# Caring Earth, Caring People, Shared Present: Permaculture pathways beyond sustainability in Sardinia

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## Abstract

*The article reflects on how permaculture offers a framework for signifying sustainability on a daily basis, focusing on practices and projects carried out by permaculturists in Sardinia. Three ethics of permaculture—earth care, people care, and fair share—emerge as pivotal in driving actions and choices. Projects are modelled on an ecological resilience-oriented model mimicking nature, which allows for structuring the world based on relationships that can address growing environmental concerns. Through ethnographic examples of wheat production and customs among visiting friends, the article illustrates how nature serves as a model for people, merging with local agro-pastoral traditions and claims to island identity. In Sardinia, permaculturists' ethical orientation towards every living and non-living element of the system combines with local cultural customs, in a shift from* agricoltura *to* agricultura*. This alternative ontology based on relatedness blurs the boundaries between human and non-human and between past, present, and future. Caring for humans thus becomes caring for soils, microbes, vegetation, winds, and rain; caring for future generations means fairly sharing the world between humans and non-humans in the present.*

**Keywords: ethnography; Sardinia; permaculture; sustainability; relatedness; alternative economies**

## Introduction

Saviana Parodi, a well-known Italian teacher of permaculture, begins her book *Manuale di permacultura integrale*, or *The Handbook of Integral Permaculture*, with the following:

> *Permaculture means designing and building human-made environments, adopting the biophysical laws of nature, creating neither waste nor pollution while respecting the needs of all living beings.* (**Parodi, 2019: 7**).

From Parodi's words emerge some pivotal points of the permaculture approach: nature teaches us how to design our world, and any human-made system can be sustainable if it works with nature instead of against it, taking into account and caring for all forms of life. Permaculture has to do with action and disarticulates the Western ontological divide between nature and culture. As Puig de la Bellacasa suggests, 'I see this movement as a timely intervention at the heart of a renewed contemporary awareness that we live in a natureculture world' (**2010: 151**).

In this article I address actions and choices made by people who have adopted a permaculture approach in order to trace the meaning of sustainability in the specific context of Sardinia, Italy, at a particular time: when political and economic agendas are multiplying, overlaying the way permaculture is transformed into different visions of the future, different values and ethics. I use a narrative recollection disclosing my personal journey and relationship with permaculturists. The article concerns permaculture practitioners in northern Sardinia between the years of 2019 through 2025, whose practice I analyse from an anthropological perspective.

A couple of years ago I was visiting one of my permaculture teachers, an environmental economist, farmer, researcher, and friend. Sitting in his yard, accompanied by the cackling of our children playing and the clucking of chickens, we reflected on the activities and actions of our local network of Sardinian permaculturists. As an economist he referred to Karl Polanyi's work, pointing out how, on a daily basis, permaculturists' choices tend to foster reciprocity and redistribution rather than market exchanges, seemingly in search of forms of economic activities that promote closeness rather than impersonal and contractual relationships (**Polanyi, 1957**). During that conversation the core issue of my research as an anthropologist began to emerge, uncovering a possible different economic ontology shifting from a law of cheap nature (**Moore, 2015**) to a law of relatedness (**Cassa, 2024**) and addressing how this shift is producing a new ground of possibility (**Gibson-Graham, 2008**). The questions we asked ourselves that day are still guiding my reflections in this article on a

different culture of care in current discussions on sustainability. Is this economic ontology of relations (**Cassa, 2024**) driving peoples' choices to work around a sustainable future? Which operational tools does permaculture offer to manage these choices? How do discourses on identity and traditions in Sardinia resonate with permaculture? And finally, how do we, researchers and permaculturists, contribute to the very creation of a different world?

The first section presents the research, studies, and theories that made it possible to integrate the reflections on the data with the researcher's responsibility towards the object of study. After a brief overview on how permaculture has been understood within the existing literature, the second section reads the ethnographic case studies as evidence of a radically different way of being in the world, based on the importance of the interrelationships between each element of a system. Sardinia's context is presented in the third section along with some of my interlocutor's experiences and an explanation of the permaculture tools they refer to for designing their life projects. This also provides an opportunity for assessing how categories of culture, identity, and tradition shape the role of care for enhancing systems' resilience. In the conclusion, the threads of the various themes touched upon throughout the article are woven back into a tapestry of a possible new, more sustainable, culture which is ontologically based on care and relatedness.

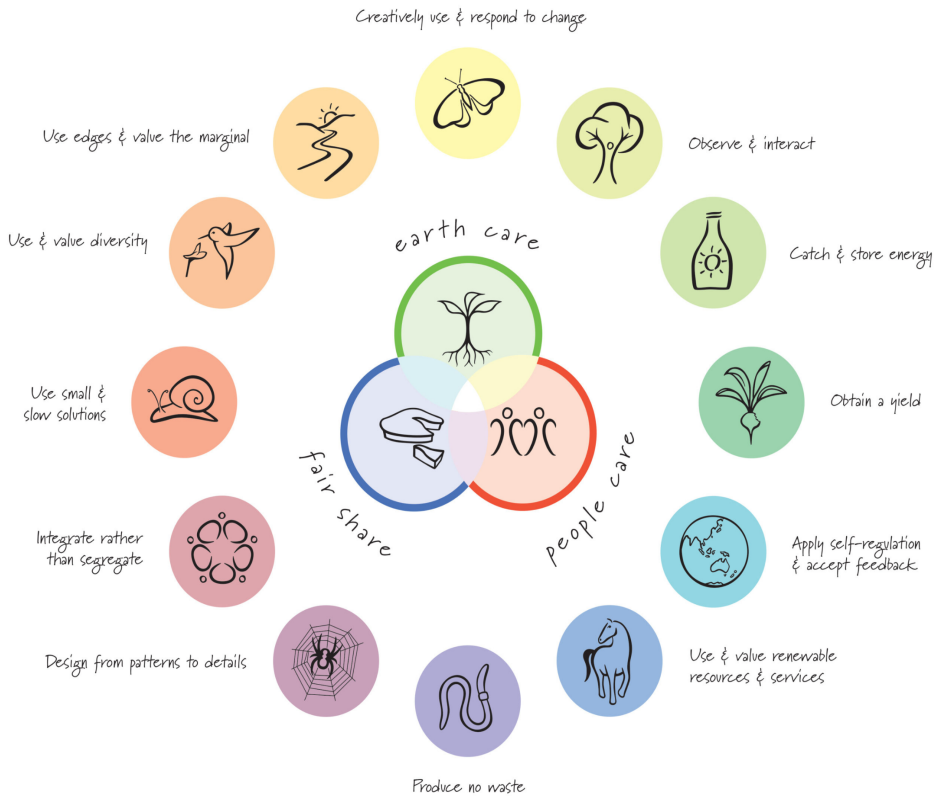
## Engaging Research: Working side-by-side with permaculturists

