

Document of
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Report No: {PAD1027}

INTERNATIONAL BANK FOR RECONSTRUCTION AND DEVELOPMENT
PROJECT APPRAISAL DOCUMENT
ON A

PROPOSED LOAN
IN THE AMOUNT OF US\$ 40.71 MILLION
AND A
PROPOSED GRANT FROM THE GLOBAL ENVIRONMENT FACILITY TRUST FUND
IN THE AMOUNT OF US\$ 2.74 MILLION

TO THE

REPUBLIC OF BELARUS
FOR A
FORESTRY DEVELOPMENT PROJECT

March 6, 2015

*Environmental and Natural Resources Global Practice
Belarus, Moldova and Ukraine Country Unit
Europe and Central Asia Region*

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CURRENCY EQUIVALENTS
(Exchange Rate Effective March 2, 2015)

Currency Unit = Belarusian Ruble (BYR)
US\$ 1.00 = BYR 14,949.92

FISCAL YEAR
January 1 – December 31

ABBREVIATIONS AND ACRONYMS

BFF	Boiler and Furnace Fuels
BYR	Belarusian Ruble (currency)
CAT-SFM	Carbon Accounting Tool – Sustainable Forest Management
CIS	Commonwealth of Independent States
CPS	Country Partnership Strategy
CQS	Selection based on consultants' qualification
CSO	Civil Society Organizations
DA	Designated Account
DC	Direct Contracting
EIA	Environmental Impact Assessment
ECA	Europe and Central Asia
ENPI	European Neighborhood and Partnership Instrument
ERR	Economic Internal Rate of Return
ESMP	Environmental and Social Management Plan
EU	European Union
EXACT	Ex Ante Carbon Accounting Tool
FAO	Food and Agriculture Organization
FBS	Fixed Budget Selection
FDP	Forestry Development Project
FLEG	Forest Law Enforcement and Governance
FM	Financial Management
FSC	Forest Stewardship Council
FSP	Forest Strategic Plan
GDP	Gross Domestic Product
GEF	Global Environment Facility
GHG	Greenhouse Gas
GNI	Gross National Income
ha	Hectare
IBRD	International Bank for Reconstruction and Development
IC	Individual Consultant
ICB	International Competitive Bidding
ICT	Information Communication Technology
IDA	International Development Association
IFR	Interim Unaudited Financial Reports

LCS	Least Cost Selection
MNREP	Ministry of Natural Resources and Environmental Protection
MOF	Ministry of Forestry
NCB	National Competitive Bidding
NPV	Net Present Value
PEFC	Program for the Endorsement of Forest Certification
PIU	Project Implementation Unit
POM	Project Operations Manual
QBS	Quality Based Selection
QCBS	Quality and Cost Based Selection
RFP	Request for Proposal
SBD	Standard Bidding Documents
SCF	Standard Conversion Factor
SFE	State Forest Enterprises
SOE	Statements of Expenses
SSS	Single (or sole) source selection
t	Tonne
UE	Unitary Enterprise
UN	United Nations

Regional Vice President:	Laura Tuck
Country Director:	Qimiao Fan
Senior Global Practice Director:	Paula Caballero
Practice Manager:	Kulsum Ahmed
Task Team Leader:	Andrew Michael Mitchell

REPUBLIC OF BELARUS
Forestry Development Project (P147760)
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PAD DATA SHEET*Belarus**Forestry Development Project (P147760)***PROJECT APPRAISAL DOCUMENT***EUROPE AND CENTRAL ASIA**0000009061*

Report No.: PAD1027

Basic Information			
Project ID P147760	EA Category B - Partial Assessment	Team Leader Andrew Michael Mitchell	
Lending Instrument Investment Project Financing	Fragile and/or Capacity Constraints []		
	Financial Intermediaries []		
	Series of Projects []		
Project Implementation Start Date 27-Mar-2015	Project Implementation End Date 31-Aug-2020		
Expected Effectiveness Date 27-Jul-2015	Expected Closing Date 31-Dec-2020		
Joint IFC No	GEF Focal Area Multi-focal area		
Practice Manager/Manager Kulsum Ahmed	Senior Global Practice Director Paula Caballero	Country Director Qimiao Fan	Regional Vice President Laura Tuck
Borrower: THE REPUBLIC OF BELARUS			
Responsible Agency: Ministry of Forestry			
Contact:	Mikhail M. Amelyanovich	Title:	Minister, Ministry of Forestry
Telephone No.:	375172004605	Email:	mlh@mlh.by
Responsible Agency: BellesExport			
Contact:	Dmitrij Kondratov	Title:	Deputy Director
Telephone No.:	375172591798	Email:	lesexport@solo.by
Project Financing Data(in USD Million)			
[X]	Loan	[]	IDA Grant
[]	Credit	[X]	Grant
[]		[]	Guarantee
[]		[]	Other
Total Project Cost:	43.45	Total Bank Financing:	40.71

Financing Gap:	0.00										
Financing Source											Amount
Borrower											0.00
International Bank for Reconstruction and Development											40.71
Global Environment Facility (GEF)											2.74
Total											43.45
Expected Disbursements (in USD Million)											
Fiscal Year	2015	2016	2017	2018	2019	2020					
Annual	0.00	31.72	7.39	1.74	1.30	1.30					
Cumulative	0.00	31.72	39.10	40.84	42.15	43.45					
Institutional Data											
Practice Area / Cross Cutting Solution Area											
Environment & Natural Resources											
Cross Cutting Areas											
[X] Climate Change											
[] Fragile, Conflict & Violence											
[] Gender											
[] Jobs											
[] Public Private Partnership											
Sectors / Climate Change											
Sector (Maximum 5 and total % must equal 100)											
Major Sector	Sector				%	Adaptation Co-benefits %	Mitigation Co-benefits %				
Agriculture, fishing, and forestry	Forestry				100	10	20				
Total					100						
<input type="checkbox"/> I certify that there is no Adaptation and Mitigation Climate Change Co-benefits information applicable to this project.											
Themes											
Theme (Maximum 5 and total % must equal 100)											
Major theme	Theme					%					
Environment and natural resources management	Other environment and natural resources management					65					

Environment and natural resources management	Climate change	15
Environment and natural resources management	Water resource management	5
Environment and natural resources management	Biodiversity	5
Environment and natural resources management	Environmental policies and institutions	10
Total		100

Project Development Objective(s)

The Project Development Objective is to enhance silvicultural management and reforestation and afforestation, increase the use of felling residues and improve the public good contribution from forests in targeted forest areas.

Global Environmental Objective(s)

The Project Development Objective is to enhance silvicultural management and reforestation and afforestation, increase the use of felling residues and improve the public good contribution from forests in targeted forest areas.

Components

Component Name	Cost (USD Millions)
Improvement of silviculture and the sustainability of forest management	36.47
Improvement of forest fire prevention, monitoring, detection and suppression, improving forest management information systems	4.88
Capacity building for sustainable forest management (including GEF Project management)	2.10

Systematic Operations Risk- Rating Tool (SORT)

Risk Category	Rating
1. Political and Governance	Moderate
2. Macroeconomic	Moderate
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Low
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Low
8. Stakeholders	Low
9. Other	
OVERALL	Moderate

Compliance			
Policy			
Does the project depart from the CAS in content or in other significant respects?	Yes []	No [X]	
Does the project require any waivers of Bank policies?	Yes []	No [X]	
Have these been approved by Bank management?	Yes []	No []	
Is approval for any policy waiver sought from the Board?	Yes []	No [X]	
Does the project meet the Regional criteria for readiness for implementation?	Yes [X]	No []	
Safeguard Policies Triggered by the Project	Yes	No	
Environmental Assessment OP/BP 4.01	X		
Natural Habitats OP/BP 4.04		X	
Forests OP/BP 4.36	X		
Pest Management OP 4.09		X	
Physical Cultural Resources OP/BP 4.11		X	
Indigenous Peoples OP/BP 4.10		X	
Involuntary Resettlement OP/BP 4.12		X	
Safety of Dams OP/BP 4.37		X	
Projects on International Waterways OP/BP 7.50		X	
Projects in Disputed Areas OP/BP 7.60		X	
Legal Covenants			
Name	Recurrent	Due Date	Frequency
Section I.C.2 of Schedule 2 to the Loan Agreement	X		CONTINUOUS
Description of Covenant			
The Borrower, through Bellesexport, shall ensure that no activities to be carried out under the Project involve Involuntary Resettlement.			
Name	Recurrent	Due Date	Frequency
Section I.C. 3 of Schedule 2 to the Loan Agreement	X		CONTINUOUS
Description of Covenant			
The Borrower shall ensure, that the terms of reference for any consultancy in respect of any Project activity under the Project shall be satisfactory to the Bank following its review thereof and, to that end, such terms of reference shall duly incorporate the requirements of the Bank Safeguards Policies then in force, as applied to the advice conveyed through such technical assistance			

Name	Recurrent	Due Date	Frequency
Section I.C.2 of Schedule 2 to the Grant Agreement	X		CONTINUOUS
Description of Covenant			
The Borrower, through Bellesexport, shall ensure that no activities to be carried out under the Project involve Involuntary Resettlement.			
Name	Recurrent	Due Date	Frequency
Section I.C. 3 of Schedule 2 to the Grant Agreement	X		CONTINUOUS
Description of Covenant			
The Borrower shall ensure, that the terms of reference for any consultancy in respect of any Project activity under the Project shall be satisfactory to the Bank following its review thereof and, to that end, such terms of reference shall duly incorporate the requirements of the Bank Safeguards Policies then in force, as applied to the advice conveyed through such technical assistance			
Conditions			
Source Of Fund	Name	Type	
IBRD	Effectiveness of Grant Agreement	Effectiveness	
Description of Condition			
The Grant Agreement has been executed and delivered and all conditions precedent to its effectiveness (other than the effectiveness of the LA) have been fulfilled.			
Source Of Fund	Name	Type	
IBRD	Adoption of the Project Operations Manual	Effectiveness	
Description of Condition			
The Project Operational Manual has been adopted by the Borrower			
Source Of Fund	Name	Type	
GEF	Effectiveness of the Loan Agreement	Effectiveness	
Description of Condition			
The Loan Agreement has been executed and delivered and all conditions precedent to its effectiveness (other than the effectiveness of the GA) have been fulfilled.			
Source Of Fund	Name	Type	
GEF	Execution and Delivery of the Grant Agreement	Effectiveness	
Description of Condition			
The execution and delivery of the GA on behalf of the Recipient has been duly authorized or ratified by all necessary governmental action.			

Team Composition					
Bank Staff					
Name	Title	Specialization	Unit		
Irina Babich	Sr Financial Management Specialist	Financial Management Specialist	GGODR		
Elena Klochan	Sr Country Program Officer	Team member	ECCBY		
Sydnella E. Kpundeh	Senior Program Assistant	Senior Program Assistant	GENDR		
Andrew Michael Mitchell	Sr Forestry Spec.	Task Team Leader	GENDR		
Nina Rinnerberger	Climate Change Specialist	Team member	GENDR		
Luis M. Schwarz	Senior Finance Officer	Finance Officer	WFALA		
Elena Segura Labadia	Senior Counsel	Legal Counsel	LEGLE		
Jennifer Shkabatur	Consultant	Social Specialist	GSURR		
Alexei Slenzak	Senior Environmental Specialist	Environmental Specialist	GENDR		
Barbara Ziolkowska	Procurement Analyst	Procurement Specialist	GGODR		
Non Bank Staff					
Name	Title	City			
Kairat Nazhmidenov	Economist	Rome, Italy			
Locations					
Country	First Administrative Division	Location	Planned	Actual	Comments
Belarus	Vitsyebkaya Voblasts'	Vitsyebk	X		
Belarus	Minskaya Voblasts'	Minsk	X		
Belarus	Mahilyowskaya Voblasts'	Mahilyow	X		
Belarus	Grodnenskaya Voblasts'	Grodna	X		
Belarus	Gomelskaya Voblasts'	Gomel	X		
Belarus	Brestskaya Voblasts'	Brest	X		

I. STRATEGIC CONTEXT

A. Country Context

1. Belarus is a small open economy, with a population of about 9.5 million, and a Gross National Income (GNI) per capita of US\$ 6,720 (Atlas methodology, 2013). The state plays a dominant role in the economy which has undergone limited market reforms. Belarus maintains a high degree of income equality and scores well on social indicators: in 2013, it ranked 53th out of 187 countries in the UN Human Development Index, up from 65th previously. The country maintains close political and economic ties with Russia (the destination for a significant part of its exports), and is a member of the Eurasian Economic Union. Belarus trades actively with the EU (about one-third of exports), and acts as a transit corridor between the EU and Russia.

2. Until 2008, Belarus experienced high growth rates in a fast growing region. From 2001–08, Belarus's GDP grew by 8.3% per annum, more rapidly than both the Europe and Central Asia region and the Commonwealth of Independent States. The global economic crisis of 2008–09 affected Belarus primarily through lower export demand and reduced access to external borrowing. Since then, the country has gone through a period of recurring macroeconomic instability and soaring inflation. Tight monetary and fiscal policy in late 2011 through 2012 led to some macroeconomic stability during 2013. However, inflation remained high at 16.5% with real GDP growth slowing to 0.9% down from 1.7% in 2012. In 2014, GDP growth recovered slightly to 1.6% with an inflation rate of 16.2%.

3. Over the past decade, the rapid economic growth helped reduce poverty, although the economic crisis of 2008 saw modest poverty increase. The absolute poverty rate (national poverty line) declined from 30% in 2002 to about 5.5% in 2013. The country has been successful in growth of the poorest 40% of the population. From 2006-2011, the mean income growth of the lowest 40% averaged 9.1% in comparison to 6.4% for the population as a whole. In 2013 the poorest 40% of the population captured 23% of the national income.

4. Poverty in rural areas is twice as high as in urban areas, with large heterogeneity of poverty amongst the Belarusian regions. While Belarus follows policies of equality and non-discrimination and has a basic legal framework in place, gender equality appears to be given lower priority compared to other social issues. Gender gaps persist in the areas of human capital and economic opportunities.

