

Best Practice examples on natural carbon sinks in agriculture

Category: Project

Field: Extensively managed grasslands, wetlands



Name	Significant Landscape Gajna
Country	Croatia
Biogeographical Region	Continental
Region	Slavonia (administrative – Brod-Posavina County), Area of special state concern
Landscape/ Eco system type / protected area	Significant landscape (approx. cat V IUCN) from 1990 and part of EU ecological network (Natura 2000) –Special Areas of Conservation (SACs) and Special Protection Areas (SPAs), High Nature Value Grassland since 2019. Seasonally flooded by Sava River

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Size / Scope	Ca. 300 hectares
Agricultural Use	<ul style="list-style-type: none"> - 250 hectares are reported in the Croatian Land Parcel Identification System (LPIS) as pasture since 2015, and as High Nature Value Grassland since 2019 (requirement: max. 1 cattle per hectare). It has been traditionally used as common pasture for centuries. There were never fertilizers on this land. - Currently there are 12 herds by 12 individual owners on the pasture, divided by electrical fence (solar) because most herds have a bull.
Involved Stakeholders/ Partners	<ul style="list-style-type: none"> - Brod Ecological society-BED, a NGO and landcare organisation which initiated the protection of the area in 1990 - Public institution “Natura Slavonica”, responsible for the management of protected areas and ecological network in Brod-Posavina County. - The pasturing Community “Veterans Cooperative Eko-Gajna” - Farmers: 18 agricultural holdings, currently 12 with different types of cattle – 11 cattle herds, 1 horse herd - Cooperation Council on Gajna - other stakeholders: fishermen and hunter associations, municipality and police representatives, local women’s organization, representatives of tourist boards, firemen, water and forest authorities, museum, bee keepers etc.
Duration	<ul style="list-style-type: none"> - The initiative works for 35 years in different forms: Restoration projects from 1989 onwards, cooperative founded in 2007. - Old breeds were brought to the pasture in 2007.
Goals	<ul style="list-style-type: none"> - Preservation of the significant landscape, biodiversity and cultural heritage. - Beside providing livelihoods for the local farmers, Gajna provides benefits to society at large. It offers flood protection, biodiversity conservation and preservation of endangered agricultural livestock breeds, as well as carbon capture.
How it works	<ul style="list-style-type: none"> - The site Gajna is traditionally common land which the State formally took from villages in 1954. After the 1990’s it was first State owned agricultural land. Leasing was initially not possible due to the complexity of governance. - The first lease was realized in 2015, in 2019 the legal status of the land changed again and it became a Public Water Body.

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<p>Measures addressing carbon storage</p>	<ul style="list-style-type: none"> - Wetland restoration projects from 1990 – bringing water to ponds and depressions that are not part of actively used pasture (and not eligible for CAP payments). There were never fertilizers on this land. - Wetlands store large amounts of terrestrial carbon. They also produce greenhouse gases such as nitrous oxide and methane. To keep the balance between carbon sequestration and GHG emission positive is important that wetlands are not cleared or drained.
<p>Measures addressing biodiversity</p>	<ul style="list-style-type: none"> - grassland restoration by grazing and mechanical removal of invasive plant species - constant maintenance of rewetting mechanism since 1990 - clearing sediments in channels so the water can come - clearing invasive woody species (amopra fruticosa) to let native trees (oak) growth - education of farmers on N2000 and biodiversity - hand cutting of invasive in sensitive areas, experiments with time of the cutting
<p>Activities</p>	<p>Systemic activities regardless of the funding (BED):</p> <ul style="list-style-type: none"> - legal fight to keep the nature conservation measures part of the lease of the land, lay monitoring, maintenance of the visitor’s infrastructure (voluntary based activities –e.g. cutting the willow branches in traditional way (coppicing) to extend their life span, clearing the self seeded oaks in order not to be suffocated by invasive Amorpha fruticose etc. Every year on flooded grassland with many invasive species is a challenge, since natural conditions are different and they spread with floods. Constant experiments with time and mode of the removal of different species. <p>Project activities depending on available funding (BED):</p> <ul style="list-style-type: none"> - e.g. renewal of the water management mechanism, digging, fortifying anti flood elevations, working with the public <p>Systemic activities (Cooperative Eko-Gajna):</p> <ul style="list-style-type: none"> - the yearly management plan is adopted at the beginning of every grazing season, and there are prescribed activities in several legally binding documents (contract with water company, concession agreement with nature protection administration, general management plan and cooperative rules).