The reflections proposed in this article are part of independent research conducted since 2019, when I attended my own basic design course in permaculture, the 72-hour Permaculture Design Course (PDC), standardized in 1985 by Bill Mollison. I decided to take part in the PDC proposed by the Sardinia Permaculture Association (SarPa), even though I did not live there in Sardinia at the time, because they organised the course differently compared to other regions: not a two-week fully immersive course, but into six three-day meetings once a month, from January to June. Each lesson featured a different teacher with a currently active project on the island. This was done to allow students to better know the network and to give the projects involved an opportunity to strengthen the connections with each other.

Indeed, each long-weekend course was also a festive occasion to meet for all the SarPa members and their friends and neighbours. Some of them arrived beforehand to help hosts in prepare additional field kitchens and dry toilets.[i] During the course, some took care of cooking the produce from the gardens of the various projects to provide healthy meals for course

participants and all others who came. (There were fifteen students in my class, but sometimes twice as many people were at dinner.) Caring for the land and its produce became caring for the people who would consume it, sharing food, nutritious conversation and, of course, locally produced wine. That was a way of practicing the three permaculture core ethics: earth care, people care, and promoting the fair share of resources. (I will discuss this more later.)

*Image 1: Permaculture Ethics and Principles (**PermaculturePrinciples.com, n.d.**)*




At that time SarPa counted more than 100 members[ii], and by joining the course I had the great opportunity to meet a good number of them. Together with the permaculturists of the Italian Permaculture Association[iii], the members and sympathisers of the Sardinian association are my main interlocutors here. They consist of a heterogeneous sample of people: men and women from the very young to the retired, families with children, agronomists, naturalists, economists, architects, informaticists, agricultural labourers, teachers, social workers, medical doctors, and university researchers. They are Sardinian and mainland natives as well as immigrants, mainly from other parts of Europe. All interviews were held in Italian and translated into English by the author, and the names of interviewees have been changed to anonymize them. My interlocutors are a sample comparable to other studies on the subject (**Ferguson & Lovell, 2015**).

While it would be beneficial to delve into more detailed statistics about research subjects and methods, this would require further acknowledgement of how people define themselves as permaculturists (or not) when participating in permaculture initiatives. This topic deserves its own dedicated article. For the purposes of my present argument, I find it more significant to cite what a permaculture teacher said during an interview:

> *I think they [permaculturists] are all people who, at some point in their lives, felt that something wasn't working, that they weren't happy and needed to change their lives. Eventually, they grew tired of institutions and political responses to meet human needs fairly. Some leave everything: job and home. Some just—just! [laughs]—change their approach to everyday life. All were looking for a closer relationship with the environment... about what environment is. [...]the place where they live, the food and the people. Permaculture offered them a framework for an existential redesign (**author interview, October 2023**).*

After my 2019 PDC course I continued to visit projects, meet people, and conduct interviews. In 2021, I also moved to Sardinia, became an active member of the association by joining the management team, and took part or co-organised the participatory design meetings and joint work sessions. Spending time working together with permaculturists and following them to national and regional meetings has been, and still is, a great opportunity for learning by doing and for sharing reflections together. I have come to regard participant observation, conversations, co-conducted video narrations of their projects, and semi-structured interviews as more effective methodologies to collect data than structured interviews or questionnaires. Indeed, it often happened that while working with our hands, our conversations fell on meanings and values incorporated into practical actions. For example, during one meeting I took out a bioclimatic region map, and someone started to point out and write on it the locations of the permaculture network households. Forty-six points were marked on the map, each indicating a family or an individual permaculturist who recognised themselves in the association's network (as well as three 'homeless' individuals, who did not live in a specific place but collaborated on multiple projects of others). In the ensuing years, I have visited most of these points, and these people and I have reflected on how they designed their lives and dwellings according to the principles of permaculture. Therefore, the data I collected is the result of both a scientific and personal journey.

This scientific and personal journey has led me to rethink my place in the environment as well as my role as a researcher engaged with other humans and non-humans in the making of a different world. Gibson-

Graham, calling for academic researchers to work with people who are already making these new worlds, affirms the importance of hybrid research collectives that are able to 'co-create knowledge and foster an environment where new facts can survive' (**Gibson-Graham, 2008: 629**). This specific way of engaging also involves an ethical choice to contribute to generating alternative worlds (**Puig de la Bellacasa, 2010: 2017**). If my fellow permaculturists and I are part of a hybrid research collective, we are all dealing with the production of knowledge and therefore all implicated in the very existence of the world:

> *Every question about what to study and how to study it becomes an ethical opening; every decision entails profound responsibility. [...] Ethics in our understanding involves not only continually choosing to feel, think and act in particular ways but also the embodied practices that bring principles into action* (**Gibson-Graham, 2008: 620**).