5. Going forward, the growth model will have to rely on significant productivity gains driven by structural reforms in an environment of macroeconomic stability. Improved public sector efficiency is necessary to enable the needed reallocation of resources from the public to the private sector while safeguarding social cohesion. Given the limited room for domestic demand expansion, the authorities are refraining from loosening macroeconomic policies. In 2014, caps were put on wage growth in the public sector, by linking further increases to productivity dynamics, while directed lending programs were downscaled, as compared to the planned volumes, in agriculture, industry, and construction. The authorities have developed a joint action plan of the Government and the National Bank to tackle the current macroeconomic imbalances and started to prepare a plan of long-term economic development until 2030.

6. The Government has formally requested Bank technical assistance to design a medium term structural reform program. This reform program would be comprehensive and consistent with the key structural challenges facing the country. The reform program will include corporate

governance of State Owned Enterprises, reform of state programs and directed credits, industrial policy, reforming the insolvency framework and social protection.

B. Sectoral and Institutional Context

7. Belarus is one of the most forested countries in the Europe and Central Asia region (sixth out of 30 countries) with forest cover of 8.1 million ha, accounting for nearly 39% of the territory (in comparison to 18% in 1944). Forests provide multiple environmental services (e.g. 30 million tonnes of carbon were sequestered last year), raw material to forest industry, employment in the forest and forest products industries, woody biomass for generation of heat and power, and non-timber forest products for both commercial production and subsistence consumption by local communities. In 2013, the forestry sector contributed to 2.1% of GDP (1.6% forest processing industry) and exports amounted to US\$ 1.2 billion. Whilst this is good in comparison to most Commonwealth of Independent States (CIS) countries, the contribution to GDP is higher in more developed forest based economies e.g. most of Scandinavia and Canada, indicating further potential for growth.

8. Generally the forests of Belarus are well stocked and growing (in both standing volume and area), they are professionally and well managed, and unofficial removals are practically non-existent (estimated at 0.07 to 0.1% of the total harvest). All forest is state owned and managed by state institutions. The responsibilities of the state, in terms of forest inventory, forest management planning and monitoring, forest pathology, forest fire prevention management and control etc. are undertaken to as high a standard possible within the resources available.

9. Belarus historically relied on imported coal, gas and oil from Russia for energy. Post independence, a large energy efficiency program was and continues to be implemented and has achieved substantial reductions in energy intensity. There is an active program to supply heat and power needs from local fuel resources, principally through expanding the use of wood fuel and peat in boilers and power plants. This is the main driver behind the development of the wood energy sector in Belarus, as biomass will play a crucial role in meeting national targets set at 32% of boiler and furnace fuels (BFF) to be supplied domestically by 2020. An interim target of 30% of BFF supplied locally by 2015 is set in a program for development of local energy resources running from 2011 – 2015 (The National Programme for the Development of Local and Renewable Energy Sources in 2011 – 2015; approved by the Resolution No. 586 dated May 10, 2011 of the Council of Ministers of the Republic of Belarus). Also due to planned investments in the processing sector as well as the increasing demand for wood energy, the level of production from Belarusian forest in the immediate future needs to be maximized.

10. Belarus has a centralized forest administration with the normal functions of state forest sector management (i.e. formulation of forest policy and drafting legislation; monitoring and enforcing the forest legislation; support e.g. research, extension services; and the management of state owned forest resources) concentrated into a single ministry (the Ministry of Forestry). Some of these functions (economic management and control) are mirrored by its territorial bodies, as well as some other ministries and agencies. As part of the ongoing development of a new forest strategic plan to 2030, the need for institutional change and capacity building has been recognized.

11. The government budget supports maintenance of the state forest/forestry administration body and its territorial bodies; forest regeneration and cultivation; forest conservation and forest fire control, forest protection, seed breeding, forest monitoring, maintenance of the state forest cadaster

and forest reserves accounting; and forest management, research works, personnel training, retraining and advanced training, and social functions.

12. Commercial activities are self-financed. The key sources of revenues include: revenues from sales of timber, normally at auctions, revenues from sales of products (works, services); and non-tax payments for short-term exploitation of the forest reserves when selling standing timber. Belarus has been making progress in reducing the contribution to the sector from the state budget (in 2001 approximately 70% of forest management costs were paid from the budget, but by 2014 this had reduced to about 33%). Further reductions are planned.

13. The first Forest Strategic Plan (FSP), approved in 1997, covered the period from 1997 to 2015 and was prepared with support of the Swedish government under the auspices of the first World Bank funded Forestry Development Project (closed in 2002). The FSP was detailed, technically sound, but was developed in an essentially technocratic top down process, with little participation. However, the FSP provided the guiding principles for the sector over the last 18 years, has been largely followed and implemented, and is still regularly referred to. The key accomplishments of the first FSP included: updating of forest code and subsidiary legislation; providing the legal definition of a unified forest fund (the procedure for assigning forests to protection groups and categories established; the increase in the share of forests of the first protection group, while simultaneously increasing forest utilization); developing and rolling out the forest cadaster and forest monitoring system; developing the national forest certification system; and introducing competitive timber sales methods.

14. In 2010, a little less than 81% of the timber was sold through the Belarus Universal Commodity¹ exchange auctions, down slightly from 2009 when 84% was sold by the exchange. On average the prices achieved for round timber sold by the exchange exceeded the prices of round timber sold under contracts outside the auctions by 30 to 50%. In accordance with Presidential decree 214 of 2007, the practice of standing sales will be changed to roadside and delivered sales by January 2015 (standing sales can still be used on an exceptional basis in areas of difficult accessibility). Since January 2013, harvesting services (for main fellings) have been auctioned through commodity exchange.

15. By 2014, 97 Ministry of Forestry State Forest Enterprises (SFEs) were certified to Program for the Endorsement of Forest Certification (PEFC) standards. 8.84 million ha are PEFC certified representing more than 98% of the total forest area. Additionally, 57 SFEs have Forest Stewardship Council (FSC) forest management and chain of custody certificates. 5.23 million ha are FSC certified representing 55% of the total forest area. Although Belarusian forests are managed to internationally certifiable standards, the forests tend to be both established at high initial stocking densities, and then, as is common in the region, thinned on long cycles, removing only a small proportion of the stems, resulting in high stocking and little light reaching the forest floor.

16. In 2013, the World Bank completed a Forest Policy Note, which identified a number of sectoral issues. It showed that there is a growing demand for wood products from both the wood processing and wood energy sectors. In the short to medium term there could be a shortfall in supply (taking into account the existing growing stock, projected growth rates and the age class distribution). There is therefore the need to maximize production from the forest estate through

¹ The Universal Commodity Exchange is an electronic commodity exchange open to national and international buyers for online real time auctions for a number of different commodities and products. Timber products can be sold standing, cut at roadside, or as finished products.

more intensive silviculture which, in addition to helping meet demand, will also contribute to improving stand structure (making the forest more resilient to climate change and catastrophic events such as wind blow, snow damage and forest fires), and evening out of the age classes. By increasing the intensity of silviculture, the benefits to biodiversity in the productive forest estate can also be enhanced as this allows the development of ground cover and more habitats, and can promote conservation while maintaining and even increasing the productive function of the forest. By utilizing more of the felling waste currently left on site (i.e. tops, larger branches, twisted and misshapen stems and degraded timber), woody biomass supply could be enhanced.

17. Currently reforestation and afforestation efforts are hindered by the quality of seed collected from known provenance and selected seed stands and also the quantity and quality of seedlings produced in the nurseries.

18. Although forest fires are generally well monitored and controlled in Belarus, the systems are based to a large extent on old technology and approaches. The incidence of forest fire could be reduced through better prevention, detection, monitoring and the use of modern suppression technology.

C. Higher Level Objectives to which the Project Contributes

19. The proposed Forest Development Project (FDP) will contribute to the second part of the World Bank's twin goals to end extreme poverty and to promote shared prosperity by fostering income growth of the bottom 40% of the nation's population through increasing production from the forest which will generate better jobs and opportunities for further downstream processing and value-adding. The Project will directly generate skilled and semi-skilled jobs in the rural forest sector, as well as indirectly increase work opportunities in the wood processing and wood energy sectors as a result of the increased production.

20. The FDP is in line with the second of the three pillars of the Country Partnership Strategy (CPS – FY 14-17) between the Republic of Belarus and the World Bank, which has the strategic objective of improving efficiency and quality of public infrastructure service, enhancing sustainable use of agricultural and forestry resources and increasing provision of global public goods.

21. The Project also fits with the World Bank Group's Environment Strategy (2012-2022), which in Europe and Central Asia (ECA) aims at promoting sustainable forest management, with an emphasis on governance, the role of communities and the private sector, conservation and environmental services, including carbon sequestration.

22. The FDP is also in line with the ECA Regional Strategy, which is focused on three pillars of competitiveness, social inclusion, and climate action with governance as a cross-cutting theme. The Project also supports the World Bank's 2002 Forest Sector Strategy's three pillars of: harnessing the potential of forests to reduce poverty; integrating forests in sustainable economic development; and protecting vital local and global environmental services and values.

23. The Project will complement the EU-funded ENPI (European Neighborhood and Partnership Instrument) East Countries FLEG II (Forest Law Enforcement and Governance) Program (P131138), which has been contributing to the development of the new Forest Strategic Plan (FSP) that identifies sector reforms including institutional changes and supporting the development of the private sector.

II. PROJECT DEVELOPMENT OBJECTIVES

A. PDO

24. The Project Development Objective is to enhance silvicultural management and reforestation and afforestation, increase the use of felling residues and improve the public good contribution from forests in targeted forest areas.

B. Project Beneficiaries

25. The Project beneficiaries include: the local rural population benefitting from improved employment conditions from the increasing forestry and conservation activities; the wood processing industry and their staff, which will benefit from increasing supplies of wood products; local municipalities, which will benefit from increasing supplies of wood chip for district biomass heating and combined heat and power; and the global community from increased sequestration of carbon, reduced emissions (from use of wood chip as a substitute for fossil fuels and reduced forest fires); and improved conditions for biodiversity; as well as the state owned forest enterprises, which manage the state's forest resources; the staff of the Ministry of Forestry (and some of its subsidiary enterprises), the Ministry of Environment and Natural Resources (MNREP) and its territorial bodies, and the state forest enterprises who will benefit from equipment upgrading and training opportunities. The Project will provide direct support to 88 of the 97 State Forest Enterprises (SFEs). All SFEs were invited participate in the loan. Final selections were based on the SFE business plans which were then included in one of the six feasibility studies prepared for each of the Oblast level Forestry Associations

C. PDO Level Results Indicators

26. Project Development Objective Indicators include:

- i. Area of young and middle aged production forest thinned according to approved management plans
- ii. Economic performance of participating SFEs enhanced;
- iii. Capacity to produce high quality seedlings increased;
- iv. Average utilizable volume of harvested trees in targeted SFEs increased; and,
- v. Amount of carbon sequestered.

III. PROJECT DESCRIPTION

27. Changing demographics and lifestyle choices in Belarus has resulted in fewer people willing to work in more labor intensive forestry activities. Many rural areas are becoming depopulated with some villages being completely abandoned as people move to urban areas.

28. The proposed Project will support modernizing some forestry sector operations, which will contribute towards a more prosperous and dynamic rural sector by creating desirable skilled or semi-skilled employment opportunities. In addition, the investments will support increased production of timber and other wood products, which will enable the further development of processing industries downstream, which may otherwise lack of raw materials.

29. The loan will finance the physical investments in goods and machinery to support the development and intensification of silviculture. The GEF grant will be used to develop the enabling environment; undertake the analytical and technical work; to develop the methodologies for new silvicultural systems including monitoring of carbon and the impacts of the new systems to be tested; and to finance key aspects of the training program.

A. Project Components

30. The proposed forestry development project has three main components:

- i) **Improvement of silviculture and the sustainability of forest management:** through the development of more intense silviculture; optimizing the intensity of silvicultural interventions in young and middle-aged stands; increasing the use of logging residues for production of woody biomass (complementary to the Biomass District Heating Project); and improving the quality of seedling production for afforestation and reforestation;
- ii) **Improvement of forest fire prevention, monitoring, detection and suppression:** by increasing prevention activities (e.g. raising public awareness,); and increasing the use of video and communications equipment to improve monitoring, surveillance and detection, and the provision of fire-fighting equipment to help extinguish the fires once started;
- iii) **Capacity building for sustainable forest management:** through creating the enabling environment to allow for the development of more intense silviculture; piloting the enhancement of biodiversity values in production forest and also in developing resistance of forest to climate change through silvicultural intervention; enhancing the forest management information system (including forest carbon monitoring); developing and training in the use of advanced technologies; and developing appropriate management approach for the rational treatment of radioactively contaminated forest.

31. Project implementation will be mainstreamed within a Ministry of Forestry (MOF) subsidiary enterprise: the Unitary Enterprise (UE) “Bellesexport”, which has been designated as the Project Implementation Unit (PIU). The MOF will set up a Working Group with participation of the representatives of the Ministry of Natural Resources and Environmental Protection (MNREP) to coordinate the implementation of GEF-funded activities.

32. **Component 1: Improvement of silviculture and the sustainability of forest management (total cost US\$ 36.47 million, of which IBRD loan US\$36.03 million and GEF grant US\$0.44 million).** To undertake the silviculturally necessary early and middle-aged thinnings, it is proposed to invest in modern harvesting machinery for young and middle-aged stands in terms of harvesters (a cutting head that can fell, trim and cross cut trees, which is mounted on an articulated boom on a low impact tractor), forwarders (low impact machines, which pick up and carry the felled production to a site where it can be either stacked or loaded onto a truck) and chippers to utilize wood waste from felling operations. To thin younger aged forests, smaller and more maneuverable machines are required than the heavier machines required for final thinnings and selection fellings. Use of this machinery will increase the productivity and at the same time improve the health and safety of forest workers. The Project will provide operator training for these tasks. The thinning material generated is likely to be used for either increasing the production of woody biomass, firewood, or pulpwood. Much of this production is currently lost as deadwood within the stands. There are therefore carbon benefits from both the production and increased productivity of the stands, while also boosting rural economies.

