

Two days in the agroforestry landscapes in Transylvania, Romania, 16th – 18th June 2025

A team of international land-use experts from the EUKI-Project “Landcare Europe Captures Carbon – Supporting Natural Climate Protection in Agricultural Landscapes” met in Băile Homorod, a region in Romania with a predominantly Hungarian-speaking population, for a workshop focusing on agroforestry. Rico Hübner from the German Agroforestry Association – DeFAF gave a presentation titled “Carbon sequestration of agroforestry systems in the context of the EU Carbon Removal Certification Framework (CRCF)”.



Figure 1: Impression from a two-day field trip in the Transylvania province of Romania. Participants' aim is to get in touch with farmers practising agroforestry and gain insights into the status, management, and challenges of their agroforestry endeavours.

Compossessorate Zetelaka – no tragedy in the commons

On the first day in the field, the group visited a local administrative unit overseeing forest and agricultural land in the Zetelakain commune. According to director József Eróss, while the organisation resembles a cooperative, it represents a unique form of communal land tenure management dating back to medieval times. These so-called compossessorates (after Latin: compossessor, English: co-owner) were re-established after the fall of the communist regime in 1990. Roughly 2,400 individuals own shares in the commons, which are passed down through generations, but are not easily sold to outsiders.

Today, the commons are managed using GIS technology, especially as the land is eligible for CAP payments. The Zetelakain compossessorate manages 8.515 ha of high mountain forest and 1.875 ha of grassland on the western slopes of the Hargita Mountains.

Traditionally, people foraged the woodlands on the Carpathian Hills for mushrooms and berries. As a result, a small-scale plant for berry jam production (rosehips, blueberries, cranberries) as well as fruit juices was established, funded by the rural development programme. Unfortunately, as neither the local workers nor the previously hired Romani people are providing enough berries from gathering, production has increasingly shifted towards cultivated berry production in recent years.



Figure 2: Traditional horse carriages are still being used by the farmers in Transylvania, but are increasingly replaced by tractors.



Figure 3: Sheep grazing is typical for the more remote areas.

The grazing by cattle and sheep (Fig. 3) has become more extensive, allowing trees to gradually encroach upon the grasslands, creating a diverse mosaic of forests, shrub land, and pasture. The compossessorate ensures that the agricultural use of the grassland is continued. Since more owners now live outside the village or have abandoned farming, several have established their own livestock farms for sheep and beef fattening, leasing land from the compossessorate. All cattle are eventually exported for slaughter, mainly to Turkey and several Arab countries.



Figure 4: Gergely Rodics, from Agri-Cultura-Natura Transylvanica Association, organiser and host of the workshop, translates to the group.



Figure 5: Cattle stay in the shade of a large beech tree. By ranging within the woodlands, cows benefit from adding aromatic plants, twigs, and leaves from trees and bushes to their diets, while trampling the terrain and avoiding undesired re-growth of the under-story.

Large old-growth trees provide shade from the midday heat (Fig. 5). Rotational grazing is managed by a herder, including in woodlots; but due to bear risks, the herd is brought back to a corral at night. Impressive livestock guardian dogs, often from traditional breeds like the Carpathian Shepherd or the Turkish Kangal, protect the herd from bears – though to us, they were nothing but friendly and affectionate with us.

Traditional summer grazing for milk production in Farcád

The farm we visited on the second day in the morning was located at the village of Madaras, Harghita County, about 45 minutes north of Bail Homorod. We received a warm welcome from the owner, Imre Fazaka and his partner and took some time to show us around. Having lived in Germany for several years, we had not trouble communicating. Imre manages about 30 dairy cows (Fig. 6), producing about 210 kg of milk in the morning and 170 kg in the evening. Every other day, the milk is delivered to a dairy for roughly 20 cents per kilo, though a milk vending machine in the village offers higher returns. We gladly accepted the invitation to try fresh milk straight from the tank! Excellent taste, and even those, who normally do not drink milk agreed it was delicious.



Figure 6: The preferred breed on these natural grasslands rich in herbs and medicinal plants is dual-purpose breeds like Tyrolian Grauvieh and Simmenthaler/Fleckvieh.

Both farmers spent some years working on farms in Switzerland and Germany. They remember their time away from home with very good memories; especially regarding the friendliness of their hosts and the great chances, they were given. Nevertheless, long hours, sometimes working double shifts, and low wages, which made it hard for their families to keep up with Germany's rising living costs, ultimately forced them to return to their beloved Siebenbürgen. With practical skills in milking and herding and some capital, they were able to invest and start their own farming businesses (Fig. 7).