Along with the diverse economies approach, Science and Technology Studies (STS) help in recomposing the fracture between the 'social/cultural' world and the 'natural/technical' one, and in re-positioning the techno-scientific knowledge role; because the way we study and represent things depends on a specific socio-technical and political asset, scientific and technological knowledge co-produce the world itself. Latour introduces the definition of 'matters of concern', where scientific matters of fact become a 'mode of fabrication […] their stabilising mechanisms clearly visible' (**Latour, 2004: 246**). Puig de la Bellacasa pushes forward Latour's suggestion:

> *The insight that things are matters of concern addresses the ethico-political relevance of constructivist approaches beyond social constructivism and humanist ethics. It also brings us closer to include the importance of care in the life of things, including the affective attachments involved* (**2017: 66**).

Bellacasa points out that scientific matters of fact are actually 'matters of care':

> *The notion of 'matters of care' is a proposition to think with: rather than indicating a method to unveil what matters of fact are, it suggests that we engage with them so that they generate more caring relationalities. It is thus not so much a notion that explains the construction of things than it addresses how we participate in their possible becomings* (**de la Bellacasa, 2011: 100**).

During my fieldwork, turning things into matters of care helped uncover the involvement of the cited hybrid research collective, especially when it came to how to deal with a troubled world, needing not only critical analysis but also a positive approach able to emphasise caring

responsiveness in technoscience, integrating humans and other-than-humans into a shared world. This approach was also useful in addressing the hypothesis that the three permaculture ethics of care not only drive permaculturists' choices, but also ontologically found a world based on care and relatedness. When a permaculturist tries to define permaculture beyond the standardised definitions (such as those from **Mollison, 1981** or **Holmgrem, 2002)**, they generally agree that it is a personal and radical life choice that changed the way they see the world.

## Permaculture: A Difficult Definition

In last fifteen years of humanities literature on the environment, political ecology emerged along with public interest in climate change and sustainability. Contributions on permaculture grew too, within geography, ecological economics, and political ecology, even if they are still underrepresented, especially within anthropology or as the central focus of monographs. However, among people outside academia, permaculture had proliferated globally since its formulation in the 1970s, especially in Australia. As such it has emerged at various stages as a point of reference, an approach, and an ethical and practical framework, both within the broader analysis of ecological and grass-roots movements seeking an alternative to the capitalist model of nature commodification and consumption, and in studies of groups looking for alternative human relationships within small communities (**Aistara, 2013; Brawner, 2015; Hockin-Grant & Yasué, 2017; Didarali & Gambiza, 2019; Kelly-Bisson & Massicotte 2019; Flores, 2023**).

Each account defines permaculture in relation to a specific group of people or as a practical example within a specific theoretical approach:

> *[P]ermaculture offers a distinctive perspective on social-ecological transition, with key principles that parallel or prefigure themes in sustainability-oriented scholarship, such as landscape multifunctionality, ecosystem mimicry, ecoagriculture, intervention ecology, and adaptive management* (**Ferguson & Lovell, 2015: 2**).

Permaculture has been defined as 'an ecotopian methodology' (**Lockyer & Veteto, 2013: 45**) for eco-villagers or bioregional movements and described as 'an example of [...] ecosophy' (**Aiken, 2017: 3**). Permaculture's ethical considerations echo in Puig de la Bellacasa's works on care (**2011; 2015; 2017**) as is, as she describes it, 'an example of alter-biopolitical intervention' (**2010: 151**). It can be multi-labelled and has been defined as a design system, best practices framework, worldview, and movement (**Ferguson, Lovell, 2014: 2015**). Above all, it is important to remember that it is an approach for designing life pathways beyond sustainability (**Holmgren, 2002**).

Beyond such scholarly interest, it is not surprising that perrmaculture remains under-represented in scientific literature, given that it broke with the mechanisms of academia from the outset, as Mollison himself explained back in 2005 (**Bosco's Garden, 2024**). The early formulations of permaculture scandalised the researchers who were embedded in the system because it brought together so many different fields well before the contemporary tendency to cross-disciplinary research strands. Mollison decided to copyright the term in order to deny the possibility of permaculture becoming an academic discipline, desiring it remain exclusively for the use of students and practitioners. After a period of social and political engagement for environmental preservation, he decided to step out and bring about a 'peaceful revolution' (**Mollison, 1981**) made by people's concrete actions. It is perhaps for these reasons that permaculture continues to elude clear definitions, its approach eschewing institutionalisation in favour of personal and community engagement in food production, subsistence, and resource management under the stewardship of those who are in charge (**Ferguson & Lovell, 2015: 4**). For the same reasons, many permaculture associations, Sardinian and Italian included, are strongly oriented towards a participative, horizontal, and non-hierarchical organisation.

The aim of this section is not to offer an update of the literature review nor a critical reflection on permaculture history. It is rather to frame one of the themes emerging from ethnographic data—the pivotal role of interconnections and relatedness—within the broader hypothesis of permaculture as producing a different ontology. It is therefore worth briefly analysing the 'culture' of permaculture, before diving into the importance of interrelationships with a focus on Sardinia, for, as Holmgrem notes, 'The original permaculture vision of permanent or sustainable agriculture has evolved to one of permanent or sustainable culture' (**Holmgrem, 2020: 3**). Note the tension between *culture* and *agriculture* here. In Italian, the word for agriculture is *agricoltura* (with an *o*) while culture is *cultura* (with a u); the term *permaculture* is translated into *permacultura* and not *permacoltura*, with a *u*, indicating that it is a real *cultural* change. Permaculture effectively blurs and challenges the boundary between nature and culture (**Cassa, 2024**), unhinging the centrality of human agency (**Puig de la Bellacasa, 2010**) and shifting attention to the space in-between humans, non-humans, and landscapes. As such the distance between the two categories of the Western world seems to fall apart to generate a world ontologically different.

