Experience of Moldova in carbon sequestration through afforestation

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Soil degradation processes in Moldova

- About 2 mln. ha of agricultural lands (more 50% of the country's territory) are situated on slopes with different inclination degree.
- 1,86 mln ha of arable lands are under the risk of erosion;
- Area of eroded lands increased during last 35 years by 264,400 ha, making annually 7554 ha
- About 80,000 ha are destroyed by more than 6200 ravines;
- Annual direct and indirect losses due to erosion – 2,4 billion lei

Degraded lands

FE Edinet, Horodiste

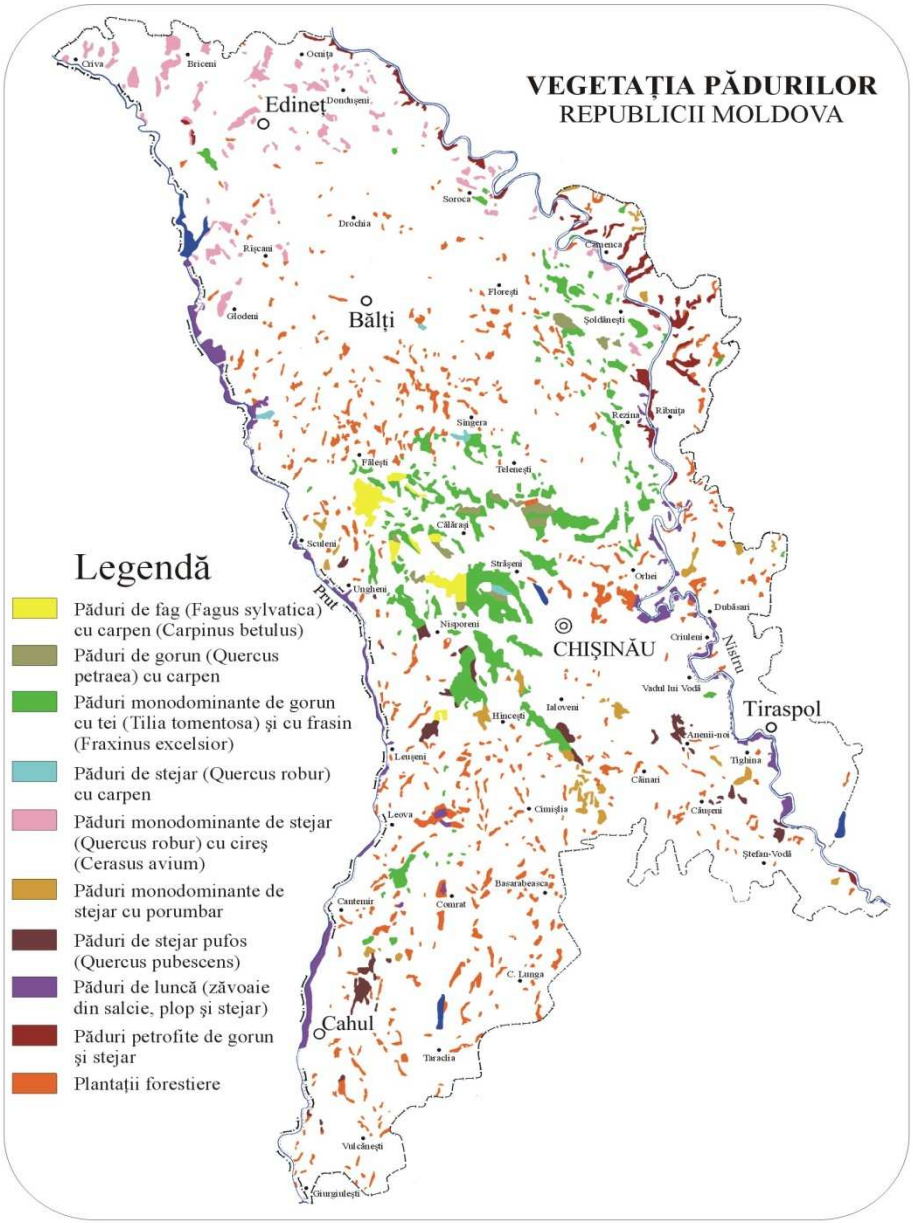
Degraded lands

FE Nisporeni, Ciorasti

Degraded lands

FE Silva-Sud

Forest resources of the Republic of Moldova



1. Forest Fund:

Total area – 419.1 thousand ha (12.7% of the country's territory), including area covered with forests – 374.5 thousand ha (11.3% -afforestation level),

Including:

54.5 thousand ha or 13.0% are possessed by mayoralties and others, including 2.6 thousand ha (0.6%) of private forests.

2. Forest vegetation outside the Forest Fund:

49.1 thousand ha (29.8 thousand ha of forest protection belts and 19.2 thousand ha of shrubs and arboreal vegetation).

