestry, First Deputy Minister of Forestry, Project Director
SHATRAVKO Valentin	Min. Forestry, Peatland Project coordinator, Chief Department Forest Management
BULAKH Sergey	Min. Forestry, Project coordinator UNDP-GEF Project
SAVCHENKO Vladimir	Min. Environment, Head Department Nature Use and Innovation Development
DOBRITSKIJ Alexandre	Min. Environment, Head of Department of Lands and Landscapes
FENCHUK Viktor	APB-BirdLife Belarus, Director
BOBROV Vitalij	Belgiprovodhoz, Deputy Chief Projects Engineer
DUNAEVSKAYA Svetlana	Belgiprovodhoz, Deputy Chief Projects Engineer
ZHUK Nicholay	Belgiprovodhoz, Deputy Chief Projects Engineer
KRASUTSKIJ Anatolij	Belgiprovodhoz, Director
KRUPENCHIK Stanislav	Belgiprovodhoz, Head of Department of Reclamation Projecting
OSIPOV Alexei	Beltopgaz, Cheif of Department of Peat Industry
NIKIFOROV Mikhail	Centre of Bioresources, Director General
MAKSIMENKOV Mikhail	Centre on Bioresources, Research Fellow
ZHURAVLEV Dmitry	Centre on Bioresources, Research Fellow
DEMJYANOVICH Alexei	Dokudovskij rural council, Chairman
SHATRAVKO Alexei	Dubrovenskoe reclamation company, Deputy Director
GARNISHSHEVSKY Alexander	Environmental Department, Head Soligorsk District
DEMENTIEV Andrew	GEF Small Grants Programme, SGP Belarus Programme Assistant
LEVCHENKO Alexander	GEF Small Grants Programme, SGP GEF/UNDP National Coordinator in Belarus
MINKE Merten	Greifswald University, Germany, Expert in “Belarus-1” project
PUGACHEVSKI Alexandre	Institute of Experimental Botany, Acting Director
VERSHITSKAYA Irina	Institute of Experimental Botany, Botanist, Research Fellow
BAMBALOV Nicholay	Institute of Nature Management, Academician, Head of Laboratory
TYSHKEVICH Vladimir	Institute of Nature Management, Research Fellow
RAKOVICH Viachislav	Institute of Nature Management, Sientific supervisor GHG
BORKO Cheslav	Lida forest enterprise, Deputy Director
SIDOROVICH Alexandre	Lida forest enterprise, Forester of Dokudovskoe Forestry
BARSUK Grigorij	Orsha forest enterprise, Assistant Forester of Osintorf Forestry
NOVIKOV Alexandre	Orsha forest enterprise, Chief Forester
SVISHCHEV Alexandre	Orsha forest enterprise, Forester of Osintorf Forestry
NEVDAH Vasilij	Peat factory “Glinka”, Chief Engineer
VOROSHKEVICH Alexandre	Starobin forest enterprise, Forester of Velichkovichskoe Forestry
LEONOVETS Nicholay	Stolin forest enterprise, Chief Forester
SINYUKOVICH Dmitry	UP “Belgiproles”, Chief engineer
STANILEVICH Nicholay	UP “Belgosles”, 2nd Minsk Forestry Regulation Expedition (Department of Belgosles), Chief Engineer
SADOVSKIJ Oleg	Volozhin forest enterprise, Chief Forester
BOLDOVSKIJ Petr	Volozhin forest enterprise, Forester of Vishnevskoe Forestry

ANNEX 7. LIST OF DOCUMENTS REVIEWED

General documentation

1. UNDP Programme and Operations Policies and Procedures
2. UNDP Handbook for Monitoring and Evaluating for Results
3. GEF Monitoring and Evaluation Policy
4. UNDP/GEF Project Risk Management System

Project documentation

5. GEF approved project document
6. Management Response and Tracking
7. Project Inception Report
8. Annual Project Reports
9. Project Implementation Reviews
10. Quarterly Reports
11. Steering Committee Meeting minutes

