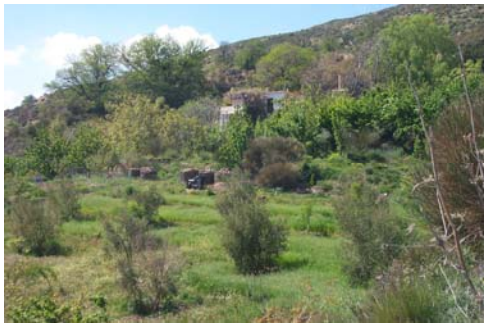
Sustainable dryland tourism: A case study from southern Spain

Aspen Edge[1]

A thousand-year-old tradition



Semilla Besada (*see right*) is a 16-hectare subsistence farm set at 1300m at the extreme western end of the Alpujarra, the foothills of the Sierra Nevada mountains, in the province of Granada, southern Spain. The landscape at this elevation is considered maquis (or garrigue), a low, soft-leaved shrubland that is found around the Mediterranean Basin and is characterized by the presence of holm oaks (*Quercus ilex*) and aromatic herbs like lavender (*Lavandula* spp.), thyme (*Thymus* spp.) and cistus. Semilla Besada continues a tradition established over 1000 years ago by providing for the food needs of a family.

Historians suggest that settlement of this area began with the Moors, invaders from North Africa in the 11th century, although early Arab literature states that the Alpujarra was "densely populated by a very warlike folk." (Grove and Rackham 2003, 8). It was the Moors who set up a network of irrigation channels in the mountains. This enabled them to develop land that was traditionally *secano* (dry), naturally supporting only evergreen oaks and grassland, although it could support the cultivation of vines, early maturing cereals, figs and olives under rain-fed agriculture.

With irrigation, local farmers developed local subsistence farming systems that typically involved growing alfalfa, vetch, wheat, rye, lentils and chick peas (garbanzos) and keeping perhaps three sheep or goats, some fowl, two or three fig- or acorn-fed pigs, beehives and a single cow. In addition, they grew a wide range of vegetables. Some even grew mulberry trees to produce silkworm cocoons for the silk weaving industry in the eastern coastal town of Almeria—a practice that began with the Moors, who established this industry, and that lasted until about the end of the 15th century when the industry died out Although these were never more than subsistence farms, they typically produced enough to support a small flour mill and olive oil press that would provide these important products to the farmer and his family.

Ongoing unsustainability

However, this area was not farmed sustainably over the centuries, and each successive generation used more technology to obtain a yield beyond the carrying capacity of the environment. From the beginning of the 1900s, the increasing difficulty of earning a living from the land lead to growing urban migration. As the younger generation were lured by a life of greater ease in the cities, so family farms lost the labor that ensured their survival. The result was that much farmland was sold and traditional small-scale

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mixed farming largely died out in the region by the mid-20th century. The land that was released was bought up cheaply by shepherds and goatherders, who then typically increased their herd size to several hundred animals, well beyond the capacity of the already denuded landscape to support. As a result, they relied increasingly on imported feeds, and now admit that if it was not for government subsidies, they could not continue their way of life.

Periodic prosperity

In the 19th century, the area did know periods of temporary prosperity through metal mining, such as lead, copper, iron, zinc and cobalt; it was also known for its wide range of marble. Our local town of Lanjarón (*right*), 20 minutes down a dirt track from Semilla Besada,was known for both cobalt and brown jasper. Agricultural products like wine, almonds, olive oil and grapes have also provided short-lived financial returns. But none of these activities provided long-lasting economic prosperity; in fact they ultimately depleted the area's natural resources still further.

More recently, Lanjarón was also the first place in Spain to build a water-bottling plant, capitalizing on the town's reputation as a spa, begun in the 9th century. The plant, now owned by Danone, pumps 2 million liters of water daily from the mountainside, in an area that has at least six months of drought. But the policies in place do not include steps to safeguard the aquifers. Furthermore, priority is given to the bottling plant, whereas irrigation water, which comes from the same source, is rationed throughout the drought months. An additional concern is that since 2007, the period of drought has lengthened, causing increased rationing for irrigation as well as affecting aquifer recharge. The possibility that these extended periods of drought may represent a new climatic trend is particularly troubling.

A last resort

As these successive economic opportunities have played out, so tourism of the conventional has increasingly become viewed as the last recourse for economic prosperity. In fact, it is now the economic sector that generates most wealth and employment in the province of Granada, with 1.6 million tourists visiting every year. Tourism accounts for around 20% of the local Gross Domestic Product (GDP) and 40% of the city of Granada's GDP and directly generates 15% employment. As a result, there is a heavy investment in maintaining and expanding tourism locally.