Among the rare, anthropological, extensive contributions, the one of Lockyer and Veteto offers a description of bioregionalism and permaculture as a 'moral philosophy' (**2013: 107**) motivating a commitment towards sustainability, a concept compelling the

prioritisation of long-term consideration over short-term ones (**2013: 22**). By doing this, they compare permaculture to religions offering a system of values within a moral frame. On the one hand, this helps to explain how permaculture 'builds moral economies grounded in forms of discourse other than dominant Western economic rationality and guided by the compass of justice and sustainability' (**Lockyer & Veteto, 2013: 22**), while on the other hand, it seems to overlap moral values with ethics. With its three ethics, twelve design principles, and an international network of practitioners organised in local groups, it is easy to think of permaculture as a 'religion of sustainability'. However, these facets 'promote ethical obligations that do not start from nor aim at moral norms, but that are articulated as existential and concrete necessities' (**Puig de la Bellacasa, 2010: 159**). As Puig del la Bellacasa points out, ethical doings go beyond the definition of right and wrong; ethics are a living technology 'with material implications in remaking human and non-human ontologies' (**2010: 162**), precisely rooted in care. Therefore, practitioners often define permaculture as a radical change in their ways of 'being in the world' because through ethical doings they enter a world governed by different laws and economies. Because ethics are not moral norms, they are situated here and now, their 'actualization [...] are always created in an interrelated doings with the needs of a place, a land, a neighbourhood' (**Puig de la Bellacasa, 2010: 161**). In the next section a brief description of the Sardinian context is provided to better understand, through ethnographic data, how ethics are actualised in Sardinia, affecting possible meanings that sustainability can assume at the intersection of permaculture and regional identity construction.

## Growing Wheat, Exchanging Sheep, Being Bees: Sardinia and relatedness as a diverse law rooted in tradition

Sardinia is a region where many discourses on its peculiar identity are produced, where 'bibliographic and record series, museum projects and protection laws are dedicated to identity, [and] dozens of seminars and conferences [on identity] are held every year' (**Bachis, 2015: 696**). All of this is 'accompanied by a notable production of para-scientific discourses on uniqueness, genuineness and ancestrality of some cultural traits' (**Bachis, 2015: 698**). This discussion on identity contains two sides. First, it is defined by the region's controversial relationship with mainland Italy related to its subalternity, especially when it comes to production relations and socio-political management of land (**Angioni, 1982; Cassa, 2024**). Second, this discussion on identity deals with variable symbolic belongings composed by various concentric circles, from the local to the regional, the national, up to the wider European context and back (**Bachis 2015**).

The expression *sos estrangios* ('the strangers') can equally indicate people coming from the next town, the 'Continentals' (Italians from the mainland), or non-Italians. The many local belongings are underlined by the many regional variations of the language but are also supported and reinforced through the valorisation of local culinary peculiarities (I myself counted at least thirty different types of bread) (**The University of Sassari, 2024**).[iv] Sardinia is discursively built as marginal and peculiar within the Italian context, both from inside and from outside politics and rhetorics: isolated but at the same time dependent on the outside, rich in local traditions that mobilise the past in relation to the contemporary.

Sardinia's great public interest in food safety and sustainable agriculture is demonstrated by the fact that the only Italian case study in the European Union–funded ARSINOE project (2021–2025) featured southern Sardinia as 'a proof-of-concept with regards to its applicability, replicability, potential and efficacy within the Mediterranean area' (**ARISNOE Project, n.d.a.**). The project aims to shape the pathways to climate change adaptation and resilience in relation to increasing air temperatures, more erratic rainfall, and land degradation. It prioritises the focus on durum wheat and its associated local production chains for bread and pasta, a crucial agronomic and economic issue in Sardinia and the rest of the Mediterranean region (**ARSINOE Project, n.d.b.**). During the Roman Empire Sardinia was referred to as 'the granary of Rome', and this image has been preserved over time. Even during the Fascist period, great importance was placed on cereal cultivation in southern Italy (Sardinia included) for bread and pasta production. From 1920, Mussolini made cereal production the main weapon of his 'Battle of Wheat' programme to make Italy self-sufficient.

One symbolic case is that of Senatore Cappelli, a hard-grain cultivar promoted in that period for its resistance, then forgotten after the war in favour of more productive varieties. It was recovered in the 1990s thanks to an elderly farmer from Nurri, southern Sardinia, who had kept a handful of grains. The cereal is now back in the sights of major national and international companies for its nutritional properties, and it has been at the centre of a convoluted legal dispute over the obtaining of the exclusive licence to multiply and market it granted to a mainland company. Beyond the legal aspects, the affair has been at the centre of regional debates and claims, reinforcing the perception of an extractive and predatory attitude of the mainland towards the island. In Sardinia, in the case of this wheat variety, 'a mythology has been built (I mean by the term the historical falsehood of the antiquity of this cereal [...]). [...] On the other hand, Sardinian identity has often been built around food, using food also as an identity marker' (**Guigoni, 2015: 89**). As said in Sardinia, the different

world promoted by permaculture is also rooted into the valorisation (sometimes even mythologization) of some local traditions.

*Growing wheat with Matteo*

Matteo, who hosted one of my PDC weekend courses, is a permaculturist who lives in northern Sardinia where he grows and promotes old varieties of wheat, including Senatore Cappelli. He explained how he reclaimed the uncultivated land of his family and neighbours. The lessons focused on the analysis of soil structure, the interaction between the roots of plants and the soil, and the techniques for regenerating and nourishing the soil through the multiplication of bacteria by fermentation. With his extensive knowledge of wild herbs, aromatic plants and trees, Matteo was able to convey to his students the importance of the interactions between each of these elements. In designing his garden, he explained the rationale behind the inclusion of guilds, an association of plants in which each makes a particular contribution so that the whole is stronger, healthier, and more productive than the mere sum of its parts. He included a bench at the side of the guild to ensure a space of wellbeing and contemplation for people who wish to pause there. During that weekend we touched the dirt with our hands and smelled it with our noses, and experienced that the world of permaculture is not a utopian paradise of goodness and harmony; it is rather a multilayered and complex exchange system, governed by laws that humans have to respect to prosper, a very efficient and resilient economical market where every element gives and takes and every capital (financial, social, biodiversity, and knowledge) is budgeted.