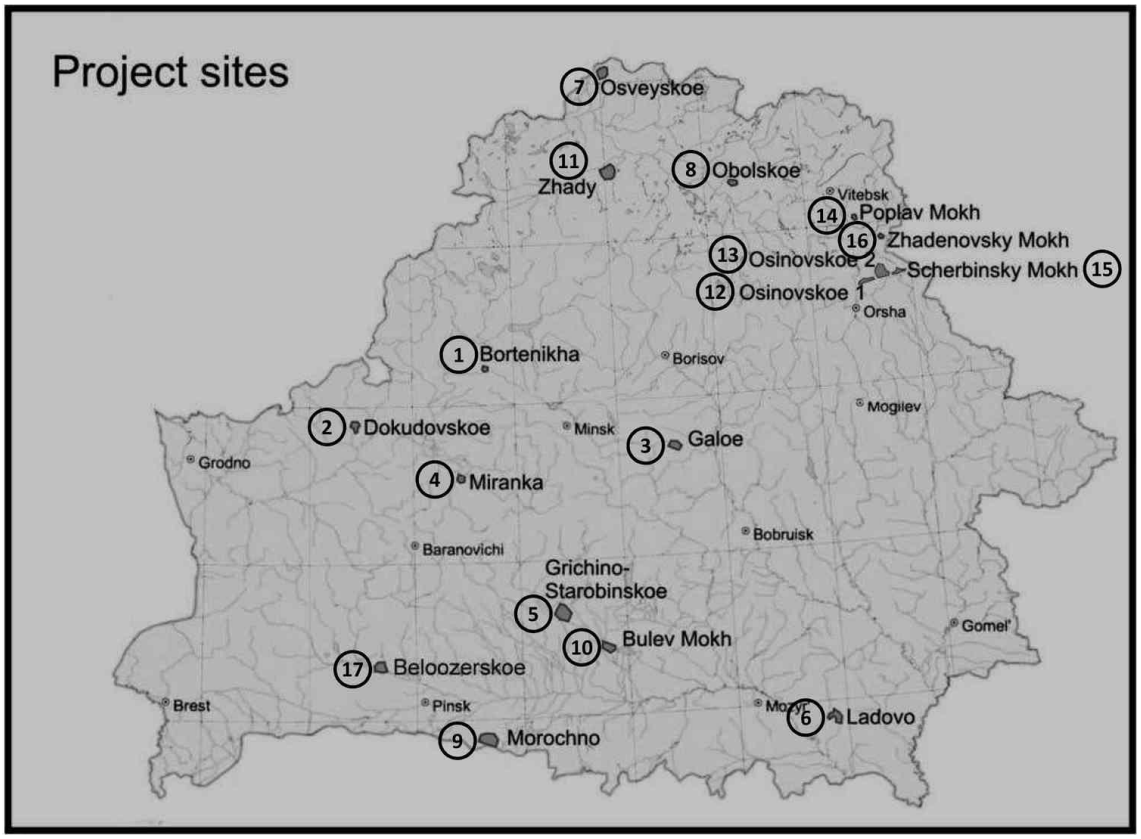
Documentation produced by the project

12. Draft section to the National Action Program of the Republic of Belarus to combat land degradation on "Renaturalization, Sustainable Use and Protection of Degraded Peatlands";
13. Program of Renaturalization of Degraded Peatlands of the Ministry of Forestry;
14. Technical Code of Common Practice on identification of directions of utilization of depleted peat deposits and other damaged peatlands;
15. Technical Code of Common Practice on rehabilitation of depleted peat deposits and other damaged peatlands through re-wetting;
16. Methodical guidelines on ecological restoration of degraded peatlands and other damaged mires and prevention of damage to the adjacent natural mires in the process of peat extraction;
17. Methodology for measurement of GHG emissions and sequestration;
18. Scientific rationales for renaturalization of 15 project sites;
19. Engineering construction design documentation for 15 project sites;
20. Training programme with course of lectures;
21. Strategy for replication of project results.

