GELDERSE POORT

A WWF *One* Europe, *More* Nature *Pilot Project* Site

WWF "One Europe, More Nature (OEMN)" has supported an innovative pilot project at the Gelderse Poort in the Rhine River delta of the Netherlands. Its goal is to improve nature conservation and flood protection while enhancing nature-based businesses and alternative incomes for locals.

Overall, local people are successfully building a new economy, creating new jobs and restoring ecological processes and landscape quality. The whole process takes place on a voluntary basis and is market-driven and independent of long-term subsidies. New partnerships were established between WWF, other NGOs, brick companies, farmers, governmental authorities and private businesses and entrepreneurs. Initiated by WWF-Netherlands and ARK (a local NGO) in the 1990s, the approach, lessons and success of the Gelderse Poort project led to the development of WWF's One Europe More Nature programme. Since 2003, the Gelderse Poort project has acted as a living demonstration of how business and nature can go hand-in-hand, how innovative approaches can lead to benefits for people and nature, and how new economies can be built around conservation. In this way, it continues to inspire and encourage the OEMN staff in other projects around the continent.

About the Project Area

Location
The project is located where the Rhine River branches out into the rivers Waal, Lower Rhine and IJssel, at the top of the Rhine River delta on the Dutch / German border. It covers some 1,500 ha.

Significant landscapes, habitats and species
A century ago the area's floodplains used to be full of natural marshes with plenty of biodiversity and small nature reserves. The landscape was dominated by grasslands with rich communities of meadow birds such as corncrakes, ruff, black-tailed godwit, skylark and meadow pipit.

Later on, farmers drained the marshy fields to create new cultivated fields, resulting in some biodiversity decreases. After 1950, agricultural intensification, and resultant losses in biodiversity, increased. However, elsewhere in the Netherlands, the destruction of the landscape was even worse.

Human presence
Nearby, the cities of Arnhem, Nijmegen and Emmerich are today inhabited by about half a million people. Within Gelderse Poort, there are 15 villages with a total population of about 25,000.

Economic status
Agriculture: Initially, farming was concentrated on higher lands. Then in the 13th century, when alluvial forests were removed and dikes constructed, the river forelands were also occupied. Here, a thick clay layer had formed after centuries of floods and sedimentation which was good for agriculture. Farming focused on cattle breeding and the cultivation of sugar beet, potatoes, maize, wheat and fruit.

After World War II, Ooijpolder developed from a small-scale agricultural mosaic into industrialised farmland, with the average annual milk production per cow increasing from 5,000 kg (1980) to 11,000 kg (2004). The new agriculture was characterised by large fields, high fertiliser volumes, low groundwater levels and high yields. In the 1950s, nearly 1,000 small farmers earned a living in an area where today only 50 farms remain.

Clay mining and brick making: One of the oldest industries in the region, brick factories used to buy land parcels from farmers, excavate the top layer of alluvial clay (for brick making) and either leave behind a clay-pit or re-cultivate the area to return it to agricultural use.

Sand extraction: Thick layers of fluvial sands in the subsoil made the area suitable for sand extraction – traditionally used as material for building sites and infrastructure projects such as roads and railways.

Problems

Clay mining and brick making: Around 1980, the river forelands on which the clay mining industry depended became increasingly renowned for their nature values. As a consequence, conservationists opposed new clay mining activities and threatened the future of the brick industry.

Sand extraction: Recently, national and regional authorities placed heavy restrictions on sand extraction because of its environmental impact and lack of public support for large pits in the landscape. In fact, deep sand and gravel extraction in the river forelands has been illegal for 15 years.

Tourism and recreation: For the public, the area was either unknown or had a poor reputation: the rivers were polluted and nature reserves were fenced off to visitors. The few hotels and cafés in the area were barely able to break even financially.

Floods: Flood protection has always been an important issue. Dikes were constructed in the Middle Ages. Exceptionally high floods occurred in 1993 and 1995. In 1995, hundreds of thousands of people and livestock were evacuated. This was a shattering experience for the Dutch since the country had a sacred faith in dykes. This near-disaster heightened the public's awareness that floodplain capacity cannot be diminished further without risking severe floods and losses of life and goods. Moreover, climate change and sea level rises in the future also threaten larger floods.

Solutions and Results

WWF's main goal is to improve nature conservation and flood protection while enhancing nature-based businesses and alternative incomes for locals.

The mechanisms used by WWF to reach this goal include:
(1) digging clay for bricks and wetlands; **(2)** promoting natural processes and grazing; **(3)** sand extraction for new landscapes; **(4)** supporting eco-tourism, recreation and mixed farming; and **(5)** increasing flood retention capacity.

