

SLOVENIA

Green futures

Location

Nationwide

Programming period

2014 – 2020

Priority

P4 – Ecosystems
management

Measure

M08 - Investments in forest
areas

Funding (EUR)

Total budget 7 345 293
EAFRD 4 647 741
National/Regional 1 549 247
Private/own funds 1 148 305

Project duration

2016 – 2020

Project promoter

Slovenian Forest owners and
Slovenia Forest Service
(Zavod za gozdove
Slovenije)

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This pan-Slovenian project is designed to combat the consequences of natural disasters that have affected forests across the country in the last six years. The project includes sustainable measures to restore damaged forests, adapting them to climate change, and is focused on areas that are under the greatest pressure.

Summary

The project supports the implementation of measures to restore and maintain damaged forests. Forest owners have received forest tree saplings and protective materials from the Slovenia Forest Service. The owners also repaired damage and started restoring forests with financial support from project funds.



Planting young tree seedlings

Results

During the 2014–2020 RDP programming period, public funds were used to restore over 1 100 ha of damaged forests and to plant over three million saplings of 19 forest tree varieties. Almost 60 kilometres of fences protect these saplings against game and 130 000 were protected with casings or poles. Saplings in 1 750 ha were protected with deterring coatings and a further 2 000 ha of rejuvenated forests were also maintained. Removing fallen trees produced 36 000 m³ of damaged wood.

The development of forest tree nurseries was accelerated. These grew saplings in substrate, increasing the production of local variety saplings from 0.5 million in 2013 to almost two million in 2020.

Lessons & Recommendations

- ❑ Activities and measures in the project brought together multiple government authorities including the Ministry of Agriculture, Forestry and Food (MKGP), the Agency for Agricultural Markets and Rural Development (ARSKTRP) as well as forest owners and actors in the forest production chain.
- ❑ The project design included the above stakeholders plus the Tax Administration, research institutions and forest managers.
- ❑ Synergies with other projects include using principles devised as part of current LIFE and Interreg forestry projects.
- ❑ Slovenia is a good example for other European countries that have traditional forest management. Sustainable principles in forest management and a multipurpose approach to forestry as well as the plan for restoring damaged forests are transferable to similar areas in the EU.

Context

In the last six years, over 60 per cent of Slovenian forests have been badly damaged and 37 000 ha require complete restoration due to natural disasters as a consequence of climate change. These include the catastrophic glaze ice in 2014, bark beetles between 2015 and 2019 and wind damage in 2017 and 2018. Most forests are being restored naturally, while 5 to 10% must be restored by planting forest tree saplings.

Extensive areas of forest damage pose a threat to the stability of the forestry economy in the country, as well as affecting the non-economic, ecological and social functions of forests. Therefore, stable and quality forest stands adapted to climate change must be restored and re-established as soon as possible.

As in all Central European countries, spruce used to be introduced to forest habitats where it does not naturally belong. Due to its shallow roots, sensitivity to drought and static non-resilience, it is at risk today from frequent droughts, heat waves and natural disasters, particularly at low and medium altitudes. Its vitality has reduced, and changed climate conditions favour pests, particularly spruce bark beetles. An important measure to adapt forest management to climate change is reducing the quantity of spruce in inappropriate habitats and replacing it with indigenous tree varieties.

Objectives

The project aims to rapidly restore forests damaged by natural disasters by planting saplings, intensively protect young forests against damage by game and support forest restoration and maintenance.

This will facilitate stable and quality forest stands combatting the negative consequences of natural disasters such as erosion and more diseases and pests. It will also support all forest functions, from economic to ecological and social.

Activities

Measures of the Rural Development Programme for the 2014–2020 provided financial support to acquire the materials and saplings that naturally restore forests.

The project is an example of successful cooperation between the public forestry service (the Slovenia Forest Service – ZGS) and over 800 forest owners. ZGS purchased saplings and materials to protect young trees against

game, while forest owners carried out the work. The restoration process was designed using the principles of sustainable forest management. This meant ensuring the genetic origin of planting material, reducing the carbon footprint of forest production and supporting local production by using locally grown indigenous tree sapling varieties from registered nurseries.



Wooden fence protection

The work by forest owners to eliminate damage and restore forests was financed or co-financed from project funds and divided into seven measures:

1. Maintenance of restored areas (removing plants from the herb and shrub layer, which hinder or prevent the development of young trees).
2. Maintenance of damaged young trees and thinner poles (removing competitive subjects that hinder their development).
3. Planting forest tree saplings.
4. Protection of young trees against game (with poles, coverings, protection nets, fences or by coating tips).
5. Preparation of forest areas for natural restoration and planting by cutting badly damaged trees.
6. Removal of fallen trees, enabling young trees to grow and eliminating damage including skid trails and torrent beds.
7. Establishment of forest hygiene, removing all coniferous trees and their remnants to prevent bark beetles from developing.

After completing the project, regular monitoring was set up to verify the results. This has brought new experience and knowledge in restoring damaged forests that can be transferred to a wider area.

Main Results

Over 1 100 ha of damaged forests were restored and more than three million saplings of 19 forest tree varieties planted. Almost 60 kilometres of fences protect 130 000 saplings against game in a rejuvenated area of 1 750 ha. A further 2 000 ha of rejuvenated forests were also maintained. Removing fallen trees produced 36 000 m³ of damaged wood, which facilitated faster restoration of the forests.

In addition to the direct effects, the project accelerated the development of forest tree nurseries. Nurseries grew saplings in substrate, increasing the production of local variety saplings from 0.5 million in 2013 to almost two million in 2020.

The project promoted active protective forest management, which had been neglected although it is critical to preventing negative consequences of climate change.

Key lessons

Activities and measures in the project brought together the MKGP, ARSKTRP, the Slovenia Forest Service and forest owners as well as actors in the forest production chain. These ranged from forest tree nurseries seed, sapling and material suppliers and forest contractors to supervisory authorities, such as ARSKTRP and the Forestry Inspection Service.

The project design included most of the above stakeholders plus the Tax Administration, research institutions such as the Slovenian Forestry Institute, forest managers such as Slovenski državni gozdovi d.o.o. as well as the Chamber of Agriculture and Forestry of Slovenia.



Sleet apocalypse in Slovenian forests

More than 19 sapling varieties facilitate greater diversity and forest resilience in unstable climate conditions. The planting material quality control system and supervision of planting were crucial for success.

The project is based on principles devised as part of the current LIFE projects (LIFE Artemis, LIFE GENMON, and LIFE Systemic) and Interreg forestry projects, in which the Slovenia Forest Service participated.

In terms of sustainable restoration and maintenance of forests, Slovenia is a good example for other European countries, particularly those with traditional forest management. A set of sustainable principles in forest management and a multipurpose approach to forestry in Slovenia are joined under the term 'Slovenian forest school'. The plan for restoring damaged forests, which was the basis of the project, is transferable to all areas in the EU with similar habitats and challenges.

Additional sources of information

<https://www.youtube.com/watch?v=EAdbbk63Erg>

* This project has been categorised under 'Green futures' by the nominating National Rural Network