Funding / Financing	<ul style="list-style-type: none">- BED – as an NGO. Financing itself mostly by projects. 15 year old programme while BED was also owner of the large herd was highly self-financed – combining subsidies and revenues from agricultural activities.- Cooperative Eco-Gajna – subsidies- Agricultural subsidies are needed when practicing such low intensive practices that take care of the environment and offer additional eco-system services to larger society. However, the pasturing community is not regularly rewarded for these benefits, and this is Eko-Gajna's long-term structural problem for sustaining the commons practice. Making Eko-Gajna sustainable without the enormous efforts of the Brod Ecological Society, which puts in around 5.000 voluntary work hours per year and fundraises for the cooperative through projects.
Transferability	<ul style="list-style-type: none">- Gajna can serve as an example on how collective and sustainable governance can make links between nature protection and agriculture.- many activities and solutions were result of ad hoc response to very unstable and unfavourable legal framework in Croatia and are not transferable to other contexts.
Role of landcare organizations	<ul style="list-style-type: none">- negotiating with ministries- implementing landcare measures- initiating and monitoring of restauration projects, etc..- Education of farmers, public and expert organizations
Further information	<p>Movie – Fight for Gajna – fight for nature, people and climate https://www.youtube.com/watch?v=dBDvdR-sGm0</p> <p>In English – BED's annual report for 2022. https://www.bed.hr/en/Izvje%C5%A1taj%202022%20BED%20engleski.pdf</p>
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Description

The involved partners

Brod Ecological society-BED, a NGO and landcare organisation which initiated the protection of the area in 1990, and was trusted with jurisdiction over the implementation of the measures and conditions of nature protection until 2006, when the Public institution “Natura Slavonica” was founded and became responsible for the management of protected areas and ecological network in Brod-Posavina County. The pasturing Community “Veterans Cooperative Eko-Gajna” was founded in 2007, and included protection measures in its management plan. From the farming side, there are 18 agricultural holdings, currently 12 with different types of cattle, 11 cattle herds and 1 horse herd. In 2015 a Cooperation Council on Gajna was founded and of gathered most individuals, groups and organizations, interested in Gajna. Apart from the previously-mentioned organization BED, cattle owners from the Eko-Gajna Cooperative and Public Institution for Managing Protected Natural Resources of Brod-Posavina, there are other stakeholders such as fishermen and hunter associations, municipality and police representatives, local women’s organization, representatives of tourist boards, firemen, water and forest authorities, museum, bee keepers etc.



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Agricultural Use and CAP

It has been traditionally used as common pasture for centuries. There were never fertilizers on this land. Currently there are 12 herds on the pasture, divided by electrical fence (solar) because most herds have a bull. The 12 herds are owned by 12 individual owners - some herds are exclusively old breeds (Podolian cattle or Posavina horse), some are mixed (old breeds fertilized by more productive bull - like Belgian blue or Charolais), some are only Charolais.

250 hectares of Gajna are reported in the Croatian Land Parcel Identification System (LPIS) as pasture since 2015, and as High Nature Value Grassland since 2019 (requirement: max. 1 cattle per hectare). In 2024 the BED paid lease for 275 ha, but only 240 ha are accepted as agricultural area in the LPIS: areas like ponds, bushy or wooden areas are not allowed. The area is grazed by cattle between 200-230 GLU, in 2023, 250 GLU.

The project faces the problem of lacking a long term solution for collective governance – currently the Paying Agency and the Agricultural Ministry have agreed upon giving CAP

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payments to the Eko-Gajna cooperative but the connection between the cattle of the owners/cooperative members and the area in the Land-parcel identification system (LPIS) is not technically possible as for other users, but it is checked manually.

PRUJE



POSUJE



Same places on pasture before/after restoration activities, © BED

The significant landscape “Gajna”

Gajna grassland is a multi-functional area characterised by land management combination that supports multiple land uses in the same spatial area (e.g. nature protection, agriculture (grazing), flood control, education, tourism) strongly supporting biodiversity. As one of preserved inundation areas along the Sava River and part of Natura 2000 network, Gajna has a great connectivity potential and is able to contribute effectively to a Green Infrastructure network on national, but also international scale. It is a green oasis in agriculturally most intensive arable part of the Croatia important for pollinators, fish spawning, breeding and feeding site for birds. Through Coordination Council founded in 2015, stakeholders and managers of Gajna foster sustainable cross-sectorial partnerships in order to incorporate the idea of nature conservation and nature protection measures into socio-economic development policies and processes. The Coordination Council meets at least once a year and the representatives of each sector use this opportunity to disclose their annual plans and the individual stakeholders to communicate their problems. From

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1990 when it was protected following the initiative of local population organized in NGO Brod Ecological Society-BED, through the 2006 when the county institution for nature protection (today PI Natura Slavonica) was founded, Gajna was always a positive example in spite of very challenging circumstances in land status and overlapping of responsibilities between nature protection, agriculture and water management authorities on what is, a traditionally common village land.

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