

Living the sustainable life: Managing

In 1999, Aspen and David Edge bought *Semilla Besada*, a 12 hectare farm in southern Spain, with the intention of re-establishing its family farming tradition. They faced various challenges: the dryland environment, lack of markets and little social support. However, through using various management and design tools, encouraging diversity on the land and sustainably managing the grazing animals, the family is increasingly able to sustain itself.

Aspen Edge

Although it had previously fed a family of 10, by 1999 *Semilla Besada* had not been farmed for 20 years. With irrigation, the previous family had grown vetch, alfalfa, wheat, rye, lentils and chick peas, and a wide range of vegetables. They also had three sheep, chickens, two pigs, beehives and a cow. When we took the farm over in 1999, it no longer provided a living. The stone terraces that created the space on which to grow food had collapsed. The mountainside that had once been home to some 50 families, now only supported three: all of these were goat farmers. The remainder had either left for work in the cities, or joined the lucrative, but unsustainable, greenhouse vegetable production system on the eastern coast of the country.

Together with my husband and son, I live and work at *Semilla Besada*, a 12 hectare family farm set at an altitude of 1300 m in the Sierra Nevada mountains, in the province of Granada, southern Spain. The landscape is characterised by short-lived woody perennial shrubs and indigenous oaks. Temperatures can fall to -15°C and rise to 40°C, with an average of 540 mm of annual rain. Although there are four distinct seasons, there is low year-round humidity and a summer drought which can last for six months. This combination of climatic factors classifies it as a brittle or dryland area. The property has a 1½ hour weekly irrigation water right.

Inherited challenges

Apart from the climatic difficulties, *Semilla Besada* faced the following challenges:

- Increasing degradation of the landscape encouraged by agricultural subsidies that resulted in overstocking;
- A minimally productive landscape, resulting from lack of management and loss of fertility;
- No source of sustainably managed seed;
- Lack of local markets, due to inability to compete with production farming prices and the non-existence of niche markets;

Holistic Management

This is a decision-making framework that helps people create the quality of life that they want, whilst ensuring social, economic and environmental sustainability. It has a track record in three continents of using grazing animals in a way that not only does not degrade the landscape, but actually reverses desertification.

For further information: Holistic Management International, 1010 Tijeras Ave. NW, Albuquerque, NM 87102, U.S.A. <http://www.holisticmanagement.org>



Photo: Aspen Edge

Volunteers come to learn about dryland management while making a valuable contribution to the farm.

- Poor social support due to the collapse of family farming in the area; and
- Hardship caused by inappropriate government regulation of food production on small-scale family farms.

We bought the farm in 1999, intending to re-establish its family farming tradition. For many years, we had recognised a desire to lead a different way of life; one that represented a better balance between the environment and human needs. We realised that while the West had enjoyed an unparalleled boom in terms of wealth, material goods and choice, part of the price being paid was the increasing depletion of the earth's natural resources. Our lifetimes' experience of both business and the environment convinced us of several significant factors:

- The dubious merits of the existing conventional economic model;
- The need to design sustainable economic models;
- The absolute necessity to prioritise restoration and conservation of natural resources; and
- The need for individual action, rather than reliance on governments or government agencies to lead the way, due to the urgency of the situation.

We felt that by purchasing our own land, we would be in a much better position to address the above challenges. We would also be able to live a more sustainable life, whilst restoring and conserving the natural resources upon which that life depended.

a dryland family farm

The first four years

We brought with us a lifetime's experience of growing our own food, as well as four years' permaculture design experience within both a northern temperate and a tropical climate. We used 40% of our capital to buy the land, leaving 60% for its development. This included enough to support our family of three for a 10 year period – the time we believed it would take to develop a sustainable living from the farm.

After a year of observation to determine existing plant infrastructure, climatic conditions, soil fertility and design parameters, we began to initiate the classic multi-layered, perennial food production system beloved of permaculture designers. However, after four years, we had to acknowledge that we were beaten! The landscape was not responding as we had expected: there was less plant diversity and more bare soil than when we arrived, and definitely no sustainable livelihood.

It was then that we came across the work of Allan Savory. Through that we realised that we were missing a crucial piece of knowledge: the difference between brittle and non-brittle environments, and how that affected farm design and management. I undertook training in Holistic Management, the name of the framework that had evolved from Savory's work. I discovered that it offered much more than environmental insights: it would enable David and I to make personal, land management and financial decisions that would have a positive impact on land health and productivity. The framework also provided skills to develop plans and activities in a way that would move consistently towards social, economic and

environmental sustainability, as well as providing effective techniques for reversing desertification in the area.