Other documentation

22. State Program "Peat" 2008-2010 and until 2020;
23. National Strategy for Development and Management of the System of Nature Protected Areas until 1 January 2015;
24. Scheme of Rational Distribution of National Nature Protected Areas until 1 January 2015.
25. Hendriks DMD, van Huissteden J, Dolman AJ, van der Molen MK, 2007. The full greenhouse gas balance of an abandoned peat meadow, Biogeosciences 4, 411-424.
26. Joosten H, Couwenberg C, 2009. Are emission reductions from peatlands MRV-able? Report, 14 pp. Wetlands International, Ede.
27. Schouwenaars JM, Esselink H, Lamers LPM, van der Molen PC, 2002. Ontwikkelingen en herstel van hoogveensystemen. Bestaande kennis en benodigd onderzoek. Rapport EC-LNV nr. 2002/084 O, Ede.
28. Parish, F., Sirin, A., Charman, D., Joosten, H., Minayeva, T., Silvius, M. and Stringer, L. (Eds.), Assessment of peatlands, biodiversity and climate change, UNEP-GEF, Global Environment Centre, Kuala Lumpur and Wetlands International, Wageningen.

ANNEX 8. LOCATION OF PILOT PROJECT SITES



ANNEX 9. OVERVIEW OF PROGRESS STATUS DEMONSTRATION PROJECTS, MANAGEMENT PLAN AND INCLUSION IN NATIONAL ENVIRONMENTAL MONITORING PROGRAMME (NEMS)

	Site name	Ownership status	Funding	Before Project	Completed	Renaturalization measures	Managment plan	In NEMP
1	Bartenikha	Volozhin Forest enterprise	GEF	Open peat surfaces after peat extraction. Relatively smooth relief after peat extraction.	November 2007	4 retaining devices (water-gates/weirs); 6 dams	4st qtr 2010-1st qtr 2011	no
2	Dokudovskoe	Lida Forest enterprise	GEF	Open peat surface after peat extraction. Rugged relief after peat extraction with deep undulations.	December 2007	pipe regulator (culvert) with bucket water-gate on channel; pipe regulator with bulkhead gate in channel; bucket water-gate repaired at existing pipe regulator in channel; fire fighting water holes	Ready	no
3	Galoe	Cherven Forest enterprise	GEF	Natural mire with disturbed hydrological regime after peat fires and with 2m slopes over a distance of 2 km. It is expected that in 1-2 years hydrological regime close to natural will be restored.	January 2008	5 solid dams made of local construction materials; water level increased by wooden beams in retaining device (weir); wooden bulkheads installed in existing culvert	Ready	yes
4	Miranka	Novogrudok Forest enterprise	GEF	Smooth relief after peat extraction with cavities in the center of site. Some re-wetting began 10-15 years ago after closure. Earlier re-flooding work on Miranka was done by the local peat factory, Novogrudok forest enterprise and local hunting society.	November 2007	culvert; solid soil dam in the channel connecting northern fields	Ready	no
5	Ladovo	Khoiniki Forest enterprise	GEF	Relatively smooth relief after peat extraction.	August 2008	23 soil dams; 8 water holes for fire fighting	1st qtr2012	no
6	Zhada	Disna Forest enterprise	dropped	Large bog drained for forest production enhancement.	Dropped		dropped	no
7	Grichino-Starobinskoe	Starobin Forest enterprise	RSPB	Open peat surface after peat extraction. Relatively smooth relief after peat extraction, sloping by 1m over the site.	June 2009	wooden beams installed at existing watergates; existing culverts had wooden plates installed with earth reinforcement; existing regulator culvert reconstructed; 0.6 km drainage ditch created	4st qtr 2010-1st qtr 2011	no