33. **Sub-component 1.1: Increased intensity of silvicultural activities by thinning of young and middle-aged stands.** By the beginning of 2015, all harvesting operations are to be tendered. However many younger aged thinning operations will not be attractive to the private sector or cost

effective for the SFEs to tender out. The yield from the thinning of young stands frequently does not cover the cost of actually undertaking the thinning, with the operations being more of a maintenance operation than production. These operations are necessary, and economically justified by the improvement in the quality of the residual stand (through silvicultural selection), and the increase in the residual stand growth and value of later thinnings. Regular and timely thinning also helps maintain stand stability to wind and snow events, and improves the benefits for wildlife by increasing the light hitting the forest floor thereby encouraging an understory which will provide both habitat and food. The machinery required for thinning young stands with smaller size stems is specialized and not commonly used in Belarus. 67% of the forested land in the forest fund is currently young or middle aged and requires thinning.

34. The Project will support the purchase of 74 harvesters and 52 forwarders for use in 67 SFEs in all six Oblasts. The funding of the operation and maintenance costs for all machinery and goods procured under the Project will be provided from the SFEs'/State Agencies' own budget resources. Experience from the first Forest Development Project has demonstrated that the MOF and subsidiary SFEs are capable of maintaining the investments in good working order.

35. Forest harvesting impacts will be minimal due the following factors: all harvesting operations are undertaken according to established norms and procedures, and according to a harvesting plan; Belarus generally has a gently sloping terrain with sandy soils, not prone to harvesting damage; the Project will purchase low impact machinery; and, the participating SFEs are all independently certified to international standards (PEFC and FSC) to ensure compliance with best harvesting practice.

36. ***Sub-component 1.2: Development of the use of woody biomass from logging residues.*** Currently most of the logging residues (i.e. the tops, degraded/twisted stems and branches) from final and selective fellings are simply left in the forest to rot. This creates both a fire hazard and is also wasteful of the calorific value, which could be used for energetic purposes. There is currently increasing demand for woody biomass to supply heat only and combined heat and power district heating systems. To meet this increasing demand for woody biomass, all sources of woody biomass need to be maximized.

37. The introduction of advanced logging technologies to increase the use of logging residues to enhance productivity and the sustainability of forest management will strengthen their economic and ecological role, and to develop and replicate new technologies. This will optimize and rationalize the use of the forest resources and increase the sector's contribution to the increasing demand for woody biomass. By utilizing production that is currently wasted, and by investing in new machinery and processes, there are both carbon benefits and an increase in rural economic activity.

38. This activity will support the purchase of eight heavy duty chipper machines in eight forest enterprises in two Oblasts.

39. ***Sub-component 1.3: Improvement of forest nurseries for afforestation and reforestation.*** In Belarus, restocking of selectively felled areas is done through the use of natural regeneration wherever possible. However in some cases this is not the most appropriate approach as sometimes the areas need to be restocked with different species (due to climate change), there is a need to restock damaged areas (wind falls, snow, fire, drying spruce and ash stands etc.), and on some occasions natural regeneration may not be successful. There is continuing need for production of good quality seedlings from selected 'plus' trees of known origin of the correct mixture of species.

40. To improve the survival rates and increase the efficiency of seedling production it is proposed to modernize four forest nurseries, to produce container grown seedlings of improved quality, from selected local seeds of known provenance. Increasing the nursery production will also increase skilled and semi-skilled employment opportunities, for both men and women in rural areas.
41. At the same time the legal and regulatory framework will be reviewed and an equal opportunity training program will be implemented to ensure technical and nursery staff can operate the new equipment.
42. Under Component 1, as part of the implementation of the Environmental and Social Management Plan, instruments will be introduced, which will include consideration of gender and other vulnerable groups, to engage beneficiaries and civil society in participation in the formulation of policy and in monitoring the implementation of the Project, thus contributing to enhancing transparency of the MOF and improving responsiveness of forestry enterprises to the needs of beneficiaries.
43. **Component 2: Improvement of forest fire prevention, monitoring, detection and suppression (total cost US\$ 4.88 million, of which IBRD loan US\$4.68 million and GEF grant US\$0.20 million).**
44. *Sub-component 2.1 Enhancement of capacity to respond to fire incidents.* This sub-component will include a number of activities to improve the knowledge of the forest fires in Belarus including developing a new fire-fighting zone system, and undertaking an inventory of depleted peatlands that are no longer used and that pose a big risk for landscape fires. The local authorities and CSOs will be involved in the information dissemination and awareness activities as well as in the monitoring of the fire protection measures at the local level. The awareness and information campaigns will also have a specific gender focus.
45. *Sub-component 2.2: Strengthening of fire detection and monitoring measures* through purchase of video surveillance and improving communications in three forest enterprises in two Oblasts.
46. *Sub-component 2.3: Improvement of fire suppression efforts* through provision of forest fire-fighting vehicles, equipment and training in some 41 SFEs in all six Oblasts
47. As part of this sub-component, the study of the best technologies and methods of detecting and extinguishing forest fires in EU countries will be undertaken. At the same time draft legislation will be developed to support implementation of the new fire-fighting technology and approach in the Republic of Belarus.
48. **Component 3: Capacity building for sustainable forest management (total cost US\$ 2.10 million, of which GEF grant US\$ 2.10 million).**
49. *Sub-component 3.1: Facilitation of an enabling environment* for sustainable forest management: This sub-component aims to support the improvement in the policy, legal and regulatory frameworks, whilst developing the new methods and techniques required to improve silviculture and to increase the contribution of forests to biological and landscape diversity. At the same time awareness raising and increasing exposure to international best practice will be undertaken for key stakeholders. This sub-component is funded by the GEF Grant (a list of the proposed GEF activities is included as Annex 6).

50. Key activities under this component include support to: review and develop the framework of forest policy, legislation and sector strategies; develop, test and monitor methods and techniques to improve biological and landscape diversity in forest management activities and forest use. This will include a pilot project in a number of SFEs to trial the new silvicultural approaches which will be used to develop guidelines and approaches for future replication across the productive forest. Other technical development activities will include: forest monitoring of climate change, biodiversity, and increased forest use; monitoring the effect of soil carbon and nutrient levels; developing techniques to convert low value plantations to broadleaved species, and to sustainably reforest drying spruce stands; monitoring the forest estate with respect to the impact of climate change, and forest management, to develop recommendations for the preservation of biodiversity and the use of native species; and undertaking awareness raising, training and increasing the exposure of relevant stakeholders to the approaches being developed and international best practice.

51. ***Sub-component 3.2: Strengthening of the forest management information system and forest management planning capacity.*** Under this sub-component software tools, application of modern metering devices and equipment in the process of forest surveying and inventory operations will be developed. This will contribute to improving the accuracy of the data collected and will hence improve information on the availability of timber resources in the country. This sub-component will include the development of a web-based interface to allow for sharing of information at different levels (through password protection where necessary) and will increase transparency and access to data for different stakeholders. This sub-component will develop and integrate a geo-information system-based map and database of potential forestry carbon objects/projects based on the National Forest Geo-information System and Forest Cadaster. This will also include development of the capacity to monitor and report on the greenhouse gas accounting of the forestry sector. As part of this sub-component, a methodology will be developed, which will determine how forest management plans can be adapted to address the issues and consequences of climate change.

52. ***Sub-component 3.3: Use of advanced forest management technologies through the provision of training.*** Training of forestry specialists in the advanced forest management technologies provides a basis for their successful implementation in forest management practice in the Republic of Belarus. This component will include development of the training and production facilities at the State Institution for Further Adult Education “Republican Center of Competence for Forestry Managers and Specialists”. All training undertaken will be equally available to both men and women.

53. ***Sub-component 3.4: Design and implementation of a monitoring system of radiological conditions.*** This component will include the development and maintenance of a decision support system “Radioactive Contamination of Forests RadFor”, to be performed by the State Institution “Bellesozaschita” in partnership with forestry enterprises, as well as improvement of the system of protective measures and optimization of radiological monitoring activities in the forest fund.

54. ***Sub-component 3.5: Provision of support for the implementation, monitoring and evaluation of the Project.*** Project management will be mainstreamed within the PIU Bellesexport. However the project will provide additional support in terms of experienced procurement and financial management expertise as well as including provision for independent auditing.

B. Project Financing

55. The total project cost is US\$ 43,449,726 of which US\$ 40,714,000 will be covered by an IBRD loan and US\$ 2,739,726 will be a grant from the Global Environment Facility.

Project Cost and Financing

Project Components	Project Costs (US\$ millions)			% Financing	
	Total	IBRD	GEF	IBRD	GEF
1 Improving silviculture and the sustainability of forest management	36.47	36.03	0.44	99	1
2 Improving forest fire prevention monitoring, detection and suppression	4.88	4.68	0.20	96	4
3 Building the capacity for sustainable forest management (including GEF project management)	2.10		2.10	0	100
Total Costs	43.45	40.71	2.74	94	6

C. Lessons Learned and Reflected in the Project Design

56. The Project builds on the Bank's experience in the Belarusian forest sector since the mid 1990s through the first Forestry Development Project, both phases of the EU funded European Neighborhood and Partnership Instrument (ENPI) East Countries Forest Law Enforcement and Governance (FLEG) Program (2008-2012, 2012-2017).

57. The Project has benefited from the experience gained from the first forestry development project (1994 – 2002), which financed the purchase of nursery equipment and capacity building activities for the Ministry of Forestry and State Forest Enterprises. Experience shows that the SFEs have the capacity to adapt to the use of new technology and to maintain and operate the new machinery and equipment. The Project design has also directly benefitted from the experience gained from the ENPI East Countries FLEG Program (phases I and II), and from countries such as Romania, and Bulgaria which have informed the capacity building approach and the recommended course of action for institutional development. The FLEG program has built the understanding of the need for stakeholder involvement, the need for outside expertise and the methods of increasing the sharing of knowledge and approaches.

58. The Project also reflects the ongoing reforms within the sector, for example, the increasing demands for private sector involvement in both the harvesting and processing of timber and timber products. The Project design is also based on best practice forest management silvicultural systems from Scandinavia and other EU Member States. As part of the FLEG Program, Belarusian foresters have undertaken training in Member States such as Finland and Poland.

59. The design of the forest fire component has benefited from the experience gained from the Forest Fire Response Project in Russia through the need to improve the prevention and detection activities and the Kazakhstan Forest Rehabilitation and Protection Project with respect to the use of modern technology to improve detection and monitoring.

IV. IMPLEMENTATION

A. Institutional and Implementation Arrangements

60. The Ministry of Forestry (MOF) will be responsible for the overall implementation, management, coordination and results monitoring of the Project. To this end MOF has established a project implementation unit (PIU) within one of its subordinate specialized agencies (Bellesexport). The PIU will have six dedicated full time staff: a manager, two procurement specialists, a financial manager, a translator and a driver. The PIU will also recruit experienced part time consultants on procurement (for preparation of specifications and bidding documents)

and Financial Management. The PIU will be responsible for preparing terms of reference (in collaboration with the relevant technical staff from the Ministry of Forestry and on agreement of the Ministry Natural Resources and Environmental Protection). The PIU will operate according to a Project Operations Manual (POM) acceptable to the Bank, which will be prepared by the expected effectiveness date. More details on implementation arrangements are included in Annex 3.

61. All 88 (out of a total of 97) participating SFEs are subordinate firstly to one of the six Oblast Forestry Associations and ultimately to MOF. Each SFE will assign a project manager responsible for project implementation in the particular SFE. The SFE will be responsible for the onsite supervision of specific activities such as the installation of new nursery and fire monitoring equipment. The SFE's will be responsible for the operation and maintenance costs of the equipment purchased, out of their normal operating budgets. These costs have been included in the feasibility studies.

62. A number of specialized agencies of MOF will also be involved for certain components e.g. the training center (RUTSLeS) for implementing some of the training, Bellesozahita for the implementation of the monitoring of the radioactively contaminated forests, Belgosles for support for the forest management information systems. The Ministry of Environment and Natural Resources will also support the Project through the GEF funded activities by providing clearance to the Terms of Reference and accepting the reports, and by arranging monitoring visits to project area.

B. Results Monitoring and Evaluation

63. A set of outcome indicators for measuring project progress have been defined in agreement with Government counterparts (see Annex 1). The Project implementing agency, Bellesexport, will have overall responsibility for project monitoring and for collecting the appropriate data to follow the indicators. The implementing agency will be responsible for reporting on project progress, with support from the Oblast State-Owned Production Forestry Associations and participating SFEs, in annual progress reports to be agreed with the Ministry of Natural Resources and Environmental Protection. In addition, the midterm review will provide an opportunity for the Bank and counterpart teams to closely review implementation progress, as well as to determine if any modifications to indicators and/or target values are required. Specific monitoring activities for gender disaggregated data will be included in the reporting activities.

C. Sustainability

64. The Project's main aim is to enhance both economic and financial sustainability of the participating enterprises through improving the sustainability of forest management operations. The improvements to the silviculture will allow for both improved economic activity, which in turn will help generate increased financial in flows to the SFEs, whilst simultaneously creating additional biodiversity and carbon benefits. Through utilizing felling waste as a product that can be used for fossil fuel substitution the Project effectively creates demand for a previously under-utilized woody biomass.

65. The demand for the sustainable production of forest products in Belarus is high domestically as there is significant ongoing private sector investment into the wood processing sector, typically aimed at the production from thinnings (i.e. chipboard, medium density fiber board, oriented strand board, wood chips and pellets, pulp and paper etc.), both from domestic and international investors. The Forest Policy Note identified that over an eight year period there could be investment in the

processing sector of around US\$ 2.9 billion. As all of the participating SFEs are certified, it is likely that there will be increasing demand for wood products from exporters. At the national level, the commitment to increasing the use of sustainable bio-energy is also high. It is clear therefore that there is a good demand for the products that will arise from the Project investments.

66. Through the implementation of the GEF funded activities to create the enabling environment and capacity building, the Project will ensure that the new thinning and harvesting regimes are both sustainable in the long term and are beneficial to the environment in general. The fact that all the participating forest enterprises are certified and will be subject to third party independent audit will further ensure that the forests are managed sustainably.

