

Dry stone walls: ancient technology for future agriculture

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In Southern Italy, there are infrastructures that are invisible to satellite maps. They have no sensors, cables, or antennas. Yet, for centuries, they have managed water, soil, and life. These technologies are dry stone walls, stones that speak of balance, memory, and agriculture.

Built without cement, interlocking stones of different sizes with millimetric precision, dry stone walls are among the oldest forms of ecological engineering.

In the Mediterranean basin, they made agriculture on slopes possible by containing the soil and retaining water. They are the genetic code of the rural landscape: the design that allowed life to take root on hillsides, between olive trees, vineyards, and fig trees.

Today, this ancient knowledge risks disappearing—not for lack of usefulness, but for lack of hands.

Agroecological infrastructures

In San Mauro Cilento, in the heart of the Cilento National Park, the Nuovo Cilento Cooperative and the Rural Hack laboratory have created a space for discussion and reflection on the value of these stone architectures.

The event brought together agronomists, researchers, artisans, and locals to rediscover dry stone walls as ancient yet indispensable technologies for the agriculture of the future.

As Alex Giordano, professor at the University of Federico II of Naples and scientific director of Rural Hack, explains:

“Dry stone walls are ancient technologies, but they are fundamental—not only architectural but also agroecological. They allowed the Mediterranean to cultivate on slopes, conserving water and life in the soils.”

These structures regulate water runoff, prevent landslides, and promote biodiversity in the microhabitats formed between the stones.

In an era marked by climate crises and drought, dry stone walls become models of natural infrastructure—examples of how tradition can interact with the science of adaptation.

The hands that know

But a wall is not built with funding and initiatives alone. It is built with hands.

Those of people who learned by watching their fathers or grandfathers in the fields.

“I was ten years old and went with my father to build the walls,” says Antonio Marrocco, a master craftsman. “Without the walls, everything would collapse. I’ve made maybe a hundred. I do it with my heart because I love this craft. It’s a work of art.”

He explains the technique: the “beating” of the ground, the alternation of large and small stones, the “linking” of stones to give solidity. Each wall is a dynamic balance of weight, gravity, and manual intelligence—a knowledge passed down more through the eyes than words.

Today, however, that knowledge risks extinction.

“Younger people don’t want to do it. They don’t know what it means to be in the fields. But without this craft, the land can’t hold up.”

Contenuto multimediale: https://www.youtube.com/embed/NI_4pHL-ufM?feature=oembed

Lessons from stone

This is also remembered by Florinda Guariglia, a former teacher and daughter of farmers: “My father was a genius at building dry stone walls. I helped him carry the small stones in the basket. I taught my students how to build them, and today some of them are masons. This is education: transmitting knowledge that keeps the land and the community standing.” For Florinda, the dry stone wall is a symbol of education and civic responsibility. A way to teach young people the care of the land as a form of active citizenship.

“Education starts at home, continues in school, and then in society. If we educate children well, they will be able to produce excellent products and a landscape that doesn’t collapse.”

Contenuto multimediale: <https://www.youtube.com/embed/K0pmcmTGeRo?feature=oembed>

A mediterranean vision

In Cilento, the land of Ancestral Keys and the Mediterranean Diet, the dry stone wall is not only a technique but a way of thinking about agriculture. A model of coexistence between nature and human labor, between ecology and culture.

An ancient gesture that today becomes a symbol of environmental and social regeneration. As Gabriele Marano, regional official and deep connoisseur of these territories, recalls, “This is the agriculture of the future, where landscape, tourism, and agriculture don’t compete but support each other.”

Contenuto multimediale: <https://www.youtube.com/embed/Ca7B40ImTQ0?feature=oembed>

Building the future, stone by stone

Dry stone walls are a UNESCO-recognized heritage, but more importantly, they are a form of collective intelligence.

In an age of artificial intelligence, they remind us that even stone can be a natural technology—slow, solid, and capable of lasting centuries.

Placing them at the center of agricultural policies and practices means valuing manual labor, preserving biodiversity, and regenerating the memory of the landscape.

It means transforming tradition into territorial innovation, making care an agricultural and

political act.

And it means restoring to the word “infrastructure” its most authentic meaning: that which is beneath and holds everything else together.

Fonte: <https://www.ruralhack.org/en/dry-stone-walls-ancient-technology-future-agriculture/>