	Site name	Ownership status	Funding	Before Project	Completed	Renaturalization measures	Managment plan	In NEMP
8	Morochno	Stolin Forest enterprise	GEF	Natural bog with disturbed hydrological regime due to adjacent peat extraction.	March 2009	17 wooden dams; dike with anti-filtration screen 0.945 km long to reduce impact of active peat extraction field	4st qtr 2010-1st qtr 2011	no
9	Osveyskoe	Verchnedvinsk Forest enterprise	GEF	Natural and depleted bog with 1 m slope over 1 km distance.	May 2009	23 soil dams; 1 piling dam	ready	yes
10	Obol	Shumilino Forest enterprise	RSPB	Depleted bog with 1-2 m slope along 1 km distance.	May 2009	44 soil dams built	1st qtr2012	no
11	Bulev Mokh	Starobin Forest enterprise, Zhitkovichi Forest enterprise	GEF	Depleted fen mire with relatively smooth relief after peat extraction, sloping by 1 m over the site.	July 2009	existing pipe crossing (culvert) equipped with typical reinforced concrete headwall with splayed walls; gates of pipe regulators in two channels repaired; reinforced concrete headwall with splayed walls installed at the existing culvert; 3 soil dams built; pipe regulator with bucket water-gate	4st qtr 2011	no
12	Osinovskoe 1	Orsha Forest enterprise	GEF	Depleted bog burned and overgrown with shrubs, with 1-2 m slopes over 1 km distance.	November 2009	65 soil dams built; worn out bucket water-gate replaced at pipe regulator	4st qtr 2010-1st qtr 2011	no
13	Osinovskoe 2	Orsha Forest enterprise	GEF	Various periods of peat extraction. Depleted bog burned large area and overgrown with shrubs, with 1-2 m slopes over 1 km distance.	December 2009	42 soil dams built	4st qtr 2010-1st qtr 2011	no
14	Poplav Mokh	Liozno Forest enterprise	RSPB	Depleted bog with 1-2 slopes over 1 km of the site. Precipitation is not stored at the mire but goes to the local river.	June 2010	62 soil dams built	1st qtr2012	no
15	Shcherbinski Mokh	Orsha Forest enterprise	RSPB	Depleted bog burned and overgrown with shrubs, with 1-2 m slopes over 1 km distance. Precipitation is not stored at the mire but goes to the local river.	May 2010	14 soil dams built	1st qtr2012	no
16	Zhadenovsky Mokh	Liozno Forest enterprise	RSPB	Natural fen mire with slightly disturbed hydrological regime.	August 2010	89 soil dams built	1st qtr2012	no
17	Beloozerskoe	Ivatsevichi Forest enterprise	dropped	Location with a floodplain influence prevents cost-effective naturalization.	Dropped	dropped	natural regeneration	yes

ANNEX 10. ACHIEVEMENT OF PROJECT OUTCOMES AND INDICATORS

Indicator	Baseline	Target	Level of achievement
Outcome 1: Enabling environment strengthened for integrated ecosystem management on degraded peatlands			
1.1 A section to the National Action Program to Combat Land Degradation on renaturalization and sustainable use of degraded peatlands - List of stakeholders that have agreed the program	No renaturalization program for degraded peatlands available to date	The section prepared and approved by 34th project month	Section prepared by project experts , agreed by stakeholders (Ministry of Forestry, Beltopgas, National Academy of Sciences) and endorsed by the Ministry of Environment in 2008. Section is included into the draft National Action Program that is expected to be endorsed by the Government at the end of 2010
1.2 New sectoral program on renaturalization of degraded peatlands	2002 program is outdated	The program prepared and approved by the MoF by 24th project month	Programme has been developed and launched in 2010
1.3 Guidelines on prevention of disturbances in the hydrological regime of the adjacent mires during peat extraction	No guidelines available	The guidelines elaborated and tested at least on one pilot site by 48th project month	Guidelines are completed, published in Russian and English and widely distributed among peat enterprises and other stakeholders in the country and abroad in 2010 . The Guidelines cover ecological restoration of depleted peatlands and damaged mires as well as prevention of disturbances to the hydrological regime of the adjacent mires during peat extraction.
1.4 Regulatory document "Guidelines on rehabilitation of depleted peat deposits and other degraded peatlands by rewetting"	No guidelines	The regulatory document elaborated and approved by 33rd project month	Guidelines (TCP) completed, published, distributed among stakeholders and effective from 1 January 2009
1.5 Regulatory document "Guidelines on selection of sites for renaturalization	No guidelines	The regulatory document elaborated and approved by 33rd project month	Guidelines (TCP) completed, published, distributed among stakeholders and