V. KEY RISKS

A. Overall Risk Rating and Explanation of Key Risks

67. Risk ratings summary

Risk Category	Rating
1. Political and Governance	Moderate
2. Macroeconomic	Moderate
3. Sector Strategies and Policies	Moderate
4. Technical Design of Project or Program	Low
5. Institutional Capacity for Implementation and Sustainability	Substantial
6. Fiduciary	Substantial
7. Environment and Social	Low
8. Stakeholders	Low
9. Other	NA

68. The overall risk of the proposed Forestry Development Project is rated Moderate. This rating considers risks to achieving the development results based on analysis of each of the risk categories. The institutional capacity and fiduciary risks are rated as substantial because the PIU, whilst proficient at procurement and project management according to Belarusian legislation, has no experience of implementing Bank funded projects. To mitigate these risks the PIU will receive training in Bank procurement and financial management as well as in safeguard support.

VI. APPRAISAL SUMMARY

A. Economic and Financial Analysis

69. The Project's overall cost is currently estimated at US\$ 43.45million, including the GEF grant. The economic benefits of the Project estimated during the Project preparation include: (i) increasing the intensity of thinning operations; (ii) increasing the utilization of forest production by using felling arisings, which are currently wasted; (iii) reducing costs and increasing survival rates for forestry planting stocks; and (iv) reducing the losses from forest fires.

70. All of the benefits described above have carbon benefits, either through increasing carbon sequestration through increased forest growth, or reducing emissions by substituting the use of fossil fuels or reducing carbon released through forest fires. Greenhouse Gas (GHG) accounting was undertaken to both estimate the amount of carbon benefits which is expected to be positive, but additionally to assess the carbon footprint of the Project.

71. **Economic analysis.** The period of analysis is 15 years to account for the long-term benefits and phasing periods of the proposed interventions. The scenario presented in the economic analysis is based on conservative assumptions and estimates. The analysis is indicative and demonstrates the scope of economic profitability originated as a result of the conditions prevailing at the time of the preparation. The analysis attempts to identify quantifiable benefits that relate directly to the activities undertaken following implementation of the Project components and activities, or that can be attributed to the Project's implementation. Price estimates for tradable commodities have been based on the World Bank's Global Commodity Price Projections. All local costs were converted into their approximate economic values using a Standard Conversion Factor (SCF) of 0.8.

72. The Project will invest in improvement of fire prevention system, which will increase prevention, better detection and more timely and effective response to forest fires. The reduced losses from forest fires attributable to the Project is estimated at about 30% of average annual losses due to forest fires during last twelve years.

73. Based on the GHG emissions accounting the Project net carbon balance is estimated at 422,124 tCO₂-e of avoided emissions or increased carbon sequestration over the full analysis period (30 years). Assuming a baseline estimate of the social value of carbon of US\$30 per tonne, this would translate into a net benefit of the Project of around US\$6.3 million over period of 15 years that is taken as the period of the economic analysis.

74. Given the above benefit and cost streams, the base case Economic Rate of Return (ERR) is estimated at 20.1%. The base case Net Present Value (NPV) of the Project's net benefit stream, discounted at 10%, is US\$ 14.7 million in economic terms.

75. **Financial analysis** assessed the financial viability of the improved technologies and systems promoted by the Project and the increase in incomes and benefits from indicative investments. Conservative assumptions were made both for inputs and outputs. In line with the current Government policy, the models assume a VAT tax rate of 20% on local sales. Prices of commodities/inputs reflect annual averages and those actually paid/received by the market players. Several financial models were prepared to identify and quantify benefits deriving from the Project investments in improvement of forest thinning, better use of forest biomass and nursery production.

76. *Sensitivity Analysis.* Economic returns were tested against the changes in benefits and costs and for various lags in the realization of benefits. In relative terms, the ERR is sensitive to changes in costs and in benefits. In absolute terms, these changes do not have a significant impact on the ERR, and the economic viability is not threatened by either a 20% decline in benefits or by a 20% increase in costs. A one-year delay in Project implementation would reduce the base ERR to about 19.6%.

Sensitivity Analysis (15-year period)	Base case	Costs Increase			Increase of Benefits		Decrease of Benefits			Delay of Benefits	
		+10%	+20%	+50%	+10%	+20%	-10%	-20%	- 30%	1 year	2 years
ERR	20.1%	16.9%	14.2%	8.1%	20.4%	20.6%	19.8%	19.5%	19.0%	19.6%	17.2%
ENPV (USD mln)	14.7	11.0	7.3	-3.9	16.5	18.3	13.0	11.2	9.4	13.0	9.6

Greenhouse Gas Accounting:

77. Greenhouse Gas (GHG) emissions accounting for investment lending is a corporate mandate of the World Bank included in the new Environment Strategy endorsed by the World Bank Board in 2012.

78. GHG emissions accounting for this project was developed during project preparation with inputs from stakeholders in the forest sector in Belarus, including the Ministry of Forestry and the National Research Center for Ecology². The analysis is based on an ex-ante assessment³ (appraisal) of the carbon balance of the Project using the existing GHG assessment model EX-ACT, which was developed by the Food and Agriculture Organization (FAO) to estimate the impact of agriculture and forestry development projects, programs and policies. Based on the scope and applicability of the model, parts of component 1 and component 2 were assessed focusing on the following interventions: developing improved forest nurseries for afforestation and reforestation; developing the use of woody biomass from logging residues from final and selective fellings; and improving forest fire management.

79. Based on the EX-ACT appraisal over 30 years, without the Project the *baseline scenario* has an estimated GHG emission and carbon sequestration benefit of -4,643,384 tonnes of CO₂-equivalent (tCO₂-e). The Project *scenario* provides additional benefits and shows a total positive impact on carbon sequestration and emissions of -5,065,508 tCO₂-e over 30 years. The Project *net carbon balance* is estimated at -422,124 tCO₂-e of avoided emissions or increased carbon sequestration over the full analysis period. This translates into -17 tCO₂-e per hectare over 30 years or -0.6 tCO₂-e per hectare per year. Assuming a baseline estimate of the social value of carbon of US\$30 per tonne, this would translate into a net benefit of the Project of around US\$12.66 million over 30 years.

80. Using conservative assumptions of the planned thinning interventions (over an area of 450,000 hectares), preliminary estimates from the CAT-SFM (Carbon Accounting Tool-Sustainable Forest Management) model show that potentially an additional 13.57 million tCO₂-e of increased carbon sequestration could be generated by the Project over 30 years. It is planned to undertake additional GHG analysis of the impacts of thinning on the carbon balance, to refine the current estimate, during project implementation as part of the GEF-funded activities.

B. Technical

81. The Project is designed to meet the increasing needs for forest products and services through established forest management techniques in Scandinavia and other western European countries. These management practices are designed to support the multiple goods, services and functions that forests provide. The although the Project will trial a new approach to silviculture in Belarus, suitable monitoring systems have been established to ensure that the Project will be economically, environmentally and socially sustainable.

82. The specifications for the harvesting and chipping machinery to be purchased under the Project will be based on modern but established and well-proven technology. Investments in the forest nursery component will also be from tried and tested standards and will produce higher quality seedlings which will increase viability and survival rates.

² A full report, *Ex-Ante GHG Appraisal of the Forestry Development Project in Belarus (2015-2020)*, showing all the underlying assumptions is available upon request through the World Bank.

³ Estimating expected future greenhouse gas (GHG) effects of policies and actions before implementation.

C. Financial Management

83. The Financial Management (FM) assessment of the Project was completed during project appraisal. The FM arrangements for implementation of the Project will be acceptable to the Bank, subject to completion of the actions summarized below. The FM risk for implementation of this project is currently assessed as Substantial, due to (i) the inexperience of Bellesexport with World Bank projects, including absence of staff with knowledge of World Bank fiduciary procedures, (ii) the number of participating State Forest Enterprises, Forestry Associations, and specialized agencies of the MOF, which will require close coordination between counterparts, as well as the Ministry of Natural Resources and Environment involved in the GEF-financed activities; and (iv) project financing from two sources: IBRD and GEF, which will require more complex accounting and reporting.

84. The Project implementing agency UE Bellesexport will be in charge of all financial management and disbursement areas during project implementation. The Project FM arrangements have been designed to place much reliance on existing institutional FM systems, i.e. by using the existing departments of Bellesexport and using the existing institutional mechanisms of financial management. Specifically, Project financial management will be primarily carried out by the existing departments of Bellesexport. The existing accounting and reporting system 1-C will be used, after necessary modifications are introduced. The system of internal controls of Bellesexport will be used.

85. Staff of accounting and finance departments of Bellesexport are experienced in accounting and reporting under requirements of the local legislation, and their capacity in World Bank rules and procedures will be further built through World Bank training. Involvement of part-time FM consultant to assist Bellesexport during initial stages of project implementation was recommended. The existing accounting software will be used for project accounting and reporting purposes. The available software 1-C is acceptable, and its further modifications to fully suit the Project needs will be made, including accounting for USD equivalents and reporting formats. The Project will prepare and submit quarterly IFRs after end of each calendar quarter, based on the agreed sample format, starting from the quarter in which the first project disbursement occur.

86. Project financial statements will be audited annually by independent auditors acceptable to the Bank. Such audits will be prepared under requirements of International Standards on Auditing, and will be due six months after the end of each fiscal year. The annual audit of the entity financial statements of Bellesexport will not be required. However, Bellesexport will forward to the World Bank results of review of its activities by the State control authorities, no later than two months after submission of such reports by Bellesexport. Project audit report and financial statements will be publically disclosed by Bellesexport and by the World Bank within two months of their submission.

87. The Project has prepared a draft Project Operations Manual (POM), which will detail the functions of the FM staff involved in project implementation, as well as provide a full description of the internal controls and procedures. The adoption of the POM, acceptable to the Bank, *is a condition for Effectiveness*. More details of the FM arrangements are provided in Annex 3.

D. Procurement

88. Procurement activities under the Project will be carried out by the Project Implementation Unit (UE “Bellesexport”), in accordance with the World Bank’s “Guidelines: Procurement of Goods, Works and Non-Consulting Services under IBRD Loans and IDA Credits and Grants by

World Bank Borrowers,” dated January 2011 and revised on July 1, 2014, and “Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers,” dated January 2011 and revised on July 1, 2014, and the provisions stipulated in the Loan and Grant Agreements. A procurement capacity assessment completed in April 2014 concluded that the PIU has skilled procurement and technical staff, however with no prior experience in implementation of World Bank financed projects and unfamiliar with the World Bank’s procurement policies and procedures. In addition, there is a potential risk of delays in the implementation of the procurements, especially more complex types such as large value goods for forestry equipment and ICT procurement for the forest fire management system and a risk of low competition. Taking this into account, the procurement risk for the proposed project is rated as Substantial. To mitigate the procurement risks the PIU will implement measures agreed with the Bank including: (i) training on Bank’s procurement⁴ (ii) recruitment of a qualified procurement consultant within 30 days of loan/grant effectiveness (iii) preparation of bidding documents for the first year of project implementation before effectiveness; (iv) organization of business outreach for private sector on future business opportunities before launching the first bids; and (v) preparation of annual procurement progress reports. The Bank will closely supervise the Project and will review the PIU’s procurement arrangements (including contract packaging, applicable procedures, methods, and the scheduling of procurement processes) for conformity with the Loan Agreement, the proposed implementation program, and the disbursement schedule. The Bank’s prior review thresholds will be provided in the Procurement Plan. The remaining procurement procedures will be randomly subject to the Bank’s ex post review. One in 5 contracts under the Project would be subject to ex post review. More detailed findings of the assessment, the proposed procurement arrangements, and measures to address the identified risks are presented in Annex 3. The Procurement Plan covering the first 18 months of the Project implementation has been agreed with the Bank and is summarized in Annex 3.

E. Social (including Safeguards)

89. The Project design has been informed by the Social Assessment which was carried out as part of the Environmental Assessment. An Environmental and Social Management Plan (ESMP) has been prepared. Social safeguards are not triggered, as all activities will be implemented within state owned forest areas/lands and no exclusions are called for. There are no anticipated adverse social impacts. The Project will provide for training and will generate additional skilled/semi-skilled jobs in the rural areas, which are currently becoming depopulated as people move to cities and urban centers.

90. **Gender and Citizens Engagement:** The forestry sector employs 40,000 individuals; nearly 6,000 of whom are women. 30 of these women are foresters; 41 have 4 or more children. As women account for only 15% of the forest sector workforce, special emphasis will be placed on engaging women in trainings and other project-related activities with the view to increase their employment in the sector. This will be achieved through (i) communication and outreach targeted to reach women (e.g. in collaboration with women- leaders, female role-models and local authorities, posting project-related information in places regularly attended by women, such as local shops, schools, municipal offices); (ii) flexibility on timing and methods of delivering information messages and holding trainings to accommodate women who have childcare commitments (including flexible schedules for trainings); and (iii) assessment on gender inclusion progress and constraints in project consultations and evaluation reports. An intermediate results

⁴ procurement training was undertaken in June 2014 by key PIU staff

indicator will monitor the number of female trainees as part of project activities. As described in the ESMP, the Project will include a range of activities to provide information and consultation opportunities to engage all interested stakeholders in the Project. Furthermore, the Project will offer improved mechanisms for information provision and beneficiary feedback, ensuring the full engagement of interested stakeholders in project preparation and implementation activities. As part of the World Bank Group's efforts to mainstream citizens' engagement in all investment operations, the Project will engage with local citizens through consultation and information dissemination activities. This is measured through an indicator included in the Project's results framework.

F. Environment (including Safeguards)

91. The Project is expected to have positive environmental benefits through increasing the intensity of silviculture and forest management, whilst ensuring biodiversity and other environmental factors are protected. Investments in forest fire management systems should help reduce the impact of forest fires, and the development of nurseries will allow the provision of better quality planting stock of known local provenance for afforestation and reforestation activities. The Project supports GEF Focal Areas: Climate Change, Biodiversity and Sustainable Forest Management.

92. The Project has been classified as a category B project, as per the World Bank OP/BP 4.01 on Environmental Assessment. An Environmental Impact Assessment (EIA) has been prepared and this includes an Environmental and Social Management Plan (ESMP). No activities that fall into the World Bank Environmental Category A will be financed by the Project. The EIA/ESMP document was disclosed before November 19, 2014 via Ministry of Forestry and State Forest Enterprise websites and at the World Bank Infoshop on November 19, 2014. Meaningful public consultations/hearings were held as required by the Belarusian legislation and requirements of the World Bank. The final documents were re-disclosed locally and at the World Bank Infoshop on December 08, 2014.

