



# Intangible Heritage to Strengthen Local Water Management

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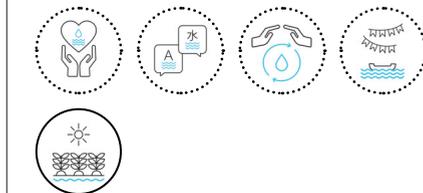
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*Can intangible cultural heritage (ICH) help to reduce biodiversity loss and water shortages related to climate change? Can it contribute to managing water shortages and surpluses on a local level? This article argues that some useful forms of intangible, “living” heritage offer valuable knowledge and practices that can serve as adaptive strategies in a changing environment. Binding practitioners to a specific place and to each other and connecting past and future generations, ICH can bring local knowledge and experience into the work field. The examples introduced here include grassland irrigation, water milling and hedge-laying: all used in the past, replaced by new inventions (e.g. fertilizers, new techniques for grinding grains and barbed wire taking the place of hedges respectively), and reintroduced because of their potential role in water management and ability to help create a climate-robust landscape. The valuable insights and practices of “citizen scientists” using these traditional techniques are too often overlooked by policy makers and academics.*



## KEY THEMES



< Fig. 1 Traditional irrigated grassland at Het Lankheet (Source: KIEN, 2021).

## **Introduction**

The need for sustainable management of our natural environment, including water management, is one of the great challenges of our time. The Dutch Centre for Intangible Cultural Heritage (KIEN) and the Centre for Agrarian History (CAG) in Leuven (Belgium) believe that Intangible Cultural Heritage (ICH) can help us face this challenge. ICH can be a valuable source of knowledge when designing future climate adaptive strategies. This is why the two institutions have joined forces in a three-year project called “Water and Land. Intangible Cultural Heritage and Sustainable Development,” which aims to inventory, research and promote ICH as a lever for ecological sustainability. The project aims to make both members of the public and policy makers more aware of ICH’s strengths and opportunities.

The notion of intangible heritage has gained ground since the introduction of the UNESCO Convention for the Safeguarding of ICH in 2003. This convention is specifically concerned with traditions and living cultural expressions that are inherited from ancestors and passed on to future generations. It refers to oral traditions, performing arts, social practices, rituals, festive events, knowledge and skills used to produce traditional crafts and knowledge and practices concerning nature and the universe. These practices may offer especially valuable insights that can be applied to climate adaptive solutions.

ICH has several characteristics that make it a potentially powerful instrument in combating the negative effects of climate change. Communities that practice nature-related ICH express their knowledge, which is often embedded in and directly linked to their surroundings, through a wide range of cultural practices that

have evolved over time as people have interacted with their environment. ICH, as living heritage, is flexible and adaptive – often it is precisely the ability to adjust to changing circumstances that has ensured its survival over time.

Practitioners of ICH are typically committed to their community and highly involved in their local environment, for their heritage practices not only bind them to one another, but also to their physical surroundings. The stakes can be high since the survival of natural surroundings and the survival of ICH practices are closely entwined. This at least partially explains why ICH often promotes a strong sense of responsibility and may even foster the feeling that one can indeed do something to ameliorate seemingly overwhelming global threats such as floods, (extreme) drought or the loss of biodiversity. In the words of Kathleen Ferrier, chair of the Dutch UNESCO Commission: “When climate adaptation is grounded in local traditions and customs, it empowers communities to take control and initiate change themselves” (Bontebal 2021). This showcases the importance of supporting communities in safeguarding their sustainable intangible heritage.

### **A Case in Point: Traditional Irrigation**

An example of how ICH can make a vital contribution to local water management is the sustainable traditional technique of grassland irrigation. This is an ingenious and almost forgotten farming method that dates back to the Middle Ages and relies on the strategic use of gravitational force and manually created structures to distribute water from naturally occurring water catchment points closer to fields. More specifically, it cleverly utilizes minute differences in elevation, thereby distributing “stunted water” through channels and ditches or “beam weirs”



^ Fig. 2 Traditional irrigation in Lommel, Belgium (Source: Willem Tel, 2023)

(barriers made of stacked planks) and manually operated “inlet gates.” This allows practitioners to maintain desired water levels over a wide area and respond to changes in weather and climate. It thus offers them a valuable tool to promote growth and increase (hay) yields. At the same time, traditional grassland irrigation allows lime and minerals to penetrate the soil, thereby creating a rich soil life and grasslands full of plants, insects and birds.