Indicator	Baseline	Target	Level of achievement
of depleted peatlands and other degraded mires"			effective from 1 January 2009
Outcome 2: Sustainable integrated peatland management and rehabilitation demonstrated			
2.1 Area of degraded peatlands renaturalized	No peatland renaturalization undertaken	42,110 ha by project end	28,208 ha re-wetted
2.2 Positive mire formation processes	None	Visible in at least 15,000 ha by project end	Visible in all project sites (28,208 ha) Mire formation occurred at 22,397 ha (10 project sites renaturalized in 2007-middle 2009). First signs of positive mire formation processes noted at the last 5 restored project sites at the area of 5811 ha (renaturalization activities completed end 2009 – mid 2010)
2.3 Forest management plans for 17 project sites	No forest management plans	Included into the MoF plans by project end	4 management plans completed, 5 being elaborated, 6 planned
2.4 Occurrence of fires	13 sites suffered from regular peat fires over past 5 years	No peat fires at 17 project sites by project end	No peat fires occurred in project sites since re-wetting
Outcome 3: Capacities built and awareness raised for integrated peatland management and monitoring			
3.1 Scientific rationales for renaturalization of the project sites as a basis for engineering construction projects	*No scientific rationales*	17 scientific rationales	17 rationales completed
3.2 Methodology of estimation of CO_2, CH_4 emissions and absorption	No methodology	Methodology elaborated by 34th project month	Methodology of CO2/CH4 measuring developed, and further improvement continued by Nat. Inst. Nature Management after project.

Indicator	Baseline	Target	Level of achievement
3.3 CO_2 emissions from renaturalized peatlands	*App. 311,000 tons of CO_2 emitted annually*	*Not more than 22,000 tons of CO_2 annually by project end*	321,122 tonnes of CO2 less emitted annually than 283,584 before re-wetting
3.4 Inclusion of newly created monitoring plots into National Environmental Monitoring System	Monitoring plots are not included into NEMS	5 plots included into NEMS by 33rd project month	10 monitoring plots in 3 project sites included into NEMS
3.5 Area of wetland plant associations at the project sites (sedge, reed communities)	*Less than 10% at the majority of sites*	Up to 50-80% at each site by project end	Significant shift (50% -95%) towards wetland associations observed in 2010, especially at project sites restored in the beginning of the project
3.6 Avifauna structure (species composition and population size)	Less than 10 % of wetland species in the avifauna structure	Over 50% of wetland species in the avifauna structure by project end	Share of wetland bird species increased at renaturalized sites to 19-50% of bird community in 2010)
3.7 Reserving, extensions and/or establishment of protected areas and/or other conservation regime on the project sites	6 protected areas at the project sites	10 changes in status of existing protected areas or establishment of new ones, or reserving for creation of protected areas	Proposals for (i) changing of status of 6 existing protected areas, (ii) expansion of the territory of 1 existing protected area, and (iii) establishment of 3 new protected areas prepared and submitted to the Ministry of Environment for consideration. Proposals on 4 project sites were already included into the National Scheme of Nature Protected Area Distribution. The Scheme envisages setting up of national reserves (zakazniks) on 2 project sites in 2012-2013; and expansion of territory of 2 existing protected areas.
Outcome 4: Capacities built and awareness raised for integrated peatland management and monitoring			
4.1 Trainings on methods of rehabilitation of depleted peatlands, sustainable uses	no training existent on this subject	At least 5 trainings held	6 trainings, including final seminar (November 2010), 4 field trainings. 1 public action in 2010