However, the tourism being promoted is of the conventional kind. There is no attention paid to safeguarding either the local social or environmental fabric of the host community and any economic benefit often go to outside investors. Since the 1960s Southern Spain has been subjected to a "staggering rapidity of growth, relatively uncontrolled private sector investment … much of it foreign in origin … lack of coordination with infrastructural development and a breathtaking lack of concern for existing natural, socioeconomic and cultural environments." (Barke and Towner 2003). This means not only that the prosperity promised to local residents by developers is leaked to foreign investors, but also that the natural and social infrastructure is further eroded. A better goal to work towards is "sustainable tourism"; a good working definition of which, arrived at during 2002's International City Tourism Conference in Vienna, Austria, is "a level of tourism activity that can be maintained over the long term because it results in a net benefit for the social, economic, natural and cultural environments of the area in which it takes place." However, despite acceptance by the Spanish authorities in 1997 of this concept, little of that commitment has been reflected in tourist development strategy since that time.

A local response

Many years ago, my husband David and I recognized a desire to live a different kind of life; one that represented a better balance between the environment and human need, rather than greed. We realized 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. We were literally destroying our children's future. Our search for alternatives, including backpacking for 18 months in the East, convinced us of several significant factors:

- The social and environmental costs of conventional tourism.
- The dubious merits of the conventional economic model.
- The absolute necessity to prioritize restoration and conservation of natural resources.
- The need to consume sustainably.
- The need to act on our own, as individuals, without waiting for governments or government agencies to lead the way.

In 1999, we bought Semilla Besada, relocated, and initiated our vision of creating a land-based livelihood, while restoring and conserving the environment. We brought with us a lifetime of growing our own food, as well as four years' Permaculture design experience within both a northern temperate and a tropical climate. We set about implementing the classic multi-layered, perennial food production system beloved of Permaculture designers. After four years, we had to acknowledge we were beat! The landscape was not responding as we expected: we had less plant diversity and more bare soil than when we came.

It was then I remembered a video I had seen of a man called Allan Savory challenging the accepted causes of desertification, titled *Creating a Sustainable Civilization*. In it he described the characteristics of the very landscape at Semilla Besada. A desire to know more resulted in my undertaking Holistic Management training, the name of the framework that had evolved from Savory's work (see http://www.holisticmanagement.org). I found that it offered much more than environmental insights: it would enable us to make personal, land management and financial decisions that positively impacted on land health and productivity. This framework provided us with the skills to develop our plans and activities in a way that would move consistently towards social, economic and environmental sustainability, as well as providing us with effective techniques for reversing desertification in this type of landscape Understanding the implications of where a landscape stood in terms of the Savory Brittleness Scale (see http://www.holisticdecisions.com/LA_FREE_brittleness.pdf), which evaluates landscapes based on year-round distribution of humidity as well as on rainfall, was pivotal to sound land management decisions. More particularly, "brittle" landscapes represent 70% of the world's landmass, and they are particularly prone to desertification caused by inappropriate use of land management tools.

We created a management plan to cater for short, medium and long-term sustainable development of Semilla Besada. We drafted a statement which outlined what quality of life we wished to create, what we needed to do to achieve it, and how that would be sustained in the long-term. The statement included social, economic and environmental aspirations for the project as a whole, and is the foundation for drafting our policies, strategies and objectives for each year. We review our progress annually, re-establish monitoring criteria and update the strategies and objectives as circumstances and growing experience dictate.

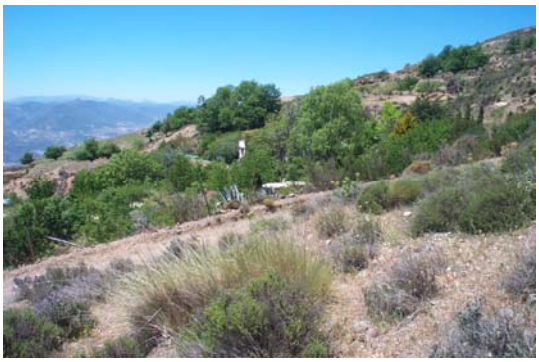
Environmental infrastructure

Although the environment had always been put top of the agenda, we now had valuable insights to reverse the damage we had caused and improve on our original design. We now understood how brittle landscapes had evolved with certain predator/prey relationships that had kept the original grasslands healthy. This meant that we needed to introduce grazing animals into our management, using a plan based on assessing landscape performance in terms of complete ecosystem health within the context of a brittle landscape.