Today, practitioners of traditional grassland irrigation are dispersed around the world. As for the Netherlands, there are two areas where the practice is still in use. One of them is the estate Het Lankheet, below Haaksbergen. Eric Brinckmann, representative of the Water Park and Field Centre Foundation, Het Lankheet, explains: “What we are doing is moving with the

landscape. You follow the water. Every week there is a different situation to which you have to respond. So, we take care of the landscape, and the landscape takes care of us. There are 30 volunteers working at the foundation, and together we are committed to restoring biodiversity and creating a climate-resilient landscape that suits nature-inclusive agriculture. People feel responsible and involved. This also strengthens social cohesion. And appreciation for nature. It encourages volunteers to become emotional co-owners of the landscape” (Bakels and Elpers 2021, 39). The Dutch irrigators are part of a European network of traditional irrigation practitioners from Belgium, Luxembourg, Germany, Austria and Switzerland. Learning from this technique is thus not only limited to the Netherlands.



^ Fig. 3 Water miller Ernst at work in Eindhoven (Source: Riet Meijer, 2023).



^ Fig. 4 Hedge-laying in the Netherlands (Source: KIEN, 2008).

### **Living Heritage: Traditions, Challenges and New Applications**

The potential of ICH to contribute to climate-robust landscapes is by no means limited to grassland irrigation. There are many other practices that can play a renewed role in sustainable water and landscape management. Among them, for example, is the ICH practice of water milling. Both the Netherlands and Belgium have a long tradition of water milling. On the one hand, mills historically participated in the work of, for example, artisanal flour milling. But while doing so, their operation also actively influenced local water systems. Therefore, many water millers consider themselves not only millers but also water managers, and that dimension of their work may take on new significance considering changing weather conditions. In an online

focus group conducted by the authors in 2022, Riet Meijer, herself a miller and member of the advisory board of Molenstichting Noord Brabant, explains: "I want to use the old techniques to sustainably manage the landscape around the mill. By managing the weirs in the river and streams, we can respond to drought and wetter times and maintain the water landscape well. This gives the mill a new importance. We must ensure that Waterschappen [the Dutch water management boards] and governments accept this new role of the millers." Supporting the renewed role of this old craftsmanship can thus strengthen local water management in a climate-robust landscape.

Hedge-laying is another example. Its practitioners make existing hedges, usually thorny hedges, impenetrable by braiding twines together.



^ Fig. 5 Water milling today means using old techniques to sustainably manage the landscape around the mill. Water milling landscape at Coll (Source: CAG, 2023).

The hedges were historically used to separate plots of land, but their benefits are wider. Braided hedges offer shelter to many different animal species, and function as small yet diverse biotopes. Recently, attention has also been drawn to their water-absorbing capacity – in the shade of hedges, temperatures may be up to five degrees cooler than in the surrounding landscape, resulting in less evaporation. And during heavy rainfall, the roots of hedges act as “flow paths” that transport water to deeper earth layers (Rijdsijk 2022). On the islands of Bonaire, St. Eustatius and Saba – the Dutch Caribbean – people braid cactus hedges. This ICH is receiving renewed attention since there is growing awareness that it may contribute to retaining water and preventing erosion. Curaçao and Bonaire also have natural systems of rooi

(gullies) and man-made dams, which guide and catch rainwater. Lately, housebuilding has been allowed in the rooi area, resulting in local and downstream flooding (Loen 2022).

### **Opportunities for Change: Local Knowledge, Science and Governmental Decision-Making**

KIEN has coordinated the implementation of the UNESCO 2003 Convention for the Safeguarding of ICH in the Netherlands since 2012. Its efforts to help practitioners safeguard (develop, promote and pass on) their ICH include the Inventory of Intangible Cultural Heritage of the Netherlands. From 2022 onwards, sustainability will be a spearhead for research (Bakels 2021).

CAG is a knowledge center in Flanders, Belgium, concerned with agrarian history and heritage. CAG studies, preserves, secures and makes accessible the history and heritage of agriculture, food and rural life in Flanders and Brussels as far back as 1750. CAG wants to contribute to the realization of the UN Sustainable Development Goals and a sustainable society.

KIEN and CAG believe that ICH offers valuable alternative knowledge systems for sustainable landscape development and water management. It can be used to inspire and inform environmental and climate change management and politics. Unfortunately, the opportunities offered by ICH are still relatively unknown in wider circles and are not clearly on the minds of policymakers (Fatorić and Egberts 2020; Altenburg and Elpers 2020). In our current society, so focused on official, managerial and scientific knowledge systems, the “intimate” or “local knowledge” of ICH is at best marginalized and most often is ignored altogether. This is unfortunate, as different knowledge systems can reinforce and complement each other – a reassessment of ICH in official policy and academic knowledge systems could lead to a more vital, accurate and widely shared approach to water management.

ICH can enrich landscape and water management. It binds the past, present and future; it can strengthen the appreciation of and emotional attachment to land and nature; and it can inspire responsible and sustainability-oriented attitudes (Ganzevoort 2021; Jagers et al. 2014). In particular, ICH contains concrete insights and knowledge tailored to local conditions. We will desperately need such attitudes in the future – for water management, but also for the well-considered and informed use of our natural resources in general.

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