Whole farm planning, monitoring and controlling

We created a management plan to cater for the short, medium and long-term sustainable development of *Semilla Besada*. We drafted a statement of what quality of life we wanted, what we needed to do to achieve it, and how that could be sustained indefinitely. This statement included social, economic and environmental aspirations for the project as a whole. It also provided the foundation for drafting the policies, strategies and objectives for each year. We created a whole-farm financial plan which outlined where resources would be allocated, ensured that expenses were capped, profit was planned and that no debt arose.

Having outlined the parameters of the farm management, it was then possible to begin designing the landscape. The insights of Holistic Management were crucial here, as they explained why dryland environments performed as they did, and how grazing animals could be used sustainably. The design drew on the following permaculture principles, in addition to those that underpinned the Holistic Management framework:

- whole systems view
- elimination of waste
- building diversity
- use of sensitive solutions
- design from the big picture to the detail
- use of renewable resources and services
- integrate human psychology.



Photo: Aspen Edge

The brittle landscape poses many new challenges in designing and managing a sustainable system.

The farm was then designed to ensure that the areas that were worked most often were nearest to the farmhouse, that all water was recycled for irrigation, that all human and animal waste was used to build soil fertility, that solar and wind power were installed to provide for energy to run office and household equipment, that solar ovens were installed to mitigate the use of bottled gas, and that a tree-planting plan was initiated to provide firewood for heating in the future.

Holistic Management offered tools to ensure that we stayed on track, and could deal with problems in a timely way. It also provided a system for monitoring what was happening on the land to ensure that the health of the ecosystem was not compromised, and if it was, what needed to be done to change that. It also ensured that every decision was leading towards social, economic and environmental (known as “triple-bottom-line”) sustainability.

Tangible results

After 10 years, we have built an infrastructure of vines and mixed fruit and nut trees which currently comprises 50 fodder trees, 105 fruiting shrubs, 200 fruiting plants, 90 perennial vegetables, 100 grape vines, 100 mixed fruit and nut trees, six vegetable growing areas, beehives, a warren of 20 mixed-breed rabbits, a flock of 30 local rare-breed Andalusian Blue chickens, and nine mixed-breed Milking/Awassi sheep. The farm supports a group of four, consisting of myself and David, our son, Samuel, and a year-round volunteer or intern.



Getting down to it – planting vegetables to contribute to diversity, sustainability and income.

In addition, we have addressed the challenges we inherited by:

- using holistically-managed sheep. This has reversed the degradation of the existing perennial grasses within a 2 hectare fenced area, which is in stark contrast to the unmanaged area beyond;
- increasing food security. Through improved soil fertility and structure, growing diverse dryland-adapted species of trees, shrubs, plants and vegetables, and saving locally-adapted heritage seeds;
- developing contacts with conservation agencies: especially those that already work with grazing animals to mitigate bushfire hazards in order to foster the possibility of *Semilla Besada* becoming a funded research site;
- developing educational opportunities in Holistic Management and dryland design and management. We also want to allow greater public access to *Semilla Besada* as a model of what is possible in a dryland environment;
- developing the future potential to respond to arising niche markets. This will be through creating solar drying facilities to produce organic dried fruit, herbs and vegetables; a milking breed of sheep to produce organic yoghurt and cheese; and a plant nursery for generating dryland-adapted trees, shrubs, plants and vegetables;
- publishing material highlighting the fact that grazing animals can be used in a managed way to restore and improve perennial grasslands, which is of pivotal importance to existing goat farmers;
- developing contacts with local ex-farming families to safeguard traditional knowledge and skills as well as heritage seeds; and
- creating a network of direct farm clients who are prepared to support the work of *Semilla Besada*. We have also initiated a seed library to encourage exchange of dryland-adapted heirloom seeds.

Added to this has been the generation of a sustainable livelihood which is comprised of:

- 80% production of its own organic food, with a market value of €2000
- 95% production of its own energy, with a market value of €2500
- 97% generation of its own organic seeds, with a market value of €400
- 11% income from direct donations from the public
- 57% income from educational seminars
- 5% income from educational publications
- 25% income from sustainable walking tourism (to be phased out in 3 years, in favour of the more sustainable option of education).

Safeguarding the future

With the encouragement of production farming, and 90% of Granada’s income coming from tourism, the management of this area continues to exacerbate environmental degradation. Family farm initiatives, such as *Semilla Besada*, play an essential role in modelling a way forward which enhances environmental health and provides food security and a sustainable livelihood. When priority is given to sustainability, then it is possible to build a stable local infrastructure which is not at the mercy of fluctuating global scenarios, and can support a family for generations to come.