Indicator	Baseline	Target	Level of achievement
4.2 Information materials about significance of peatlands and the need for their conservation and sustainable management	Limited amount	1 web-site, 1 film (produced and broadcasted on TV), 2 posters, 20 articles in mass media, 6 radio interviews, 4 TV interviews by project end	1 website, 3 TV documentaries (Belarus, Russia and Deutsche Welle), 1 DVD documentary; 20 press releases in Russian and English, 80 publications in the local, national and international and foreign print media and specialized editions, 20 TV interviews, 30 radio interviews, including the Russian UN radio service; 130 electronic publications on the project in the World Wide Web; 70 information boards at the project sites; leaflets (6), brochures (1), booklets (2) in Russian and English produced and and widely disseminated.
Outcome 5: Enhanced replicability and financial sustainability of project impacts			
5.3 Change in designated use of peatlands after peat extraction	Peatlands after peat extraction are used in agriculture or forestry	3 decisions on renaturalization by the project end	Most of peatlands after peat extraction will be re-wetted following TCP developed by the project.
5.4 System of record of degraded peatlands (amount and distribution) in the Ministry of Forestry's network	No system	A database for record of degraded peatlands created by 34th project month	Database has been created
5.5 Number of forestry enterprises involved in implementation of sectoral program on renaturalization of degraded peatlands	3 forestr enterprises	At least 13 forestries involved by project end	6 forest enterprises
5.6 International project(s) on renaturalization of degraded peatlands with funding sources	No projects	A project with at least USD 5 mln (in-kind and cash) in commitments drafted by project end	One GEF project started in Ukraine, 1 RSPB project started in Belarus, 5 sites are renaturalized through SGP funding in Belarus (2 completed in 2009 and 2010) and 3 projects ongoing

ANNEX 11. SUBCONTRACTS

Subcontract No	Date	Vendor	Description of services/work	Project site
72	09/06/2006	Institute of Experimental Botany of NAN Belarusi	Creation of integrated system for monitoring of flora and vegetation	Bartenikha, Galoe, Miranka, Dokudovskoe, Ladovo
191	09/06/2006	Institute of Zoology of NAN Belarusi	Creation of integrated system for monitoring of fauna	Bartenikha, Galoe, Miranka, Dokudovskoe, Ladovo
62-06	30/06/2006	IPIPRE (Institute of Nature Management of NAN Belarusi)	Preparing scientific rationales and studying dynamics oa CO2 emissions	Bartenikha, Galoe, Miranka, Dokudovskoe, Ladovo
202	12/09/2006	UP "Belgiproles"	Development of design documents	Dokudovskoe
201	12/09/2006	UP "Belgiproles"	Development of design documents	Miranka
226	15/09/2006	RUP "Belgiprovodkhoz"	Development of design documents	Bartenikha
225	15/09/2006	RUP "Belgiprovodkhoz"	Development of design documents	Galoe
30 dd. 31.01.2007, additional agreement №1 от 30.04.2007	31/01/2007	UP "Belgiproles"	Development of design documents	Ladovo
50	16/02/2007	RUP "Belgiprovodkhoz"	Development of design documents	Zhada
112	10/05/2007	RUP "Belgiprovodkhoz"	Development of design documents	Zhada
20, PO0602007	31/07/2007	DU "Lidskoe PMS"	Construction	Dokudovskoe
10	01/08/2007	DU "Novogrudskoe PMS"	Construction	Miranka
59	03/09/2007	GUP "Molodechnenskoe PMS"	Construction	Bartenikha

Subcontract No	Date	Vendor	Description of services/work	Project site
70	20/09/2007	Institute of Experimental Botany of NAN Belarusi	Creation of integrated system for monitoring of flora and vegetation	Bartenikha, Galoe, Miranka, Dokudovskoe, Obol-1, Grichino-Starobinskoe, Osveiskoe, Morochno, Zhada, Bulev Mokh, Osinovskoe-1, Osinovskoe-2, Scherbinski Mokh, Zhadenovski Mokh, Poplav Mokh, Belozerskoe, Ladovo
89, PO1062007	01/10/2007	Institute of Zoology of NAN Belarusi (At present GNPO "The Scientific and Practical Center of NAN Belarusi on Bioresources")	Preparing scientific rationales for restoration of damanged peatlands	Osveiskoe, Grichino-Starobinskoe, Morochno, Zhada, Obol-1, Bulev Mokh
76-07	05/10/2007	IPIPRE (Institute of Nature Management of NAN Belarusi)	"To develop a method for measurements and study dynamics of GHG absorption/emission"	Bartenikha, Galoe, Miranka, Dokudovskoe, Obol-1, Grichino-Starobinskoe, Osveiskoe, Morochno, Zhada, Bulev Mokh, Osinovskoe-1, Osinovskoe-2, Scherbinski Mokh, Zhadenovski Mokh, Poplav Mokh, Belozerskoe
26	16/11/2007	GUP "Pukhovichskoe PVS"	Construction	Galoe
319 dd. 26.11.2007, additional agreement dd. 27.12.2007, PO 0092008	26/11/2007	RUP "Belgiprovodkhoz"	Development of design documents	Zhada
319 dd. 26.11.2007, additional agreement dd. 27.12.2007, PO 0092008	26/11/2007	RUP "Belgiprovodkhoz"	Development of design documents	Morochno
319 dd. 26.11.2007, additional agreement dd. 27.12.2007, PO 0092008	26/11/2007	RUP "Belgiprovodkhoz"	Development of design documents	Grichino-Starobinskoe