G. Other Safeguards Policies Triggered

93. O.P. 4.36 Forests. OP 4.36 is triggered because the Project will support forest management and enhance its environmental performance. As of today, all State Forest Enterprises (SFEs) participating in the Project were certified to PEFC standards. Additionally, 70 SFEs have Forest Stewardship Council (FSC) forest management and chain of custody certificates (as of September 25, 2014).

H. Grievance Redress

94. A Grievance Regress Service has been explained and has been made available. Communities and individuals who believe that they are adversely affected by a World Bank (WB) supported project may submit complaints to existing project-level grievance redress mechanisms or the WB's Grievance Redress Service (GRS). The GRS ensures that complaints received are promptly reviewed in order to address project-related concerns. Project affected communities and individuals may submit their complaint to the WB's independent Inspection Panel which determines whether harm occurred, or could occur, as a result of WB non-compliance with its policies and procedures. Complaints may be submitted at any time after concerns have been brought directly to the World Bank's attention, and Bank Management has been given an opportunity to respond. For information on how to submit complaints to the World Bank's corporate Grievance Redress Service (GRS), please visit <http://www.worldbank.org/GRS>. For

information on how to submit complaints to the World Bank Inspection Panel, please visit www.inspectionpanel.org

Annex 1: Results Framework and Monitoring

Belarus

Project Name: Forestry Development Project (P147760)

Results Framework

Project Development Objectives

PDO Statement

The Project Development Objective is to enhance silvicultural management and reforestation and afforestation, increase the use of felling residues and improve the public good contribution from forests in targeted forest areas.

These results are at | Project Level

Project Development Objective Indicators

Indicator Name	Baseline	Cumulative Target Values				
		YR1	YR2	YR3	YR4	End Target
Area of young and middle-aged production-forest thinned according to approved management plans (Hectare(Ha))	132,500	140,000	150,000	160,000	165,000	165,000

Economic performance of participating SFEs enhanced (Amount(USD))	0.00	605,000	4,939,000	10,496,000	12,723,000	15826000
Capacity to produce high quality seedlings increased (number of container grown seedlings) (Number)	0	0	2,000,000	2,000,000	4,000,000	4,000,000
Average utilizable volume of commercial timber harvested during intermediate felling in targeted SFEs increased (Cubic Meter per hectare (m3/ha))	28.50	30.00	31.50	33.00	35.00	35.00

Global Environmental Objective Indicators

Indicator Name	Baseline	Cumulative Target Values				
		YR1	YR2	YR3	YR4	End Target
Amount of carbon sequestered (Metric ton)	4,643,384	4,643,384	4,727,809	4,812,234	4,981,083	5,065,508

Intermediate Results Indicators

Indicator Name	Baseline	Cumulative Target Values				
		YR1	YR2	YR3	YR4	End Target
Nursery lines for container grown seedlings of native tree species established (Number)	0		2	2	4	4
Improved thinning regime developed (Yes/No)	No			yes		Yes
Number of people trained (Number)	2243	2250	2330	2340	2380	2380

Number of people trained - female (Number - Sub-Type: Breakdown)	110	115	130	140	145	145
Reforms in forest policy, legislation or other regulations supported (Yes/No) - (Core)	No			Yes		Yes
Govt institutions provided w/ capacity buildg to improve mgt of forest resources (Number) - (Core)	0	0	2	5	8	11
New areas outside protected areas managed as biodiversity-friendly (ha) (Number) - (Core)	1,226,700	1,226,700	1,226,700	2,536,020	3,845,340	4,500,000

Project-supported organization(s) publish reports on inputs and effect of consultation and information dissemination activities on project/program/policies (Yes/No)	No	No	Yes	Yes	Yes	Yes
Direct project beneficiaries (Number) - (Core)	0					25000
Female beneficiaries (Percentage - Sub-Type: Supplemental) - (Core)	0					10

Indicator Description

Project Development Objective Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Area of young and middle-aged production-forest thinned according to approved management plans	This indicator is linked to the PDO to enhance silvicultural management of forests.	Bi-annual	Bi-annual progress reports	SFEs/MOF/PIU
Economic performance of participating SFEs enhanced	This indicator measures the excess of revenue over expenditures inclusive of all financing sources	Bi-annual	Bi-annual progress reports / analysis of SFE accounts	SFEs/MOF/PIU
Capacity to produce high quality seedlings increased (number of container grown seedlings)	This indicator measures the number of container grown seedlings for afforestation and reforestation purposes.	Bi-annual	Bi-annual progress reports	SFEs/MOF/PIU
Average utilizable volume of commercial timber harvested during intermediate felling in targeted SFEs increased	This indicator covers the use of felling waste in participating State Forest Enterprises. The unit of measure is actually m3 per hectare	Bi-annual	Bi-annual progress reports	SFEs/MOF/PIU

Global Environmental Objective Indicators

Indicator Name	Description (indicator definition etc.)
Amount of carbon sequestered	This indicator is based on calculations of the amount of carbon sequestered using the EX-ACT Carbon Accounting Tool developed by FAO. The baseline values was calculated during project preparation and will be updated and refined during project implementation

Intermediate Results Indicators

Indicator Name	Description (indicator definition etc.)	Frequency	Data Source / Methodology	Responsibility for Data Collection
Nursery lines for container grown seedlings of native tree species established	This indicator monitors the capacity to produce high quality container grown seedlings	Bi-annual	Bi-annual progress reports	SFEs/MOF/PIU
Improved thinning regime developed	This indicator includes biodiversity friendly management of stands.	Bi-annual	This indicator includes improved biodiversity friendly management of stands	MOF/PIU
Number of people trained	This indicator refers to the number of forest professionals and or community members that have received capacity building through training as a result of the project	Bi-annual	Bi-annual progress reports	MOF/PIU
Number of people trained - female	This is a breakdown of the total number of people trained	Bi-annual	Bi-annual progress reports.	MOF/PIU
Reforms in forest policy, legislation or other regulations supported	This indicator measures support to forest sector reforms as a result of the project	Bi-annual	Bi-annual progress reports	MOF/PIU
Govt institutions provided w/ capacity buildg to improve mgt of forest resources	This indicator refers to the number of national or sub-national institutions (e.g. forest or environmental department and national, state or province level that have received capacity building as a result of the project.	Bi-annual	Bi-annual progress reports	MOF/PIU
New areas outside protected areas managed as biodiversity-friendly (ha)	This indicator measures the number of terrestrial hectares outside protected areas where, as a result of the World Bank operation, the site is managed at least in part to obtain biodiversity gains.	Bi-annual	Bi-annual progress reports	MOF/PIU

Project-supported organization(s) publish reports on inputs and effect of consultation and information dissemination activities on project/program/policies (Yes/No)	This indicator monitors the publication of reports on the results and effects of consultations and information dissemination activities as part of the project.	Bi-annual	Bi-annual progress reports	MOF/PIU
Direct project beneficiaries	Direct beneficiaries are people or groups who directly derive benefits from an intervention (i.e., children who benefit from an immunization program; families that have a new piped water connection). Please note that this indicator requires supplemental information. Supplemental Value: Female beneficiaries (percentage). Based on the assessment and definition of direct project beneficiaries, specify what proportion of the direct project beneficiaries are female. This indicator is calculated as a percentage.	Biannual	Biannual Progress Reports	MOF/PIU
Female beneficiaries	Based on the assessment and definition of direct project beneficiaries, specify what percentage of the beneficiaries are female.	Biannual	Biannual Progress Reports	MOF/PIU

Annex 2: Project Detailed Description

COUNTRY: Republic of Belarus

1. **The Project development objective** is to enhance silvicultural management and reforestation and afforestation, increase the use of felling residues and improve the public good contribution from forests in targeted forest areas.
2. The Project beneficiaries include: the local rural population benefitting from improved employment conditions from the increasing forestry and conservation activities; the wood processing industry and their staff, which will benefit from increasing supplies of wood products; local municipalities, which will benefit from increasing supplies of wood chip for district biomass heating and combined heat and power; and the global community from increased sequestration of carbon, reduced emissions (from use of wood chip as a substitute for fossil fuels and reduced forest fires); and improved conditions for biodiversity; as well as the state owned forest enterprises, which manage the state's forest resources; the staff of the Ministry of Forestry (and some of its subsidiary enterprises), the Ministry Natural Resources and Environmental Protection and its territorial bodies, and the state forest enterprises who will benefit equipment upgrading and from training opportunities.
3. Project Development Objective Indicators include:
 - i. Area of young and middle aged production forest thinned according to approved management plans;
 - ii. Economic performance of participating SFEs enhanced;
 - iii. Capacity to produce high quality seedlings increased (number of container grown seedlings)
 - iv. Average utilizable volume of harvested trees in targeted SFEs increased (m³); and,
 - v. Amount of carbon sequestered (metric tonnes).
4. The Project builds on the experience the Bank has in the Belarusian forest sector since the mid 1990s through the first forestry project being completed in 2002 (rated satisfactory), both phases of the EU funded European Neighborhood and Partnership Instrument (ENPI) East Countries Forest Law Enforcement and Governance (FLEG) Program (2008 – 2012, 2012-2017) implemented by the Bank (in partnership with IUCN and WWF) and the Forest Sector Policy Note completed in 2013.
5. The Forest Policy Note identified a number of sectoral issues and also some opportunities for potential collaboration through an investment loan, including: the need to introduce more intensive silviculture to improve stand structure, productivity and biodiversity; to optimize the production of woody biomass utilizing otherwise non marketable production; to improve nurseries to improve reforestation and afforestation capacity and survival rates; and support for the development and roll out of modern forest fire prevention, detection, monitoring and suppression technology. Additionally the note recommended capacity building and ongoing support for the institutional reform process. Some of these aspects, such as the development of the new strategic plan (which includes recommendations for institutional change) are covered by the ENPI FLEG phase II program and others will be supported by the Project through some of the GEF supported activities. At the same time there are opportunities for institutional capacity building in areas such as forest

monitoring and analysis including the assessment of carbon balance as a result of forestry measures and identification of the potential of forest ecosystems to sequester carbon under different management scenarios.

6. The loan will provide direct support to a total of 88 of the 97 State Forest Enterprises (SFE). Each SFE has prepared a business plan that was then included in one of the six feasibility studies prepared for each of the Oblast level Forestry Associations.

7. The proposed forestry development project has three main components:

8. The proposed forestry development project has three main components:

- i) **Improvement of silviculture and the sustainability of forest management:** through the development of more intense silviculture; optimizing silvicultural interventions in young and middle-aged stands; increasing the use of logging residues for production of woody biomass (complementary to the Biomass District Heating Project); and improving the quality of seedling production for afforestation and reforestation;
- ii) **Improvement of forest fire prevention, monitoring, detection and suppression:** by increasing prevention activities (e.g. raising public awareness,); and increasing the use of video and communications equipment to improve monitoring, surveillance and detection and the provision of fire-fighting equipment to help extinguish the fires once started;
- iii) **Capacity building for sustainable forest management:** through creating the enabling environment to allow for the development of more intense silviculture; piloting the enhancement of biodiversity values in production forest and also in developing resistance of forest to climate change through silvicultural intervention; enhancing the forest management information system (including forest carbon monitoring); developing and training in the use of advanced technologies; and developing appropriate management approach for the rational treatment of radioactively contaminated forest.

9. Project implementation will be mainstreamed within a Ministry of Forestry subsidiary enterprise. The Unitary Enterprise (UE) “Bellesexport” of the Ministry of Forestry has been designated as the Project Implementation Unit (PIU) for the new project. UE “Bellesexport”, founded in 1995, promotes the sale of the domestic timber products in foreign markets as well as procurement of international equipment for the State Forest Enterprises.

Component 1: Improvement of silviculture and the sustainability of forest management (total cost US\$ 36.47 million, of which IBRD loan US\$36.03 million and GEF grant US\$0.44 million)

10. Changing demographics and lifestyle choices in Belarus means that there is currently and increasingly a lack of people willing to work in the more labor intensive forestry activities. Many rural areas are becoming depopulated with some villages being completely abandoned. To help establish a prosperous and dynamic rural sector it is necessary to create desirable skilled or semi-skilled employment opportunities. Without the rural sector producing the timber and other wood products the development of downstream processing industries may suffer from a lack of raw materials. To undertake the silviculturally necessary early and middle aged thinnings, and to increase the efficiency and productivity, it is proposed to invest in modern harvesting machinery

for young and middle aged stands in terms of harvesters (a cutting head that can fell, trim and cross cut trees, which is mounted on an articulated boom on a low impact tractor), forwarders (low impact machines, which pick up and carry the felled production to a site where it can be either stacked or loaded onto a truck) and chippers to utilize wood waste from felling operations. To thin younger aged forests, smaller and more maneuverable machines are required than the heavy bigger machines required for final thinnings and selection fellings more traditionally used in Belarus. Use of this machinery will increase the productivity and at the same time improve the health and safety of forest workers. The Project will provide training for operators for these tasks, and generate worthwhile skilled and semi-skilled employment thereby helping to increase the prosperity of rural communities. The material generated is likely to be used for either increasing the production of woody biomass, firewood, or pulpwood. Much of this production is currently lost as deadwood within the stands. There are therefore carbon benefits from both the production and increased productivity of the stands, while also boosting the rural economies.

11. ***Sub-component 1.1: Increased intensity of silvicultural activities by thinning young and middle-aged stands.*** By the beginning of 2015, all harvesting operations are to be tendered openly and to include the private sector. However many younger aged thinning operations will not be attractive to the private sector or cost effective for the State Forest Enterprises to tender out. The yield from the thinning of young stands frequently does not cover the cost of actually undertaking the thinning, with the operations being more of a maintenance operation than production. These operations are necessary, and economically justified by the improvement in the quality of the residual stand (through silvicultural selection), and the increase in the residual stand growth and value of later thinnings. Regular and timely thinning also helps maintain stand stability to wind and snow events, and improves the benefits for wildlife by increasing the light hitting the forest floor thereby encouraging an understory which will provide both habitat and food. The machinery required for thinning young stands with smaller size stems is specialized and not currently commonly used in Belarus. 67% of the forested land in the forest fund is currently young or middle aged and requires thinning.