1) Digging clay for bricks and wetlands
In 1992, WWF-Netherlands' Living Rivers concept elaborated on Plan Ooievaar's suggestions by adding a water retention philosophy and a new economic driver – clay mining. Earlier, it had been observed that new clay pits could host biodiversity. This would partly substitute the declining role of agriculture and contribute to the ecological restoration of the riverine landscape and flood prevention. The Millingerwaard, a 600 ha area on the river foreland, became the pilot area to test new ideas and new partnerships between the State Forestry Service, private brick-making companies, WWF-Netherlands and local NGO "ARK".

Digging gave brick companies a fresh source of clay for their bricks, and a better image – "Building with bricks is building for nature". During the digging, the landscape was lowered by several metres, allowing for a new landscape of floodplains, wetlands and grasslands. Former elements such as old river beds, islands and lost animals and plants also returned. Today, waterfowl abound in the new man-made marshes in the floodplains which also serve as nursing grounds for spawning fish.

2) Promoting natural processes and grazing
The project found that the best formula for restoring the characteristic flora and fauna of the riverine system is through the promotion of a regime of natural processes such as flooding, erosion, sedimentation and natural grazing in the floodplain.

Natural grazing in restored natural areas in the river forelands started in the Millingerwaard in the early 1990s as a modest experiment on 5 ha of river dunes with a few Konik horses and Galloway cattle. Today, hundreds of hectares along the 15 km long riverbank are involved and hundreds of cattle and horses roam the foreland wilderness. Surveillance work is delegated to local experts (e.g. enthusiastic farmers) and the project is almost self-supporting economically. Income is generated by the natural growth of the herds. Part of the surplus is destined for the production and sale of "wilderness meat" marketed by ARK through its internet, local contacts, a "Wilderniscafé" and newsletter. Another part of the surplus is sold as livestock to natural grazing projects elsewhere in the Netherlands and abroad.

3) Sand extraction for new landscapes
In 2003, the sand and gravel industry launched a new vision on mining supported by environmental organisations. Similar to Living Rivers, extraction would be used to build new landscapes in which ecological processes are restored and social needs fulfilled (e.g. water retention, leisure areas). Pilot projects are now underway.

4) Supporting eco-tourism, recreation and mixed farming
Since 1992, the booming natural and "wild" qualities of the area, along with successful communications campaigns, have triggered new economic opportunities. Hundreds of thousands of people now visit the area annually. Restaurants, hotels and cafés have revived and new ones have sprung up, resulting in a substantial growth of jobs in tourism and recreation. The river and its landscape are big business! Infrastructure and bus services also improved.

Promoting the area name "Gelderse Poort" as a brand contributed enormously. Most if not all of the facilities use the landscape quality of the Gelderse Poort in their marketing strategy. At the entrance of the Millingerwaard reserve, the Wilderniscafé provides visitors with nature information, guided tours, festivities and food and drinks sourced largely from the region.

In 2004, a new "mixed farming" pilot began with local farmers to integrate food production, nature restoration and tourism. One task was to develop migration corridors for flora and fauna between agricultural fields – a web of green landscape lines such as broad hedges along ditches or strips with natural vegetation. Landowners would manage the new landscape elements, as well as extensive grazing and new public footpaths. Farmers were initially compensated for their "green services" through a "landscape auction" in September 2007 when dozens of companies and individuals donated a total of 120,000 Euros, enabling a 10-year contract of the project.

5) Increasing flood retention capacity
The new method of clay excavation suggested by Living Rivers produced millions of cubic metres of extra flood retention capacity. Several summer dikes were removed, sediment layers were peeled off and new side channels were constructed. It is estimated that this created 1,500 ha of natural riverine habitat.

Project Magnification
The project area is now increasingly considered the "green lung" of an expanding urbanized and economically important region. The pilot areas were important to show politicians, decision-makers and others how clay mining and other solutions enhanced the powers of nature – when it is given more space, nature returns. One economic driver and/or pilot project is enough to provoke a chain reaction resulting in more economic partners joining in and/or starting other projects.

Since 1992, experiences in the Gelderse Poort have been rapidly followed by some 50 similar projects in other areas started along the lines of the first pilot, with authorities and private entrepreneurs having discovered the opportunities for working toward building a new nature-based economy.

OEMN Mission
WWF's One Europe More Nature (OEMN) project uses an innovative approach to forge unusual partnerships so that business and nature can co-exist. Its mechanisms lead to win-win solutions for all, allowing Europe's rural workers to make incomes from the countryside while protecting nature. OEMN, tested at many pilot rural locations throughout Europe, is now mainstreaming conservation into everyday European business life.

Other WWF OEMN pilot project sites
Prespa (Albania, Former Yugoslav Republic of Macedonia, Greece), Väinameri (Estonia), Tisza Floodplains (Hungary), Merja Zerga (Morocco), Maramures (Romania), Sinca Noua (Romania), Doñana (Spain)

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