Subcontract No	Date	Vendor	Description of services/work	Project site
319 dd. 26.11.2007, additional agreement dd. 27.12.2007, PO 0092008	26/11/2007	RUP "Belgiprovodkhoz"	Development of design documents	Osveiskoe
319 dd. 26.11.2007, additional agreement dd. 27.12.2007, PO 0092008	26/11/2007	RUP "Belgiprovodkhoz"	Development of design documents	Obol-1
Additional agreement to Contract 20 dd. 31/07/2007	28/11/2007	DU "Lidskoe PMS"	Construction	Dokudovskoe
79 dd. 28/12/2007, additional agreement dd. 19/02/2008, additional agreement dd. 18/04/2008	28/12/2007	DSU #23 Affiliate of OAO “Road-Building Group #2, Gomel”	Construction	Ladovo
62	25/02/2008	UP "Belgiproles"	Development of design documents	Bulev Mokh
295	27/02/2008	Institute of Zoology of NAN Belarusi (At present GNPO "The Scientific and Practical Center of NAN Belarusi on Bioresources")	Preparing scientific rationales for restoration of damaged peatlands	Osinovskoe-1, 2; Scherbinski Mokh, Zhadenovski Mokh, Poplav Mokh, Belozerskoe
220	26/06/2008	UP "Belgiproles"	Development of design documents	Osinovskoe-1
220	26/06/2008	UP "Belgiproles"	Development of design documents	Osinovskoe-2
PO1242008	30/09/2008	PRUT "Glinka"	Construction	Morochno
PO1592008	26/11/2008	KUP "Verkhnedvinskoe PMS"	Construction	Osveiskoe
PO1692008	09/12/2008	GUP "Soligorskoe PMS"	Construction	Bulev Mokh
PO 0312009	20/01/2009	UP "Shumilinskoe PMS"	Construction	Obol-1

Subcontract No	Date	Vendor	Description of services/work	Project site
PO0322009	24/02/2009	GUP "Soligorskoe PMS"	Construction	Grichino-Starobinskoe
2	09/03/2009	GUP "Chervenskoe PMS"	Construction	Galoe
PO0842009	22/06/2009	RUP "Belgiprovodkhoz"	Development of design documents	Poplav Mokh
PO0842009	22/06/2009	RUP "Belgiprovodkhoz"	Development of design documents	Zhadenovsky Mokh
PO0832009	22/06/2009	UP "Belgiproles"	Development of design documents	Scherbinski Mokh
2, PO 1322009	26/08/2009	KUP "Vitebskmeliovodkhoz"	Construction	Osinovskoe-1
2, PO 1322009	26/08/2009	KUP "Vitebskmeliovodkhoz"	Construction	Osinovskoe-2
PO0352010	19/02/2010	KUP "Vitebskmeliovodkhoz"	Construction	Poplav Mokh
PO0352010	19/02/2010	KUP "Vitebskmeliovodkhoz"	Construction	Zhadenovsky Mokh
PO0582010	31/03/2010	UP "Dubrovenskoe PMS"	Construction	Scherbinski Mokh
PO0812010	04/05/2010	Institute of Experimental Botany of NAN Belarusi	Monitoring of ecosystems of the renaturalized peatlands	Grichino-Starobinskoe, Obol-1, Poplav Mokh, Zhadenovski Mokh, Scherbinski Mokh