12. The Project will support the purchase of 74 harvesters and 52 forwarders for use in 67 State Forest Enterprises in all six Oblasts. The funding of the operation and maintenance costs for all machinery and goods procured under the Project will be provided from the SFEs'/State Agencies' own budget resources. Experience from the first Forest Development Project has demonstrated that the MOF and subsidiary SFEs are capable of maintaining the investments in good working order.

13. By supporting the State Forest Enterprises develop the capacity to undertake thinning of the young and middle aged stands, it will also support them shift away from undertaking the more commercial thinning of older stands and selection and final fellings, which will be increasingly tendered to the private sector.

14. Forest harvesting impacts will be minimal due the following factors: all harvesting operations are undertaken according to established norms and procedures, and according to a harvesting plan; Belarus generally has a gently sloping terrain with sandy soils, not prone to harvesting damage; the Project will purchase low impact machinery; and, the participating SFEs are all independently certified to international standards (PEFC and FSC) to ensure compliance with best harvesting practice.

15. *Sub-component 1.2: Development of the use of woody biomass from logging residues.*

Currently most of the logging residues (i.e. the tops, degraded/twisted stems and branches) from final and selective fellings are simply left in the forest to rot. This creates both a fire hazard and is also wasteful of the calorific value, which could be used for energetic purposes. In Scandinavian countries, the logging residue is frequently left for a year, so that the nutrient rich needles fall from the branches and the woody parts dry and are then chipped for use in furnaces. In Belarus, there is currently increasing demand for woody biomass to supply heat only and combined heat and power district heating systems and in industrial and agricultural enterprises round the country. To meet this increasing demand for woody biomass, Belarus needs to maximize all sources of woody biomass.

16. It is proposed to introduce advanced logging technologies to increase the use of logging residues and to develop the use of modern measuring devices and equipment to enhance productivity and the sustainability of forest management to strengthen their economic and ecological role, and to develop and replicate technologies new to Belarus. This will optimize and rationalize the use of the forest resources and increase the sector's contribution to the increasing demand for woody biomass. There will be a broader application of selection fellings and in some instances increasing of the final felling age. By utilizing production that is currently wasted, and by investing in new machinery and processes, there are both carbon benefits and an increase in rural economic activity.

17. This activity will support the purchase of eight heavy duty chipper machines in eight forest enterprises in two Oblasts.

18. *Sub-component 1.3: Improvement of forest nurseries for afforestation and reforestation.* In Belarus wherever possible, restocking of selectively felled areas is done through the use of natural regeneration. However in some cases this is not the most appropriate approach as sometimes the areas need to be restocked with different species (due to climate change), there is a need to restock damaged areas (wind falls, snow, fire, drying spruce and ash stands etc.), and in some areas natural regeneration may not be successful. There is therefore continuing need for production of good quality seedlings from selected 'plus' trees of known origin of the correct mixture of species.

19. To improve the survival rates and increase the efficiency of seedling production it is proposed to modernize four forest nurseries, to produce container grown seedlings of improved quality. It is proposed to increase the proportion of container grown seedlings from currently less than 1% of seedling production to 11% by 2017. Increasing the nursery production will also increase skilled and semi-skilled employment opportunities, for both men and women again in rural poor areas.

20. At the same time the legal and regulatory framework will be reviewed and an equal opportunity training program will be implemented to ensure technical and nursery staff can operate the new equipment.

21. Under Component 1, as part of the implementation of the Environmental and Social Management Plan, instruments will be introduced, which will include consideration of gender and other vulnerable groups, to engage beneficiaries and civil society in participation in the formulation of policy and in monitoring the implementation of the Project, thus contributing to enhancing transparency of the MOF and improving responsiveness of forestry enterprises to the needs of beneficiaries.

Component 2: Improvement of forest fire prevention, monitoring, detection and suppression (total cost US\$ 4.88 million, of which IBRD loan US\$4.68 million and GEF grant US\$0.20 million)

22. To reduce the incidence, extent and severity of forest fires, three main interventions will be undertaken:

23. *Sub-component 2.1: Enhancement of capacity to respond to fire incidents* through increasing public awareness and education – improving fire danger and hazard ratings and informing the public. This sub-component will also include a number of activities to improve the knowledge of the forest fires in Belarus including developing a new fire-fighting zone system, and undertaking an inventory of depleted peatlands that are no longer used and that pose a big risk for landscape fires. The local authorities and CSOs will be involved in the information dissemination and awareness activities as well as in the monitoring of the fire protection measures at the local level. The awareness and information campaigns will also have a specific gender focus.

24. *Sub-component 2.2: Strengthening of fire detection and monitoring measures* through purchase of video surveillance and improving communications in three forest enterprises in two Oblasts.

25. *Sub-component 2.3: Improvement of fire suppression efforts* through provision of forest fire-fighting vehicles, equipment and training in some 41 SFEs in all six Oblasts

26. As part of this sub-component, the study of the best technologies and methods of detecting and extinguishing forest fires in EU countries will be undertaken. At the same time draft legislation will be developed to support implementation of the new fire-fighting technology and approach in the Republic of Belarus.

Component 3: Capacity building for sustainable forest management (total cost US\$ 2.10 million, of which GEF grant US\$ 2.10 million)

27. *Sub-component 3.1: Facilitation of an enabling environment* for sustainable forest management. Under this sub-component, issues identified in the forest sector policy note will be tackled, to improve the policy, legal and regulatory frameworks, whilst developing the new methods and techniques required to improve silviculture and to increase the contribution of forests to biological and landscape diversity. At the same time, awareness raising and increasing exposure to international best practice will be undertaken for key stakeholders. This sub-component is funded by the GEF Grant.

28. Key activities under this component include support to:

- review and develop the framework of forest policy, legislation and sector strategies, including support to: review the national forest policy taking into account the principles of sustainable forest management, biodiversity conservation and climate change mitigation and adaptation; review and propose improvements in forest legislation based on international best practice and on the policy recommendations developed; update of the Belarus forest sector climate change adaptation strategy to 2030 and 2050.
- develop, test and monitor methods and techniques to improve biological and landscape diversity in forest management activities and forest use. This will include a pilot project in a number of SFEs to trial the new silvicultural approaches which will be used to develop guidelines and approaches for future replication across the productive forest. Other technical development activities will include: forest surveying to monitor climate

- change, biodiversity, and increased forest use; monitoring the effect of soil carbon and nutrient levels; developing techniques to convert low value plantations to broadleaved species, and to sustainably reforest drying spruce stands; and monitoring of the forest estate with respect to the impact of climate change, and forest management, to develop recommendations for the preservation of biodiversity and the use of native species.
- develop, test and monitor methods and techniques to improve biological and landscape diversity in forest management activities and forest use. This will include a pilot project trial the new silvicultural approaches which would include activities such as: identifying areas of high conservation value forest and developing appropriate management plans for these areas; widening of rides, tracks and roads with scalloped edges; creating and managing open areas or glades within the forest; increasing the number of mature and over mature trees left after harvesting operations; increasing the species and age diversity during selective thinning operations; development of reduced impact buffer zones; cultivating and planting of species better adapted to the predicted climatic changes; and managing the forest to optimize the ratio of coniferous to broadleaf species. The potential for the development of recreational and tourism use of the forests will be investigated. Other technical development activities will include: forest surveying to monitor climate change, biodiversity, and increased forest use; monitoring the effect of soil carbon and nutrient levels as a result of component sub-component 1.3 below which removes the utilizable portion of felling waste; developing techniques to convert low value plantations to broadleaved species, and to sustainably reforest drying spruce stands; and monitoring of the forest estate with respect to the impact of climate change, and forestry activities, to develop forest management recommendations on the preservation of biodiversity and the use of native species for forestry purposes.
 - undertake awareness raising, training and increasing the exposure of relevant stakeholders both to the new approaches being developed and international best practice.
 - The approach of actively thinning young and middle aged stands is not currently common practice in Belarus. Through the Project, Belarus will develop the guidelines, the enabling environment and the capacity of undertaking these operations as standard practice as part of the GEF funded activities. These operations will be economically viable in the long run, and will become part of normal operating procedures. These developments are therefore sustainable and will be replicated throughout the sector (depending on the availability of financing) and will continue post project. This more intense silviculture is now common practice in the more developed forest economies in Scandinavia and Western Europe.

29. By thinning the stands at an earlier stage, the forest becomes more productive, in that it reduces the competition among the stems resulting in a decrease in the amount of deadwood in the stand and an increase in the volumes removed, whilst improving the value and quality of remaining trees post thinning. The dense under-thinned stands tend to have large numbers of dead and dying trees with hardly any light hitting the forest floor resulting in an absence of ground cover. The improvement in silviculture is sustainable, economically viable, and desirable from the biodiversity aspect.

30. ***Sub-component 3.2: Strengthening of the forest management information system and forest management planning capacity.*** Under this sub-component software tools, application of modern metering devices and equipment in the process of forest surveying and inventory operations will be developed. This will contribute to improving the accuracy of the data collected and will hence improve information on the availability of timber resources in the country. This sub-component will include the development of a web-based interface to allow for sharing of information at different levels (through password protection where necessary) and will increase transparency and access to data for different stakeholders. This sub-component will develop and integrate a geo-information system-based map and database of potential forestry carbon objects/projects based on the National Forest Geo-information System and Forest Cadastre. This will also include development of the capacity to monitor and report on the greenhouse gas accounting of the forestry sector. As part of this sub-component, a methodology will be developed, which will determine how forest management plans can be adapted to address the issues and consequences of climate change.

31. ***Sub-component 3.3: Use of advanced forest management technologies through the provision of training.*** Training of forestry specialists in the advanced forest management technologies provides a basis for their successful implementation in forest management practice in the Republic of Belarus. This component will include development of the training and production facilities at the State Institution for Further Adult Education “Republican Center of Competence for Forestry Managers and Specialists”. All training undertaken will be equally available to both men and women.

32. ***Sub-component 3.4: Design and implementation of a monitoring system of radiological conditions.*** This component will include the development and maintenance of a decision support system “Radioactive Contamination of Forests. RadFor”, to be performed by the State Institution “Bellesozaschita” in partnership with forestry enterprises, as well as improvement of the system of protective measures and optimization of radiological monitoring activities in the forest fund.

33. ***Sub-component 3.5: Provision of support for the implementation, monitoring and evaluation of the Project.*** Project management will be mainstreamed within the PIU Bellesexport. However the project will provide additional support in terms of experienced procurement and financial management expertise as well as including provision for independent auditing.

Annex 3: Implementation Arrangements

1. Project Institutional and Implementation Arrangements. The Project will be implemented over a five-year period by the Ministry of Forestry (MOF), which is the national authority in charge of state forest sector management in Belarus and will have the overall responsibility for project coordination and monitoring of implementation progress. MOF has formally delegated the responsibility for managing the day-to-day preparation and implementation of the proposed project to the Unitary Enterprise Bellesexport (Bellesexport).

2. Bellesexport is a unit of MOF established in 1995 to provide trading services to forestry sector enterprises. The main function of Bellesexport is to promote sales of Belarus timber products in international and domestic markets. The main suppliers of timber through Bellesexport are State Forestry Enterprises (SFEs) of MOF. Apart from timber sales, Bellesexport procures machinery to meet logging and timber-processing needs of SFEs. Bellesexport is experienced in procurement, financial management, and contract management on behalf of SFEs. While Bellesexport appears adequately staffed, it does not have prior experience implementing Bank projects (apart from involvement in collecting loan service payments from SFEs participating in the World Bank's first Forestry Sector Project in 2005-2009).

3. Within Bellesexport, a Project Implementation Unit (PIU) has been created and will include a project manager, an economist, a procurement expert, a financial management specialist, a translator and a driver. The PIU will be augmented by staff from a number of specialized agencies of the MOF which will also be involved for certain components e.g. the training center (RUTSLEs) for implementing some of the training, Bellesozahita for the implementation of the monitoring of the radioactively contaminated forests, Belgosles for support for the forest management information systems. The Ministry of Natural Resources and Environmental Protection (MNREP) will also support the Project through the GEF funded activities. MNREP will assign a coordinator responsible for the GEF activities and staff to work closely with MOF and Bellesexport. They will help prepare terms of reference for some of the GEF funded activities, participate in the selection of consultants and ensure appropriate supervision of the contracts, accepting final deliverables/reports by providing clearance to terms of reference and accepting final deliverables/reports as well as arranging monitoring visits to project area. Their functions will be performed by the MNREP staff-members of the Working Group established for coordination of the GEF funded activities. The Working Group will review the terms of reference and final deliverables/reports.

Financial Management (FM)

4. The FM assessment of the Project was completed during the Project appraisal. FM arrangements for implementation of the Project will be acceptable to the Bank, subject to completion of the actions summarized below. The fiduciary risk for implementation of this project is currently assessed as **Substantial**. The Project implementing agency UE Bellesexport will be in charge of all financial management and disbursement areas during project implementation, for all components, and for both sources of funding; IBRD and GEF. Other agencies involved in project implementation, will participate on technical side, including acceptance of goods/services. Coordination of Bellesexport with all participating agencies in technical aspects will be required, and details will be provided in POM.

5. The Project FM arrangements are being designed to place much reliance on existing institutional FM systems, i.e. by the existing departments of Bellesexport and using the existing institutional mechanisms of financial management. Specifically, project financial management will be primarily carried out by the existing departments of Bellesexport. Elements of the existing accounting and reporting system 1-C as well as elements of the system of internal controls of Bellesexport will be used.

6. **Staffing.** Staff of accounting and finance departments of Bellesexport is experienced in accounting and reporting under requirements of local legislation, including accounting and reporting under National Accounting Standards, and experience with foreign currency payments. However, capacity in World Bank rules and procedures is to be further built through World Bank training. An FM consultant to assist Bellesexport during initial stages of project implementation will be hired during the initial stages of project implementation, and such consultant can be financed from GEF funds.

7. **Accounting and reporting.** Existing accounting software 1-C will be used for project accounting and reporting purposes. Project records will be maintained on a separate set of accounts that are segregated from the other records of Bellesexport. Records related to IBRD and GEF financing would be segregated. The available software 1-C is acceptable, and its further modifications to fully suit the Project needs will be made, specifically to allow recording USD equivalents of payments as well as allow automatic preparation of reports, both IFRs and SOEs. The Project will prepare and submit quarterly IFRs after end of each calendar quarter, based on the agreed sample format, starting from the quarter in which the first project disbursement occurs.