After I moved to Sardinia and adopted my hens, Matteo became one of my main grain suppliers, guaranteeing me a supply of wheat that could not be milled for human consumption. For him it was waste product, but for me it is a great resource grown without pesticides. In return, I guaranteed some eggs and help working his land. Our collaboration, operating mainly outside the traditional money market, has allowed us to maintain a relationship of mutual exchange, support and trust. In 2024, I promoted a project for the valorisation of local food production traditions with a group of mental health services users. Matteo's farm is one of the partners for the bread trail: from wheat cultivation to the transformation and production of traditional breads using sourdough, which included lessons on wheat cultivation along with some sowing and harvesting sessions using traditional, manual methods. During one of these sessions, Matteo shared the reasons for his choice of wheat cultivation:

> *I am not an agronomist [...] why did I start growing wheat when it was not part of my background? It is a crop that was very present, but then, under market pressure and with the competition by multinational agricultural production companies, it was slowly abandoned because of*

> *the high costs of cultivation, storage, and processing. [...] So we eliminated wheat cultivation in a large part of northern Sardinia, but we did not replace it with something else to create unity between communities, like bread. [...] I chose ancient cereals because they have ecological characteristics that modern ones do not have: they are more resistant to diseases, they are better adapted to the ecological context in which they have been cultivated for centuries [...] even if they certainly have lower yields (**author interview, November 2024**).*

For Matteo, the value of his work, in addition to production, is the possibility of not using chemicals, thus preserving soil health, but above all the possibility of preserving the social relations that revolve around the production and consumption of bread.

*Image 2: Loading wheat into a manual seed drill (**Photo by author**)*

The project envisioned funding which would pay for these lessons. However, the funding did not arrive. Despite the knowledge that his contribution would not be remunerated with money, a few days after the first lesson I received a proposal from Matteo to continue the meetings, as he had found it enriching and stimulating to work side by side with a diverse group of people. Within his energy balance, the lack of financial capital had been compensated for by an increase in his relational capital. Rather than considering himself as a benefactor acting on an altruistic

impetus, Matteo acted as he did because of his profound awareness that it was a way to get involved in a more resilient system.

*Giving away sheep to assure prosperity*

During a three-day permaculture course in 2019, one of the teachers, Riccardo, brought up his hometown, in which 'the roof of a house burned, and the entire village collected money to help the family […] and in three months they could return back in their home' (**author interview, February 2019**). One of the other permaculturists listening to this story explained to me (the only non-native student in the course) the Sardinian agro-pastoral tradition of *sa paradura*, which means 'the (re)creation'. It is a kind of gift between shepherds: if one loses his livestock, all the others give one sheep to restore the flock. The offer of a single sheep does not affect the personal patrimony but allows those who have been damaged resume their activity. It is also an insurance against future thefts because a shepherd without his flock could become a thief himself to survive.

Practices of sharing and mutual support do not have to be understood as merely expressions of solidarity; they can also derive from a different way of valuing resources, outside the mere exchange of capital, in order to face crises in the most effective way and promote the greatest resilience possible. During another permaculture course a few months later, a teacher invoked *sa paradura* to explain how relationships within a system are important not because they are intrinsically 'a good value', but because they are at the very base of ecological survival. A shepherd is not part of a network of shepherds linked by a reciprocal commitment to help because he is living in an ancient bucolic paradise, but because it is a way deal with possible future disasters; there is not a world without relatedness. The importance given to relatedness offers an ethical and philosophical framework to renew traditions, and it is also a way to face environmental concerns. Indeed, within permaculture, it is common to say 'think for extremes and design for disasters' to foster resilience. If you have too many rabbits plundering your garden vegetables, you don't have a problem with too many rabbits, but too few foxes; if hurricanes, floods, or fires destroy your project, it is not the wind, water, or fire that is the problem; it means you have not designed your system to be sufficiently interconnected with those elements that could provide protection against these them.

*Adelmo the pollinating bee*

Adelmo is a permaculture tutor and practitioner. After living for fifty years in the wealthiest regions of Italy with a well-established, professional job, he felt his life was still lacking. Although he enjoyed his good salary, the

relations with his work colleagues were competitive and conflictual; during time off, he felt so tired that he had no energy left to meet with friends. He would later describe this condition as an energy-eroding spiral, where the energies he invested in work gave him financial capital, but led to great poverty in relationships and experiences. He wanted to reverse the direction of that spiral, from one of erosion to one of abundance, and from an unsustainable situation to a sustainable one. He decided to reduce his expenses, leave his home and job, and move to Sardinia. He lived for more than a year in a camper van equipped with a mechanical carpentry workshop and started visiting permaculturalist projects to work and learn more about the way of living permaculture.

In Sardinia it is customary to enter people's homes by knocking with your feet because your hands are not free but full of things to share, almost always food or drink. In his choice of mobile living, Adelmo had no home-grown food to share, but he shared his ability to fix things, building objects from wood and iron. In return, he received a wealth of food and products, often more than he could consume alone, so he brought it with him to the next project he visited. Many of the permaculturists hosting him, knowing that he would visit another friend of the network after them, deliberately gave him extra so he could offer it when he entered the next house. Then, on the way back, he would stop again to bring news and products. This is an example of an intentional, small-scale exchange economy based on a local tradition named *s'imbiatu*, the sending back and forth of goods (usually food) to share:

> *This system is meant to strengthen not only ties of cooperation and solidarity amongst the villagers but also to maintain a way of life and of 'being', which refers to group and community identity (**Zene, 2007: 293**).*

As an old Sardinian saying goes, *Si cheres chi s'amore si mantenzat, prattu chi andet, prattu chi benzat* ('if you want love to endure, for every plate that leaves, let a plate return') (**Gallini 1973: 60**).

