

Seminars

The Natural Mediterranean Garden

Week-end residential seminar
offering new insights to the
Mediterranean Garden

Dryland Permaculture Design

Residential seminar for designers
and land owners

Holistic Management

Residential seminar in sustainable
decision-making and management

Sustainable Stewardship

Residential seminar in a whole ap-
proach to creating a sustainable life,
landscape or livelihood

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Nutshell Series

1. The Savory Brittleness Scale
2. Carbon Sequestration
3. Ecosystem Processes
4. Grazing Animals
5. Run-off
6. Water Cycle
7. Root Cause
8. Plant Succession
9. Irrigation
10. What is Holistic Management®?

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Semilla Besada
Nutshell Series

*Irrigation
and papering over the
cracks in a dryland
environment*



Irrigation and papering over the cracks in a dryland environment

Settlers from North Africa established the irrigation (*acequia*) system in the Alpujarras in southern Spain, during the 11th century. All of who own land in this area still rely on irrigation to keep farms and gardens alive during the summer drought.

Unfortunately, the Moors' decision to irrigate land in order to obtain a better yield simply 'papered over the cracks'. Nature had already set a sustainable limit, but the Moor's use of basic technology enabled farmers to ignore this limitation. The result has been an ongoing unsustainable process.

Irrigation water is generated by rainfall which is collected in the form of snow in the high mountains. As the weather warms so the snow melts, seeping into the landscape to flow into rivers or out of springs. When there is no rainfall, there is no irrigation water.

Use of the acequia system ignores the fact that the environment is being asked to deliver more than it can sustainably produce within the limits set by the climate in this dryland area.

However, all is not lost. If bare soil is covered with green and growing plants, underground root systems will capture water to further nurture plants. If soil is built as a part of a sustainable land management policy, rainfall will stay where it falls instead of running-off the land, taking with it fertile soil. As complex and appropriate plant communities are developed, a thriving environment will begin to develop that actually needs less and less irrigation water over time.

Using irrigation water is a skill. Too little and deep-rooted plants die, too much and soil is washed away. Irrigation water is not the same as rainfall. It is used at a time of year when there is no rainfall. This means that all those natural components which facilitate the maximisation of its use are missing. Factors such as cloud cover, soil temperature, soil micro-organism activity, age and activity of plants, root systems and so on are all aspects that form the whole picture of rainfall. Timing is therefore a crucial aspect of irrigation use, and it may be as valuable to use it augment rainfall as replace it.



It is also important to remember that irrigation water is a symptomatic solution to an underlying situation that started 1000 years ago in the Alpujarras. It is necessary to look more broadly at the health of the environment and its capacity to retain water in the soil. It is important to work consistently towards a sustainable form of land management.

For the first time in Europe, residential educational programmes at Semilla Besada consider new insights for sustainable design and management of dryland environments.

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Nutsbell Series*

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