Moldova Soil Conservation Project

- Starting date – November 2002
- Implemented as an afforestation/reforestation Clean Development Mechanism project,
- Aim - to afforest and reforest 20,290 hectares of degraded and eroded state-owned and communal lands spread throughout the country. Local communities own 60% of the project land.
- Participate 383 communes and 23 forest enterprise
- 2421 sites
- The project's multiple objectives:

  - to restore degraded lands through improvement in vegetative cover,

  - sustainably enhance supplies of forest products for local communities

  - promote greenhouse gas removal through soil and biomass carbon pools.
- Crediting period – 20 years
- Estimated annual average of net antropogenic GHG removals by sinks is 179.200 tCO2e

Moldova Soil Conservation Project

- The project contributes to sustainable development in several ways:

- restoring degraded lands,
- preventing soil erosion,
- increasing forest cover,
- improving soil productivity,
- increasing supplies of fuel wood, timber and non-timber products to meet the needs of rural communities,
- replenishing the carbon stocks of degraded lands and contributing to the mitigation of climate change.

MOLDOVA SOIL CONSERVATION PROJECT

Species and varieties selected for the project activity

Criteria used in the selection of species for planting under the project:

- Adaptability of species to soils and climate.
- Fast growing locally adapted species (e.g.*Robinia pseudoacacia, Gleditschia triachantos, Poplar sp*) to variety of soils, slope and elevation.
- Slow growing native species (*Quercus, Fraxinus*) are given priority on less degraded sites.
- Species preferences of the local communities to meet their demands for fuelwood, timber, and non-wood forest products.
- Depending on the improvements in site productivity, native long rotation species are proposed to replace the fast growing short rotation species after one or two rotations.

MOLDOVA SOIL CONSERVATION PROJECT

Chronology of events under of Moldova Soil Conservation Project

Nr.	*Activities*	*Period*
1.	Development of Project Concept Note	April 2002
2.	Start of planting works under the project	November 2002
3.	Baseline Study (by GFA „Terra Systems”)	March-April 2003
4.	Initial validation (by SGS)	September 2003
5.	Development of Monitoring Plan (by Winrock Internat.)	November 2003
6.	Beginning of PDD development process	June 2004
7.	Initial verification (by TUV Sud-Deutschland)	July 2004
8.	Approval of methodology	May 2006
9.	Finalization of plantings under the project	December 2006
10.	Pre-registration verification (by SGS)	March 2007
11.	Registration of the project at UNFCCC Secretariat	30 January 2009

Potential benefits for communities obtained in the result of afforestation of degraded lands (in the opinion of representatives of local communities)

Crt.	Category of benefits	Share, %
1	Improvement of ecological situation (air purification)	31,7
2	Increase of the harvested wood (fuel wood, construction timber etc.)	27,8
3	Stoppage of lands degradation (landslides, soil erosion etc.)	24,6
4	Creation and extension of places for recreation	15,9
5	Protection and diversification of flora and fauna	5,6
6	Increase of areas of meadows and pastures	13,9
7	Reconstruction of the locality's landscape	10,3
8	Increase of volume of non-wood forest products (mushrooms, berries, medicinal plants etc.)	5,2
9	Creation of new places of jobs	6,3
10	Improvement of the microclimate in the region (attracting of rains, winds breaking etc)	3,2
11	More hunting possibilities	1,2

Participation of local communities in planting activities

MOLDOVA SOIL CONSERVATION PROJECT

Revenues from carbon sale

- Reduction of GHG concentration in the atmosphere during the first crediting period (20 years) by 3,6 mln t, including 1,9 mln tons already contracted:
- PCF ERPA provides the procurement of emission reductions of CO2 in the atmosphere in the volume of **1,3 mln. tons**. Economic effect generated by the sale of ERs of CO2 is estimated at US$4,55 mln. For the period of 14 years.
- BioCF ERPA provides the procurement of the emission reductions of CO2 in the volume of **600,000 tons**. Economic effect generated by the sale of this volume is estimated as US$2,4 mln.

Moldova Community Forestry Development Project

- Project area 8468.84 ha
- 770 project sites
- 278 local communities (94% of the total project area)
- Crediting period - 30 years (2006-2036)
- Estimated annual average of net antropogenic GHG removals by sinks is 91,013.34 tCO2e for a total of 2,730,400 tCO2e over the crediting period.
- BioCarbon Fund ERPA – procurement of 550,000 tCO2e.

CDM Afforestation /Reforestation projects

Major social, economic and ecological benefits for both projects:

- Increasing of forest cover by 28.8 thousand ha (22% of national task by 2020);
- Mitigation of climate change by reduction of GHG concentration by 6,3 mln. t;
- Reduce energy shortages in rural areas by obtaining an additional amount of timber (about 90,000 cubic m/year);
- Decrease degradation processes and improve environmental factors with direct impact on population health and ecological security;
- Creation of additional places of job (600,000 working man/days).

Implementation of Moldova Soil Conservation Project

FE Balti, 2004. Draganesti 59 ha
Before the project

FE Balti, 2007. With the project

Implementation of Moldova Soil Conservation Project

FE Tighina, 2004. Ucrainca, 8.6 ha
Before the Project

FE Tighina, 2007. With the Project

Implementation of Moldova Soil Conservation Project

FE Orhei, 2004, Zorile, 11,4 ha .
Before the project

FE Orhei, 2007. With the project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