I explored elsewhere the close relationship between healthy food production, the three permacultural ethics, and Sardinian traditions, with particular reference to the symbolic role of fermented foods and the collaboration between soil, humans, and bacteria (**Cassa, 2024**). Here it is important to note that, by bringing back humans to their very essence of 'nature working', the rules of nature also serve as a guide to building human relationships and actions.

When I met Adelmo's tutor, Antonio, he argued, with a certain esteem, that Adelmo's mobility and attitude had played an important role in maintaining and strengthening the network of permaculturists in the area:

> *He was like a pollinator bee, bringing news from one to the other, encouraging connection and contamination between projects, even when the various permaculturists had not had the opportunity to meet physically* (**author interview, April 2023**).

Antonio's use of a pollinating bee as a metaphor is both a way to understand the role of one person within a system and also emphasise the vital importance of interconnections to the flourishing of permaculture projects. As mentioned, in a permacultural understanding of a good system (of humans and non-humans), nature provides patterns and models for a more just and sustainable context. Adelmo's choice to live in a camper van can been seen as a way to increase abundance—perhaps not the abundance of money or material things, but an abundance of nourishing connections. This has been possible because of the fusion of two cultural frames of reference: the local one, which sees food as a fundamental element in building human relationships, and that of permaculture, itself inspired by abundance and interconnections of natural systems.

Indeed, permaculture emerged from the observation of how forests work: a single tree produces more than the seeds that will generate other trees; its surplus of production is not a waste but becomes biomass to feed the soil and provide food for animals. Every element has a function and shares a product, which enters a circularity of mutual relationships and exchange. For example, the serviceberry tree's abundance of berries provides birds with food, and that then the bird's excrement distributes the tree's seeds far and wide. Thus, 'the birds provide services to the Serviceberries, who provide for them in return. The relationships created by the gift weave myriad relations between insects and microbes and root systems' (**Kimmerer, 2024: 69**). As Kimmerer (**2024**) suggests, this compels a different approach toward exchanges and a different way for budgeting capital such as energy and materials.

*A tool for abundance*

Permaculture suggests designing abundance through connections, mimicking the resilience of nature. Indeed, every element of a system produces several outputs and involves several functions, and every output should be an input for another element so that every element is connected. The more connections an element has, the more it is integrated in the system, and the more the system is enriched. The tool of the functional analysis used in permaculture design helps observing each element's characteristics, needs, and possible connections. With the functional analysis used in a design project, every element of the system is located following the rule of connecting inputs and outputs (what their

needs are and what they offer to the system) as much as possible, with the intention of maximizing efficiency and resilience.

A classic example is the hen on the farm: What does a hen need to grow rich, and what does she give to the system? A hen needs protection from predators, food, space, and sociality with other chickens. She gives eggs, excrement, meat, and rakes the ground. So, a chicken is connected to humans, who eat eggs and meat and give back by providing food and night shelter from predators, trees to perch on, and soil to rake grains and insects. The soil is nourished by the hen's excrement, which produces more fresh grass. Crammed into a cemented henhouse, they are completely dependent on human food and protection, and if this bond fails, they will starve, and humans will lose both meat and eggs. If chickens have more than one way to feed and shelter themselves, humans have less work to do and are less likely to run out of chickens. If chickens cannot scratch, the soil will not benefit from the surface tillage done by their feet, snails will not be preyed upon and will increase, and chickens will also find their need to scratch the ground unfulfilled. Through functional analysis, a permaculturist ensures the design of a system is as interconnected as possible and sustainable over time, one in which energies can circulate rather than being fed into the system by a single element, ultimately ensuring abundance rather than erosion.

Of course, these are not new concepts, whether in economics, circular economy, or ecology; what has changed is the centrality of the needs being considered, based on the ethic of care. It is not the needs of human production and profit extraction that are placed at the centre, but the needs of each element in the system. When mutual relationships and connections flourish, this enriches the whole system by reducing the need for energy inputs to maintain it. When each element is a subject, a partner with agency, the centrality of the human is undermined and equal rights are acknowledged for all, so that resources taken and given are shared equally. This is the meaning of the third ethic: unhinging the centrality of human needs means guaranteeing a fair distribution of the surplus within the system, ensuring sustainability over time for the system as a whole. Moreover, if 'care is a form of relationship, then it also creates relationality' (**Puig de la Bellacasa, 2010: 523**): if one lives in a world were interrelationships are vital for subsistence, then caring for all the elements in relation to one to the other is not a moral stance, a good or bad attitude, it is just the way things work. Consequently, actions of care in the present are also actions of care for future generations. As Mollison states in his 1981 book (after citing Lewis Tomas on bacteria, which 'live by collaboration, accommodation, exchange, and barter'): 'cooperation, not competition, is the very basis of existing life systems and of future survival' (**1981: 2**).

Connections and relatedness, then, are at the very core of the sustainability concept for permaculture. Fair observation of needs and products of all the elements is promoted using functional analysis. Permaculturists experiment with a different economic balance to act and interact, following a different law of value. In this balance, the importance of growth remains unchanged, but (changing the cultural frame) what we need to grow becomes not human profits, or the availability of natural resources for humans to extract, but relatedness. The turning point proposed by permaculture seems to be a move to the relatedness of care: between different humans, humans and the soil, soil and its bacteria, bacteria and food, and animals and the environment, which finally leads to care about the way infrastructure and climatic events interact, including winds, hurricanes, waters, floods, heat and fires.