8. **Auditing.** Project financial statements will be audited annually by independent auditors acceptable to the Bank, and will cover the entire project, including both IBRD and GEF funding. Such audits will be prepared under requirements of International Standards on Auditing, and will be due six months after the end of each fiscal year. Bellesexport will also forward to the World Bank results of periodic audits by Bellesexport financial statements. Project audit reports and financial statements will be publically disclosed by Bellesexport and by the World Bank within two months of their submission.

9. **Internal controls.** Internal controls will include segregation of duties between responsible staff, authorizations of payment documents, periodic reconciliations of records, etc. Effectiveness of internal controls will be reviewed during FM monitoring visits, and auditors will be required to report on any deficiencies in the internal control operations. The Project has prepared a draft Project Operations Manual (POM) which will detail the functions of the FM staff involved in project implementation, as well as provide a full description of the internal controls and procedures. The adoption of the POM, acceptable to the Bank, is a condition of Effectiveness.

10. **Supervision plan.** The minimum number of FM monitoring visits is to be at least two times per year during the initial stages of project implementation, which may be decreased to one time per year during later stages. In the interim period, the Bank will review interim unaudited financial reports (IFRs) and annual audited financial statements and auditor's management letters, as well as reports issued by the State control authorities.

Disbursements

11. Bank funds would be disbursed under the Bank's transactional procedures including direct payments from the loan account, issuance of Special Commitments and disbursements through the designated account.

12. Designated Accounts may be opened and managed at commercial bank acceptable to the World Bank, including appropriate protection against set-off, seizure and attachment. Designated accounts would be opened separately for IBRD and for GEF funds. The maximum allocation for the Designated Account related to the Loan will be USD 4.00 million and related to GEF grant USD 500,000.00. The frequency of reporting eligible expenditures paid from the Designated Accounts would be on a monthly basis, supported by necessary documentation as stated in the Disbursement Letter and along with the DA bank statement and a reconciliation of the DA bank statement.

13. Further, two accounts in BYR for payments in BYR will be opened in the same commercial bank. The treasury system will not be used for making project-related payments as currently the Treasury account is only being used for executing payments for central government budget program/activities. Project funds will not managed as part of the state budget, and Bellesexport falls outside the central government systems.

14. The following table specifies the categories of Eligible Expenditures that may be financed out of the proceeds of the Loan (“Category”), the allocation of the amounts of the Loan to each Category, and the percentage of expenditures to be financed for Eligible Expenditures in each Category.

Category	Amount of the Loan Allocated (expressed in USD)	Percentage of Expenditures to be financed (inclusive of Taxes)
(1) Goods, works, non-consulting services and Training under Parts 1.1, 1.2, 1.3(i), 2.2 and 2.3(i) of the Project	40,714,000	100%
TOTAL AMOUNT	40,714,000	

15. The following table specifies the categories of Eligible Expenditures that may be financed out of the proceeds of the Grant (“Category”), the allocations of the amounts of the Grant to each Category, and the percentage of expenditures to be financed for Eligible Expenditures in each Category:

Category	Amount of the Grant Allocated (expressed in USD)	Percentage of Expenditures to be Financed (inclusive of Taxes)
(1) Goods, non-consulting services, consultants’ services, Training and Operating Costs under Parts 1.3(ii), 2.1, 2.3 (ii) and 3 of the Project (including the Project audits)	2,739,726	100%
TOTAL AMOUNT	2,739,726	

Procurement

16. **General.** Procurement of goods, works, and non-consulting services for the proposed project would be carried out in accordance with the World Bank’s “Guidelines: Procurement of Goods, Works and Non-Consulting Services under IBRD Loans and IDA Credits and Grants by World Bank Borrowers,” dated January 2011 and revised July 2014 (Procurement Guidelines); and procurement of consultant services would be carried out in accordance with the World Bank’s “Guidelines: Selection and Employment of Consultants under IBRD Loans and IDA Credits and Grants by World Bank Borrowers,” dated January 2011 and revised July 2014 (Consultant Guidelines), and the provisions stipulated in the Loan Agreement. The Bank’s “Guidelines on Preventing and Combating Fraud and Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants,” dated October 15, 2006, and revised in January 2011 (Anti-Corruption Guidelines) would apply to this project. A General Procurement Notice was published on the Bank’s external website and the UN Development Business website before the loan negotiations. The following section describes the procurement implementation arrangements agreed with the PIU.

Procurement Capacity and Risk Assessment

17. A Procurement Capacity and Risk Assessment of the Project’s implementing agency (Bellesexport) was undertaken in April 2014. The PIU would be directly responsible for the implementation of all the activities under the Project. The PIU Procurement Department (Purchase and Sale Department) consisting of Head of the Department and eight procurement specialists would be in charge of the entire procurement process, including planning, preparation of bidding documents, evaluation of bids, award of contracts, and contract management. While all members of the procurement team have adequate skills and experience in public procurement under the

national public procurement law and regulations, they have no previous experience in World Bank financed projects nor in the Bank’s procurement rules and regulations. The staff of Bellesexport participated in procurement training organized by the Bank in June 2014.

18. The key issues and risks concerning procurement for implementation of the Project have been identified and include: (i) unfamiliarity of the implementing agency with the Bank’s procurement policies and procedures; (ii) potential risk of delays in the implementation of the procurements, especially first International Competitive Bidding procedures for forestry equipment; (iii) low competition.

19. Given the findings of the assessment as presented above the procurement risk for the proposed project is rated as Substantial.

20. To mitigate the identified procurement-related risks, the following mitigation actions were agreed between the Bank and the client during project preparation.

	Mitigation measure	Responsible party	Deadline
1	Organize a procurement training for the staff involved in project procurement activities in the Bank’s Procurement and Consultant Guidelines and Standard Bidding Documents	Bank	Negotiations
2	Prepare a detailed procurement plan for the first 18 months of the implementation of the Project	PIU	Appraisal
3	Organize a business outreach for potential bidders or consultants before launching the first bidding procedures	PIU	Negotiations
4	Start preparation of the bidding documents for the first year of project implementation well in advance to facilitate the initiation of the procurement procedures as soon as the Project becomes effective	PIU	Negotiations
5	PIU will hire a Procurement Specialist who is familiar with Bank’s procurement	PIU	Within 30 days from effectiveness
6	The Bank's procurement specialist will work closely with PIU and will organize procurement refresher training events to project staff whenever required during project implementation	Bank	Recurrent
7	Preparation of procurement progress reports by the Borrower during Project implementation	PIU	Implementation

Procurement Implementation Arrangements

21. ***Procurement of Works.*** Currently the Project’s components do not envisage civil works contracts. If during project’s implementation there is a need for smaller works (under National Competitive Bidding procedure), for contracts below USD 5 million per contract, the Bank’s Standard Bidding Documents for Procurement of Small Works will be used. For very small value

civil works contracts estimated to cost not more than USD 200,000 per contract a shopping procedure may be used.

22. **Procurement of Goods and Nonconsulting Services.** Procurement of goods e.g. thinning machinery, forwarders, wood chippers, seeding lines, forest fire-fighting equipment including modern measuring devices and video surveillance equipment to enhance productivity and the sustainability of forest management is foreseen under the Project. The most recent version of the Bank's Standard Bidding Documents (SBD) for Goods shall be used for all International Competitive Biddings (ICBs) above USD 1 million per contract. For contracts below USD 1 million, the Bank's sample Bidding Documents for Goods under the National Competitive Bidding (NCB) may be used and a shopping procedure for goods estimated to cost up to the equivalent of US\$100,000 per contract.

23. Logistical services for training and workshops related to capacity building shall be procured as non-consulting services.

24. **State-Owned Enterprises (SOEs).** The Project's first and second components may attract local manufacturers of forestry machinery. The Bank may review these companies' charters and other relevant documents at the bidding stage in order to determine, whether these companies would be eligible to participate in Bank's financed bidding procedures as per paragraph 1.10 (b) and paragraph 1.6 of the Bank's Procurement Guidelines.

25. **Force Account.** The Project may also involve that specific works, installation of equipment or non-consulting services are carried out by a government department of the Borrower in accordance with paragraph 3.9 of the Bank's Procurement Guidelines. The procedures for determining the rates will be provided in the Project's Operating Manual.

26. **Selection of Consultants.** The Project would support, mainly through the GEF Grant several consultancy contracts to improve the national forest policy and legislation, institutional framework for sustainable forest management, various monitoring research and assessments in response to climate change etc. In addition, the consultant services under the Project would include inter alia capacity building for the participating forestry enterprises, training of forestry specialists in the advanced forest management technologies, technical assistance to government, public awareness and education campaigns. For assignments estimated to cost USD 300,000 per contract, the short-list may comprise entirely national consultants.

27. **Hiring of government-owned universities and research centers.** The Project may involve participation of a number of state research institutes and universities for the successful implementation of some of the GEF Grant funded activities. The Bank will review on a case-by-case basis (at the time of launch of the specific assignment) whether these entities would meet the Bank's eligibility requirements (paragraph 1.13 of the Bank's Consultants Guidelines) including the Bank's policy on conflict of interest (paragraph 1.9 of the Bank's Consultants Guidelines)

28. **Procurement Plan and Procurement Thresholds.** The PIU has developed a Procurement Plan for the first 18 months of the Project including GEF Grant activities that also provides a basis for the procurement methods and thresholds. This plan has been agreed between the PIU and the Bank and will be published on the Bank's external website after loan negotiations. The Procurement Plan would be updated at least annually or as required to reflect actual project implementation needs. Procurement under the Project will include the following categories: Goods, works, Non-Consulting and Consulting Services, training and operating costs. The

applicable thresholds for procurement methods and Bank prior review applied for procurement are presented below.

29. The Bank will review the procurement arrangements as performed by the PIU. The procurements not receiving prior review by the Bank would be subject, on a random basis, to the Bank's ex post review in accordance with the procedures set forth in appendix 1 of the Procurement and Consultant Guidelines. One in 5 contracts under the Project would be subject to the Bank's ex post review. The ex post review of procurement documents would normally be undertaken during the Bank's implementation support missions or as the Bank may request for any contract at any time.

30. **Project Procurement Plan.** The major procurements are indicated in the simplified Plan below. The detailed Procurement Plan is available as a separate document.

Package No.	Lots	Name of Assignment/Contract	Procurement Type	Selection Method	Bank review (Prior/Post)	Publication of Invitation for Bids	Opening of Bids	Award of Contract	Contract Completion
BELARUS: FORESTRY DEVELOPMENT PROJECT - MAJOR PROCUREMENT PACKAGES PLANNED									
BFDP/ICB/15/01	1	Harvesters for intermediate thinnings, Type I, 59 items	Goods	ICB	Prior	April 2015	1-Jun-15	1-Aug-15	1-Feb-16
	2	Forwarders to transport assortments along the cutting area, Type I, 50 items							
BFDP/ICB/15/02	1	Harvesters for intermediate thinnings, Type II, 15 items	Goods	ICB	Prior	April 2015	01-Jun-15	01-Aug-15	01-Feb-16
	2	Forwarders to transport assortments along the cutting area, Type II, 2 items							
BFDP/ICB/15/03	1	Procurement of chippers (forestries under Grodno SPFA), 4 items	Goods	ICB	Prior	May 2015	01-Jul-15	01-Sep-15	01-Mar-16
	2	Procurement of chippers (forestries under Brest SPFA), 4 items							
BFDP/NCB/15/04	1	Procurement of felling site clearance complexes (forestries under Vitebsk and Grodno SPFAs), 16 items	Goods	NCB	Prior	May 2015	01-Jul-15	01-Sep-15	01-Mar-16
BFDP/ICB/15/05	1	Procurement of seeding lines (forestries under Brest, Vitebsk, Grodno, Gomel SPFAs), 4 items	Goods	ICB	Prior	July 2015	01-Sep-15	01-Nov-15	01-Feb-16
	2	Procurement of greenhouses (forestries under Brest, Vitebsk, Grodno, Gomel, Minsk SPFAs), 21 items							
	3	Procurement of cooling machinery for nurseries (forestries under Brest, Vitebsk, Grodno, Gomel, Minsk SPFAs), 9 items							
	4	Procurement of watering systems (forestries under Brest, Vitebsk, Grodno, Gomel, Minsk SPFAs), 24 items							
BFDP/ICB/15/08	1	Procurement of fire vehicles, Type I (forestries under Brest, Vitebsk, Grodno, Gomel, Mogilev SPFAs), 22 items	Goods	ICB	Prior	May 2015	1-Jul-15	1-Sep-15	1-Nov-15
	2	Procurement of fire vehicles, Type II (forestries under Grodno, Minsk SPFAs), 8 items							
	3	Procurement of vehicles for forest service (forestries under Vitebsk, Grodno, Gomel SPFAs), 20 items							

Thresholds for Procurement Methods and Bank Prior Review

Expenditure Category	Contract Value (USD)	Procurement Method	Bank Prior Review (USD)
Works	>=5,000,000	ICB	All the ICB contracts above 10,000,000 and first ICB contract irrelevant of the value.
	<5,000,000	NCB	First contract.
	<200,000	Shopping	First contract.
	NA	DC	All DC contracts above 50,000.
Goods and IT Systems	>=1,000,000	ICB	All the ICB contracts.
	<1,000,000	NCB	First contract.
	<100,000	Shopping	First contract.
	NA	DC	All DC contracts above 10,000.
Non-consulting services	>=1,000,000	ICB	All the ICB contracts.
	<1,000,000	NCB	First contract.
	<100,000	Shopping	First contract.
	NA	DC	All DC contracts above 50,000.
Consultant Services	>=300,000	QCBS, QBS, FBS, LCS	All contracts >= 300 000 for firms and first firm's consultancy contract irrelevant of the value; all TORs for firms and individuals; and SSS contracts above 5,000. Hiring of Procurement Specialist and any audit or legal contract. For assignments below USD 300,000 per contract a shortlist may comprise only national consultants.
	<300,000	QCBS, QBS, FBS, LCS and CQS	
	NA	SSS	
	NA	IC	
Notes:	ICB – International Competitive Bidding NCB – National Competitive Bidding DC – Direct Contracting QCBS – Quality and Cost Based Selection QBS – Quality Based Selection FBS – Fixed Budget Selection LCS – Least Cost Selection CQS – Selection Based on Consultants' Qualification SSS – Single (or Sole) Source Selection IC – Individual Consultant selection procedure NA – Not Applicable		

Environmental and Social (including safeguards)

31. The Project has been classified as a category B project, as per the World Bank OP/BP 4.01 on Environmental Assessment. An EIA has been prepared and this includes and an ESMP. No activities that fall into the World Bank Environmental Category A will be financed by the project. The EIA and EASMP were disclosed before November 19, 2014 via Ministry of Forestry and State Forest Enterprise websites and the World Bank Infoshop. Public consultations/hearings were held as required by the Belarusian legislation. The final documents will also be re-disclosed locally and at the World Bank Infoshop on December 8, 2014.