A 2-hectare area that was fenced and highly managed was already host to six vegetable growing areas, a vineyard of 100 vines, 150 mixed fruit and nut trees, a flock of Andalucian Blue chickens, a warren of mixed breed rabbits and a family of geese. There were also three terraces on which the indigenous perennial grasses still existed, and it seemed here was the best place to incorporate a small flock of local sheep.

Over the following five years, we saw a complete reversal of the damage we had caused and a movement to a healthy annual and perennial grassland mix. These diverse plant communities provided not only food for our sheep for half the year but also ground cover for the whole year, improving the soil's capacity to cycle water and nutrients as well as capturing energy and storing carbon.

What was most marked was the contrast between this managed land (*right, in background*) and the condition of the landscape outside the fenced area, which was grazed by our neighbor's 200 goats every day (*right, in foreground*). This affirmed our land management decisions, and we made a commitment to fence more of Semilla Besada's land in order to bring it under our planned way of management. With confidence in the environmental foundation we had laid, we turned our thoughts again to the use of ecotourism as a short-term income.



Over the first three years, our sustainable tourism activities had provided less than 20% of the gross estimated income needed to develop Semilla Besada. In determining how to address this shortfall, we became convinced that three factors were crucial to the long-term viability of the project:

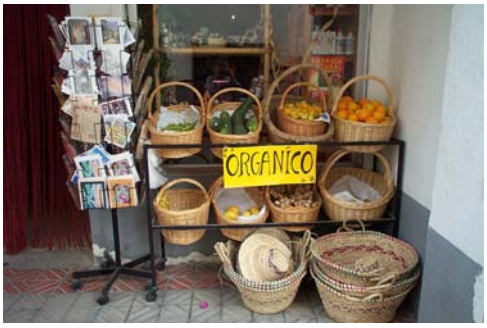
- The ongoing diversification of activities and products provided at Semilla Besada.
- The ongoing creation, review and modification of short-, medium- and long-term plans.
- A continuing, core focus on environmental restoration and conservation as part of any long-term strategy.

One of our initial strategies was to establish a mountain lodge for holiday walkers, plant lovers and bird watchers, to provide short-term income while we put other longer-term initiatives in train. Our greatest challenge was to determine how this service could be provided without damaging the environment: in fact, whether this was even possible. The first question we had to answer was "What is the carrying capacity of Semilla Besada?" This required research into the current tourist market, typical tourist expectations, and whether Semilla Besada could, or would want to, meet them. This research also proved to be an effective way of refining our target market.

Through considering such issues as water restrictions, availability of firewood, and use of non-renewable resources, we ultimately determined that the mountain lodge could be made available for 28 weeks of the year, at times when there was no water rationing. We would further mitigate the impacts of guests by:

- Providing them with educational material on the impact of tourism, offering alternatives wherever possible. For example, the Semilla Besada website information includes a statement of our social, economic and environmental ethics; access to an article on the dubious merit of offsetting carbon emissions from air travel; information on alternative travel routes using trains or buses. Once guests are on-site, we offer further education and insight into brushfire risks and management, water and soil management, and farm management (with tours of our working farm)

- Providing a sustainable infrastructure at Semilla Besada like composting toilets, solar water heating, solar energy, solar cooking and biodegradable body-care products.
- Introducing guests to local producers and suppliers (*right, above and below*). This has been a pleasurable task indeed. On-site, we offer guests free-range eggs from our own chickens and goat's milk from our neighbor's farm. Then, we take them shopping: Sevillana, the local butcher, sources his meat from our neighbor and other subsistence farmers on the mountain; Anna and Raphael, who supply their own olive oil and honey, as well as organic produce sourced within Spain; Begonia, the local whole food shop, which carries organic vegetables and other products sourced within mainland Europe. Finally, we take them to Danny, who acts as a distribution point for a large number of small vegetable producers, who cannot afford their own retail outlets.



While these are important steps, we also appreciate that our efforts are still just scratching the surface; ultimately, such actions must be undertaken on a community-wide basis, as outlined for example by the New Economics Foundation framework (http://www.neweconomics.org) and modeled by the La Plata County Development Land Use Net Benefit (http://www.landusenetbenefit.net).

Addressing income shortfall

In alignment with our focus on the creation of a sustainable land-based livelihood, we developed new medium-term plans that focused on environmental education and diversified activities for sustainable land development, within the context of the long-term restoration of Semilla Besada's 16 hectares. This alone would ensure that the carrying capacity of the project increased over time, thus improving income generation potential in the future.