## Conclusion

My reflection has been guided by four main questions. The first three are: Is the economic ontology of relations (**Cassa, 2024**) driving peoples' choices to work around a sustainable future? Which operational tools does permaculture offer to manage these choices? And how do discourses on identity and traditions in Sardinia resonate with permaculture? As permaculture has been defined as an approach for designing life pathways beyond sustainability (**Holmgren, 2002**), I have attempted to provide some answers by considering sustainability as a category to be re-signified within permaculturist worlds and projects. A few designing tools and concepts have been named (such as functional analysis, the abundance/erosion spiral, the budgeting of other capital); these have been considered significant in relation to local Sardinian habits, often referred as traditional and cultural elements shaping the island's identity.

The ethnographic data presented here suggests that permaculture fosters a way of *being in the world*, in which caring people, caring earth, and the fair sharing of resources form a world of inter-relatedness, in which each element is valued as important, not because of any intrinsic permacultural 'good attitude' towards nature, but because it is the very mechanism of life on the planet. Human commitment towards the environment is not supported by a romantic vision of a good nature 'out there' to preserve, it is rather the only way for contributing to a wider system, constituting of elements of living and non-living beings which each possess agency: the continuation of life. If each element gives and takes, has multiple functions and interconnections, the result will be abundance. Therefore, ethics—especially in the caring for earth and caring for people—does not point to a future, but rather an everyday ethical doing in the here and now. Having a future is the consequence of permaculture. Within a permaculture

project, sustainability equates with every choice and every technology that ensures, in a given time and in a given system, an equitable care for generating kinship towards each element. Sustainability is an intertwined system in which humans are only one of the actors at stake and all energies are equally budgeted to promote growth: not only human financial capital, but also biodiversity, local culture, and interconnections. Permaculture fosters a multi-species world made up of care and relatedness. This gives rise to a new economic ontology based on abundance and reciprocity rather than on scarcity (**Kimmerer, 2024**). In Sardinia, this framework also integrates a particular local identity rooted in the rehabilitation of ancient practices of sharing and cooperation. Intentional actions and choices always generate different socio-political assets and, by confronting current environmental concerns with permaculture ethics, the researcher and the permaculturists of Sardinia, as a hybrid research collective, are implicated in the very creation of another world.

This leads to the last of my four questions: How do researchers and permaculturists contribute to the creation of this different world? This interconnected world can be understood as emerging from an ethical engagement with the object of study as a matter of care:

> *That scientific and technological assemblages are not just objects, but knots of social and political interests. [...] This naming can help to emphasize caring responsiveness in technoscience in an integrated way, in the life of things themselves, rather than through normative added values (**Puig de La Bellacasa, 2011**).*

Thus, to continue this investigation of permaculture in Sardinia also means to look beyond the research findings by adding a strong sense of attachment and commitment, an ethical responsibility for their effects on the creation of a caring ecological system, fostering alternative economies, and towards local communities, for, 'at its best, anthropology has always been about exploring real possibilities for a more just and sustainable world' (**Lockyer & Veteto, 2013: 31**).

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## List of Tables/Images



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## References

Aiken, G. T., 2017. 'Permaculture and the Social Design of Nature'. *Geografiska Annaler: Series B, Human Geography* 99(2), pp. 172–191. Available at: 10.1080/04353684.2017.1315906 (last accessed 28 February 2026).

Aistara, G. A., 2013. 'Weeds or Wisdom?: Permaculture in the Eye of the Beholder on Latvian Eco-health Farms' in J. Lockyer, J. Veteto eds., *Environmental Anthropology Engaging Ecotopia: Bioregionalism, Permaculture, and Ecovillages*. Berghahn Books, pp. 113–129.

Angioni, G., 1982. *Rapporti di produzione e cultura subalterna* [*Reports on Production and Subaltern Culture*], 2nd edn. Sassari: Editrice Democratica Sarda (EDES).

ARSINOE Project, n.d.a. *About the Project: ARSINOE at a glance*. Available at: https://arsinoe-project.eu (last accessed 28 February 2026).

ARSINOE Project, n.d.b. *Case Study 9: Sardinia*. Available at: https://arsinoe-project.eu/case-study-9 (last accessed 28 February 2026).

Bachis, F., 2015. '*Diversi da chi. Note su appartenenza e politiche dell'identità*' ['Different from Whom? Notes on Belonging and Identity politics'] in L.

Marrocu, F. Bachis, V. Deplano, eds., *La Sardegna contemporanea: Idee, luoghi, percorsi culturali [Contemporary Sardinia: Ideas, Places, Cultural Itineraries]*. Donzelli, pp 695–719.

Bosco's Garden, 2024. 'Bill Mollison: The Father of Permaculture' [video]. Available at: https://www.youtube.com/watch?v=zYlgBCA6ou0 (last accessed 28 February 2026).

Brawner, A. J., 2015. 'Permaculture in the margins: realizing Central European regeneration'. *Journal of Political Ecology*, 22 (1), pp. 429–444. https://doi.org/10.2458/v22i1.21117 (last accessed 28 February 2026).

Cassa, M. G., 2024. 'Setting the Table for Relatedness: Fermentation in Designing Permaculture Projects in Sardinia'. *Cultural Analysis*, 22 (2), pp. 37–61.

Didarali, Z., Gambiza J., 2019. 'Permaculture: Challenges and Benefits in Improving Rural Livelihoods in South Africa and Zimbabwe'. *Sustainability*, 11 (8), 2219. Available at: https://doi.org/10.3390/su11082219 (last accessed 28 February 2026).

Ferguson, R. S., Lovell, S. T., 2014. 'Permaculture for agroecology: Design, movement, practice, and worldview: a review'. *Agronomy for Sustainable Development*, 34, pp. 251–274. https://doi.org/10.1007/s13593-013-0181-6 (last accessed 28 February 2026).

---- 2015. 'Grassroots engagement with transition to sustainability: diversity and modes of participation in the international permaculture movement'. *Ecology and Society*, 20 (4), 39. DOI: 10.1080/21683565.2017.1320349 (last accessed 28 February 2026).