32. The PIU will monitor implementation of environmental and social safeguards according to procedures described in the EIA/ESMP.

Monitoring & Evaluation

33. Overall Project Monitoring and Evaluation will be the responsibility of MOF and implemented by the PIU. The PIU will prepare and submit to the Bank semi-annual progress reports covering Project implementation progress, use of funds and Project impacts.

Annex 4: Implementation Support Plan

Republic of Belarus

Strategy and Approach for Implementation Support

1. The Bank team will support the implementation of the planned Project activities by the implementing agencies, provide technical advice necessary to facilitate achieving the PDO as well as ensure that risk mitigation measures are implemented. The Bank team will expand the existing partnership and maintain constructive dialogue with the Project's major stakeholders throughout implementation to ensure provisions of quality advice and effective support to implement the Project. The Bank team will undertake implementation support missions to review implementation progress on a semi-annual, and if needed more frequent, basis. Fiduciary reviews will be conducted by the Bank team.

Implementation Support Plan

2. The implementation support plan identifies the level of technical and safeguard support required for successful Project implementation. The Project will require technical support from the Bank in the form of technical forestry skills throughout the life time of the Project. The Project will also require support in Forest Management Information System (FMIS) and forest management planning capacity (including planning, accounting and reporting during reforestation and afforestation; development of a subsystem of evaluation and display of forest resources according to their CO2 absorption capacity). Fiduciary oversight will be provided by the Bank financial management and procurement specialists. Safeguards support will be provided by the Bank environmental and social safeguards experts.

3. Formal supervision and field visits will be undertaken semi-annually and will focus on review of Project progress in terms of meeting Project indicators and milestones, technical review of completed work and of planned work for the coming period.

4. The implementation support will include strong coordination between the implementing agencies, the Ministry of Forestry, the Ministry of Natural Resources and Environmental Protection, Bellesexport and the World Bank. A flexible approach will be followed to ensure responsiveness to unfolding events, whilst ensuring key Project objectives are met.

5. The main requirements of the implementation support are indicated in the following table:

Skills Mix Required

Skills Needed	Number of Staff Weeks	Number of Trips	Comments
TTL and Forestry specialist	8/year	2	HQ based staff
Senior Country Program Officer	8/year	Local trips	Locally based staff
Climate Change specialist	8/year	2	HQ based staff
Greenhouse gas accounting specialist	4/year	Local trips	Locally based staff
FMIS specialist	3/year	1	HQ based staff
Environmental Economist	3/year	Local trips	Locally based staff

Procurement specialist	3/year	Local trips	Locally based staff
Financial Management specialist	3/year	Local trips	Locally based staff
Environmental specialist	3/year	Local trips	Locally based staff
Social specialist	3/year	Local trips	Locally based staff

Annex 5: Economic and Financial Analysis

Economic and Financial Analysis

1. The Project's overall cost is currently estimated at US\$ 43.45 million, including the GEF grant. The economic benefits of the Project estimated during the Project preparation include: (i) increasing the intensity of thinning operations; (ii) increasing the utilization of forest production by using felling arisings, which are currently wasted; (iii) reducing costs and increasing survival rates for forestry planting stocks; (iv) reducing the losses from forest fires.
2. All of the benefits described above have carbon benefits, either through increasing carbon sequestration through increased forest growth, or reducing emissions by substituting use of fossil fuels or reducing carbon released through forest fires. Greenhouse Gas (GHG) accounting was undertaken to both estimate the amount of carbon benefits, but additionally to assess the carbon footprint of the Project which is expected to will be positive.
3. Given the above benefit streams, the base case Economic Rate of Return (ERR) is estimated at 20.1%. The base case Net Present Value of the Project's net benefit stream, discounted at 10%, is USD 14.7 million in economic terms.
4. **Financial analysis** assessed the financial viability of the improved technologies and systems promoted by the Project and the increase in incomes and benefits from indicative investments. Conservative assumptions were made both for inputs and outputs. In line with the current Government policy, the models assume a VAT tax rate of 20% on local sales. Prices of commodities/inputs reflect annual averages and those actually paid/received by the market players. Several financial models were prepared to identify and quantify benefits deriving from the Project investments in improvement of forest thinning, better use of forest biomass and nursery production.
5. *Improvement of forest thinning.* The Project will support purchasing of 74 harvesters and 52 forwarders in 67 state forest enterprises, the use of which will increase the intensity of thinning operations. In turn it will increase the useful growth rate of the forest, by reducing competition and concentrating the growth on fewer but larger and hence more valuable stems. Thinning will also reduce the amount of deadwood in the forest thereby decreasing wastage. Regular thinning will increase the stand stability and reduce the likelihood of damage due to wind, fire and snow. Increasing the spacing between the trees increases the amount of sunlight hitting the forest floor thereby encouraging more ground flora. This ground vegetation provides useful habitat and food source for wildlife and also provides more production in terms of non-timber forest products (e.g. berries and game). The financial model, which was prepared in order to estimate financial return from the investment in improvement of thinning shows an IRR of 47.1% over 10-year project period with a positive NPV. In general, the investment in improvement of thinning will generate an incremental benefit stream of about USD 7.4 million per year.
6. *Improved use of woody biomass* by increasing the utilization of forest production by using felling arisings (i.e. lop and top), which are currently wasted. This waste will be chipped and used for woody biomass for sale to municipal district heating and or combined heat and power and industrial and agricultural enterprises. The financial model of production of wood chips from woody biomass shows that the incremental net annual income after the Project is fully mature would be at USD 146,837. The model includes the costs of a wood chipper, truck and trailer for transporting wood chips and unit of attached implements for cleaning cutting areas. It is estimated that about 40,480 m³ of wood chips will be produced by one wood chipper annually. The IRR of

this model is 44.3%. It is expected that eight wood chippers with supplemented equipment will be purchased by the Project.

7. *Improved nursery production.* The benefits derived from these investments will be due to the reduced costs and increased survival rates for forestry planting stocks. The model demonstrates establishing of a nursery with a capacity of about 1.2 million ball-rooted planting stocks per year. It is assumed that the enterprise would invest about USD 600,000 in purchasing a seeding line, greenhouse and cold storage. The IRR on the incremental net benefits is negative, because it is expected that 80% of produced planting stocks will be sold at their cost. However, simulation of economic return of this model based on market prices shows that ERR is about 18% with a positive ENPV.

8. **Economic analysis.** The period of analysis is 15 years to account for the long-term benefits and phasing periods of the proposed interventions. The scenario presented in the economic analysis is based on conservative assumptions and estimates. The analysis is indicative and demonstrates the scope of economic profitability originated as a result of the conditions prevailing at the time of the preparation. The analysis attempts to identify quantifiable benefits that relate directly to the activities undertaken following implementation of the Project components and activities, or that can be attributed to the Project's implementation. Price estimates for tradable commodities have been based on the World Bank's Global Commodity Price Projections. All local costs were converted into their approximate economic values using a Standard Conversion Factor (SCF) of 0.8.

9. The Project will invest in improvement of fire prevention system, which will increase prevention, better detection and more timely and effective response to forest fires. The reduced losses from forest fires attributable to the Project is estimated at about 30% of average annual losses due to forest fires during last twelve years.

10. Based on the GHG emissions accounting the Project net carbon balance is estimated at 422,124 tCO₂-e of avoided emissions or increased carbon sequestration over the full analysis period (30 years). Assuming a baseline estimate of the social value of carbon of US\$30 per tonne, this would translate into a net benefit of the Project of around US\$6.3 million over period of 15 years that is taken as the period of the economic analysis.

11. Given the above benefit and cost streams, the base case Economic Rate of Return (ERR) is estimated at 20.1%. The base case Net Present Value (NPV) of the Project's net benefit stream, discounted at 10%, is USD 14.7 million in economic terms.

12. *Sensitivity Analysis.* Economic returns were tested against the changes in benefits and costs and for various lags in the realization of benefits. In relative terms, the ERR is sensitive to changes in costs and in benefits. In absolute terms, these changes do not have a significant impact on the ERR, and the economic viability is not threatened by either a 20% decline in benefits or by a 20% increase in costs. A one-year delay in Project implementation would reduce the base ERR to about 19.6%.

Sensitivity Analysis (15-year period)	Base case	Costs Increase			Increase of Benefits		Decrease of Benefits			Delay of Benefits	
		+10%	+20%	+50%	+10%	+20%	-10%	-20%	-30%	1 year	2 years
ERR	20.1%	16.9%	14.2%	8.1%	20.4%	20.6%	19.8%	19.5%	19.0%	19.6%	17.2%
ENPV (USD mln)	14.7	11.0	7.3	-3.9	16.5	18.3	13.0	11.2	9.4	13.0	9.6

Annex 6: GEF Activity Headings by Component

GEF Activities by Project Component	
Component 1: Improving silviculture and the sustainability of forest management	
Sub-component 3: Developing improved forest nurseries	
1	Enhancing the physical infrastructure of a tree nursery
2	Enhancing the physical infrastructure of forestries
3	Identification and creation of a collection of forest woody plants resistant to climatic stress, rare and economically valuable wood species on the premises of the National Forest Selection-Seed Production Center
4	Development of the tree seed and tree nursery base for the purpose of supplying forest sector enterprises with the planting material of broadleaved and rare wood species.
Component 2: Improving Forest Fire Prevention, Monitoring, Detection and Suppression	
Sub-component 1: Fire prevention	
1	Updating the firefighting zoning of Belarus
2	A targeted inventory of depleted peatlands and those peatlands that are no longer used for agricultural purposes and that pose a high risk of fires
3	Strengthening the measures on forest fires prevention
Sub-component 2: Improving fire detection and monitoring	
1	Strengthening the system of forest fire protection
2	Enhancing the physical infrastructure of the forest fire protection service

Component 3: Building the Capacity for Sustainable Forest Management	
Sub-component 1: Creating the enabling environment	
1	1 Improvement of the national forest policy and legislation in the field of forest relations
	1.1 Improvement of the national forest policy with account of requirements set forth in international agreements, of sustainable forest management and use requirements, and principles of biodiversity conservation and mitigation of consequences of climate change
	1.2 Improvement of the national legislation and the regulatory technical framework of the forestry sector with account of principles of sustainable forest management and use, practice of implementation thereof, and international experience
	1.3 Development of methods and techniques for the preservation of biological and landscape diversity during the conduct of forest management activities and forest use
	1.2. Study and introduction of international experience for the development of an institutional framework for sustainable forest management with account of principles of biodiversity conservation and mitigation of consequences of climate change
2	2.1 Study visits for specialists and national experts with the aim of studying the hands-on experience of forest management in European countries (15-20 persons)
	2.2 Consolidation and publication of recommendations on applying the experience of forest management abroad
	2.3 Implementation of pilot projects to create a system of sustainable forest management and use that combines the interests of biodiversity conservation and efficient use of forest resources under the conditions of a changing climate.
3	3.1. Implementation of specialized forest surveying that takes into account the requirements on climate change adaptation, biodiversity conservation, and expansion of the forest use sphere.
	3.2 Training the staff of pilot forestry staff
	3.3. Undertake assessment and monitoring of soil nutrient levels, soil carbon and biodiversity in main felling sites where felling waste in addition to timber has been harvested according to the criteria developed by the Round Table on Ensuring Sustainable production and Use of Biomass. This will be done on a number of pilot sites with annual monitoring and writing up of results over the lifetime of the project
	3.4. Update of the Strategy for the Adaptation of the Belarusian Forest Sector to Climate Change until 2050, development of Forestry Adaptation Strategy until 2030
	3.5. Improvement and testing of a technology for the reconstruction of low-value plantations for the purpose of increasing the share of broadleaved species.
	3.6. Improvement and testing of a technology for the reforestation of drying spruce felling sites for the purpose of creating sustainable plantations
	3.7. Monitoring research of transformation of the forest fund in response to climate change, human impact, and forestry activity with development of suggestions for preserving natural origin and biological diversity of plants during reforestation, afforestation and forest use
	3.8. Undertake monitoring and analysis of stands with and without project thinning and removal of felling waste interventions to assess Greenhouse Gas (GHG) emissions reductions
Sub-component 2: improvement of the forest management information system and forest management	
	2.1 Development and introduction of an automated system for forestry planning, accounting and reporting with account of principles of biodiversity conservation
	2.2 Development of a subsystem of evaluation and display of forest resources according to their CO2 absorption capacity on the basis of the National Geoinformation System of Forest Management and the Forest Cadaster.
Sub-component 3: development and training in the use of advance technologies	
1	Development of the thematic area in the field of training, retraining and professional development of staff in the forest sector
2	Development of physical infrastructure for the training of staff in the forest sector
3	Training of the operators of multipurpose forest machinery in the nature-conserving methods of machinery operation
4	Preparation and publication of semi-popular and educational publications on the issues of forest sector adaptation to climate change, preservation of biodiversity in the forests of Belarus, sustainable forest management, etc.
5	Training forest management, forest science, education experts and experts of the framework of the Ministry of Natural Resources and Environmental Protection in the issues of sustainable forest management and use that aim to increase the sustainability of forest ecosystems and the conservation of biodiversity under the circumstances of climate change
Sub-component 4: Developing the rational use of radio-contaminated lands	
1	Development of an extensive system of support for decision-making concerning forest management in radioactive contamination areas, real-time informing about the radioactive conditions in the territory of the forest fund