As recent drought years increased economic pressure, building water channels has become increasingly urgent (Fig. 8).



Figure 7: Production of wilted silage from the first cut of the natural mountain meadows for winter fodder. The vil-lages are also home to many storks.



Figure 8: A berm and swale system with a water connection to the uphill reservoir, the trees should provide shade to the cattle in the future.

Soon, a more modern milk-stand made of brick will be completed at the summer pasture, featuring an adjoining room for soft cheese production. Currently, milking still takes place in a wooden structure (Fig. 9); hot water from a converted bathing furnace (Fig. 10) and electricity guarantees good hygiene and continuous cooling.



Figure 9: The milking parlour at the summer pasture made of wood, sometimes a challenging milking routine.



Figure 10: A converted wood-fuelled bathing furnace to produce hot water.

Communal grazing regime problems of drought, erosion and illegal logging

The cattle herd moves daily along their various tracks to their night stalls in the village, but signs of erosion become increasingly apparent near the village (Fig.11). Currently, returning to the stables remains necessary for milking. A discussed solution could be a transition to grass-fed beef fattening, which could also address the decline in small-scale dairy farming among villagers. Rotational grazing combined with open-air resting could promote the re-growth of pastureland species and facilitate vegetation regeneration.



Figure 11: Erosion from trampling was visible but is managed well through a low overall stocking rate.



Figure 12: Valuable timber from oak, often ends up as firewood, as handling and creating a value-added product is not always easy for the villagers.

Traditional orchard systems in Farcád

On the afternoon of the second day, our trip took us to the West of the Hargita Mountains, towards the Udvarhely hills – an area with rolling hills and small traditional villages with about 120 inhabitants. We learned from the priest, who also manages one of the larger farms that the village Énlaka has been, together with thousands of other villages in Romania, on the death list of the Ceaușescu-Regime. Their philosophy of razing half of Romania's villages, translocating the people into cities and having the remaining population bleed out, if they refused. Luckily, the collapse of communism put a halt to the development, but during those uncertain times, the church continued to be a source of strength for the villagers.

Our local expert on fruits and herbs and their production systems, Mónika Pakot, guided us through some remarkable spots, which are more or less still intact, like in the village of Énlaka and resemble the land use system that shaped the Szekler area. The fruit orchards nearly conceal the houses; though some are in a sad condition. With more young people leaving the region, this ancient fruit-arable-grassland management system is increasingly at risk of disappearing. To preserve this traditional knowledge, Mónika wrote a book in English about the small village Énlaka, focusing on Máton Szávai, a 90-year-old teacher and fruit grower. Beautifully photographed and written.



Figure 13: Self-subsistence farming was the standard model in the villages with fields of vegetables under and in between the fruit-bearing trees.



Figure 14: Beekeeping can generate an extra income.



Figure 15: Some mistletoe-infested fruit trees are a sign for fruit orchards that are no longer maintained.



Figure 16: Fascine bundles and living wood will form a permanent natural structure, also providing shade to the river in the future.

Our final stop was at a recent restoration project along a small creek. With the creek running dry each summer, the project aimed to extend water retention and support groundwater recharge. Through collective action, multiple small dams were built, which quickly became a home to the firebelly toad, whose calls were audible during our visit.



Figure 17: Participants in the workshop and field trip in Transylvania, Romania.

Acknowledgements

We are very grateful to all our hosts and guides in Transylvania for their hospitality and the time dedicated to us. We thank Landcare Europe and especially Gergely from the EUKI project for facilitating the connections. The three days gave us valuable insights into traditional and modern AF in Transylvania. We return home with many new perspectives and a deeper understanding of the situation of agriculture and agroforestry in Transylvania.

This activity was funded through the European Climate Initiative (EUKI) of the German Federal Ministry for the Environment, Climate Action, Nature Conservation and Nuclear Safety (BMUKN) in the project „Landcare Europe Captures Carbon – Supporting Natural Climate Protection in Agricultural Landscapes“. The report was drafted within the European Union’s Horizon Europe research and innovation programme under grant agreement No. 101060635 in REFOREST (<https://agroforest.eu/>). Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or the European Research Executive Agency (REA). Neither the European Union nor the granting authority can be held responsible for them.