Flores, J. M., et al., 2023. 'An Emerging Network for Sustainable Agriculture: A Social Network Analysis of Permaculture Practitioners in the Philippines'. *International Journal of Social Ecology and Sustainable Development* (IJSESD), 14 (1), pp. 1–16. https://doi.org/10.4018/IJSESD.326610 (last accessed 28 February 2026).

Gallini, C., 1973. *Dono e malocchio* [*Gift and Evil Eye*]. Palermo: Flaccovio.

Gibson-Graham, J. K., 2008. 'Diverse economies: performative practices for other worlds'. *Progress in Human Geography*, 32 (5), pp. 613–632. https://doi.org/10.1177/0309132508090821 (last accessed 28 February 2026).

Guigoni, A., 2015. *Il phaseolus: saperi naturalistici e processi di valorizzazione* [*Phaseolus: Naturalistic Knowledge and Valorisation Processes]* in M.G. Da Re, *Dialoghi con la natura in Sardegna. Per un'antropologia delle pratiche e dei saperi [Contemporary Sardinia: Ideas, Places, Cultural Itineraries]*. Florence, Italy: Olschki, pp. 71–93.

Hockin-Grant, K. J., & Yasué, M., 2017. 'The effectiveness of a permaculture education project in Butula, Kenya'. *International Journal of Agricultural Sustainability*, 15 (4), pp. 432–444.

https://doi.org/10.1080/14735903.2017.1335570 (last accessed 28 February 2026).

Holmgren, D., 2002. *Permaculture. Principles & pathways beyond sustainability*. Hepburn: Holmgren Design Services.

Holmgren, D., 2020. 'Essence of permaculture' in *Permaculture: Principles and Pathways Beyond Sustainability'*. Available at: https://holmgren.com.au/essence-of-permaculture-free/ (last accessed 28 February 2026).

Il Bosco di Ogigia, 2020. *Permacultura cose è?* ['What is Permaculture?'] [video]. Available at: https://www.youtube.com/watch?v=VZUwYU8lp8g (last accessed 28 February 2026).

Kelly-Bisson, M.J., Massicotte C., 2019. 'What's wrong with permaculture design courses? Brazilian lessons for agroecological movement-building in Canada'. *Agric Hum Values*, 36, pp. 581–594. Available at: https://doi.org/10.1007/s10460-018-9870-8 (last accessed 28 February 2026).

Kimmerer, R.W., 2024. *The Serviceberry*. New York: Scribner.

Latour, B., 2004. 'Why Has Critique Run out of Steam? From Matters of Fact to Matters of Concern'. *Critical Inquiry*, 30 (2), pp. 225–248. https://doi.org/10.1086/421123 (last accessed 28 February 2026).

The University of Sassari, 2024. '*"Dalla terra al pane": l'evoluzione del frumento dagli anni Sessanta a oggi'* ['"From the Land to Bread": The Evolution of Wheat from the Sixties to Today']. March 12. Available at: https://www.uniss.it/it/notizie/dalla-terra-al-pane-levoluzione-del-frumento-dagli-anni-sessanta-oggi (last accessed 28 February 2026).

Lockyer, J., Veteto J.R., 2013. *Environmental Anthropology Engaging Ecotopia: Bioregionalism, Permaculture, and Ecovillages*. New York and Oxford: Berghahn Books.

Moore, J. W., 2015. *Capitalism in the Web of Life: Ecology and the Accumulation of Capital*. London and Brooklyn, NY: Verso Books.

Mollison, B., 1981. *Permaculture One: A Perennial Agriculture for Human Settlements*. Tasmania: Tagari Publications.

---- 1988. *Permaculture: A Designer's Manual*. Tasmania: Tagari Publications.

Parodi Delfino, S., 2019. *Manuale di permacultura integrale* [*Integral Permaculture Manual*]. Florence, Italy: AamTerra Nuova Editrice.

Polanyi, K., 1957. 'The Economy as Instituted Process' in K. Polanyi, C.M. Arensberg and H.W. Pearson, eds. *Trade and Market in the Early Empires: Economies in History and Theory*. New York: The Free Press, pp. 243–269.

Puig de La Bellacasa, M., 2010. 'Ethical doings in naturecultures'. *Ethics, Place & Environment*, 13 (2), pp. 151–169. Available at: https://doi.org/10.1080/13668791003778834 (last accessed 28 February 2026).

---- 2011. 'Matters of Care in Technoscience: Assembling Neglected Things'. *Social Studies of Science*, 41 (1), pp. 85–106. Available at: 10.2307/40997116 (last accessed 28 February 2026).

---- 2017. *Matters of Care: Speculative Ethics in More than Human Worlds*. Minneapolis: University of Minnesota Press.

Zene, C., 2007. 'S'imbiatu: Gift and Community in Central Sardinia'. *Culture and Religion*, 8 (3), pp. 291–312. Available at: https://doi.org/10.1080/14755610701660064 (last accessed 28 February 2026).

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## Endnotes

[i] With compost (or dry) toilets, urine and faeces are separated, the former going into the phytoremediation system and the latter into a bucket mixed with sawdust. Solid excrement is conserved for a few years in its composting caissons and used as a good nutrient source to enrich the soil.

[ii] At the end of 2022, SarPa members decided to close the official association due to increased bureaucracy created by new Italian Third-Sector regulations, which they felt were stifling the convivial and spontaneous spirit of their meetings. However, a more informal collaborative network is still in operation.

[iii] The Italian Permaculture Association, founded in 2003, convenes two national meetings a year, collaborates with other similar associations throughout Europe, and promotes a network of trained tutors via its permaculture designer diploma (see https://www.permacultura.it for more.)

[iv] The Faculty of Agriculture in Sassari houses the university's microbial collection, which includes an archive of the 'mother' yeasts used to produce typical Sardinian breads. The project is managed by Professor Marilena Budroni, a microbiologist who is also involved in spreading knowledge about fermentation techniques (see **The University of Sassari, 2024**).