All our decisions took into account the land's carrying capacity for each proposed activity. Our various areas of activity were as follows:

- Environmental Education: the carrying capacity of the lodge was 4 people per week, so residential educational seminars offered 10 times a year would generate 82% of the desired gross annual income. This would enable ultimately enable us to phase out tourism in favor of education, while increasing income four-fold.
- Sustainable Land Development initiatives:
    - Restoration of the existing landscape using planned regenerative grazing as devised by Holistic Management International, generating a potential contribution of 3% towards gross annual income.
    - Development of suitable milking sheep flock for artisan cheese production, generating a potential 8% contribution, for 4 months production from a lactating herd of 10.
    - Development of the environment to accommodate biological and agricultural diversity within a landscape registering 8 on the Savory Brittleness Scale, generating a potential contribution, with educational material, of 3% per annum.
    - Creation of both produce and drying facilities to generate a 4% contribution of dried fruit and vegetables per annum.
    - Development of a working model of a subsistence farm which countered the term's pejorative connotations and associations with environmental degradation and poverty.

This diversification, together with land restoration, had the potential to generate the required gross annual income, based on current carrying capacity. This capacity would increase as the land was restored, providing the potential for additional income generators, such as a plant nursery for successfully trialed trees and shrubs. All these sustainable land development initiatives would support the creation of a sustainable future for Semilla Besada.

Lessons learned

However, in retrospect, there are two factors which had, and will continue to have, a significant effect on the capacity of this project to succeed.

First, when we moved to southern Spain, we overlooked the implications of cheap property prices in an area. There was a good reason why we were able to buy a 16 hectare farm for less than a quarter of the price we would have paid in the United Kingdom! It was a symptom of both a degraded natural environment and a depressed economy. This has had the following implications:

- There is currently no local market for the goods and services we hoped to offer.
- There is no government support for such an initiative as government focus is on the continued development of the road and amenity infrastructure for additional conventional tourism. This is seen as the best hope for economic revival.
- European Union support is again based on an economic production model, so funding is for projects that will generate income and employment.
- Environmental concerns are currently very low on the agenda, and there is no local appreciation of the link between environmental degradation and a depressed economy.

Second, although David and I had had a lifetime's experience of growing our own food, we were unfamiliar with the local landscape. This meant that:

- We underestimated the level of land restoration required to deliver even a subsistence standard of life.
- We underestimated the time needed to achieve the results we wanted.

- We spent the first four years using exactly the wrong land management practices for a brittle environment.

The only thing that has enabled us to mitigate the impact of these factors is that we allowed sufficient capital to purchase the property and buy ten years of time. This has allowed us to concentrate all our efforts on the development of Semilla Besada, without the need for an off-farm income.

Where to now

Nine years on, we are a still a long way from meeting our current income requirements, but our experience has reinforced the sanity of our vision and we are confident in our abilities to meet the challenges ahead. Our management plans and strategies are still sound. In fact, we believe that unless we make this kind of commitment, we will have wasted the time we have spent here. We have also discovered that challenges have a way of building enormous creative reservoirs, and that this has given us a level of fulfillment that we have rarely found before.

We appreciate that there will be a time-lag between what we are offering and the opportunity for local take-up, but with a view to fostering that outcome, we are committing ourselves to:

- Encouraging local community supported agriculture and business.
- Publishing the results of our land restoration and conservation work in both Spanish and English.
- Offering rural skills workshops to ensure local knowledge is not lost.
- Publishing, in both Spanish and English, the results of our commitment to the social components of sustainability, such as fostering cooperative relationships and initiatives with our neighbors, particularly over issues such as irrigation water rationing. This component is one that is currently highlighted in the records we keep on our holistic decision-making process, within the Holistic Management framework.
- The development of a model for plugging the leaks to our local economy—that is, making sure that income generated locally, really stays within the local community.

Although income generation is a concern, it is only *a* concern. Our experience highlights the vital importance of land restoration work. Without natural capital, nothing else in possible. Our tenure at Semilla Besada has convinced us that tourism as an income generator is only sustainable if it is part of a long-term vision of land restoration and conservation. In our case, it will ultimately be only a small part of a diverse portfolio which contributes to the overall health of the landscape at Semilla Besada. We are also convinced that providing modest working models of sustainable living is a vision worth working towards. For us, our work at Semilla Besada is embodying that vision.

References

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