

Converging for deterring land abandonment: a systematization of experiences of a rural grassroots innovation

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Abstract Anchored by a case study research, the paper asks whether rural socially innovative initiatives in Portugal can be considered sources of adaptability and increased resilience to land abandonment and land degradation in a vulnerable region to climatic changes. The article retells a systematization of experiences of a grassroots innovation in the Alentejo region. Elaborating on the lessons learned by the participants, the discussion reflects on the sources of social and ecological resilience created. These include facilitating new modes of participatory governance, a shared vision for a sustainable village, building up social capital and the steady collection of memories of traditional land use and resource management practices. In the final conclusions, key findings are distilled and prospects for further research suggested.

Introduction

Today, many Mediterranean rural regions in Southern Europe are dealing with considerable environmental, social and economic challenges, which may be aggravated by climate change impacts. In the South of Portugal's Alentejo region, land abandonment and land degradation are severe problems with complex sociocultural, economic, and historical causes (Truninger and Freire, 2014). The European open market and a rise in intensive

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subsidized cereal cultures over the last decades, coupled with native characteristics of the soil and the effects of deforestation, led to increased soil erosion and reduced agricultural productivity, with consequences such as higher unemployment and massive migrations from rural to urban areas (Figueiredo and Pereira, 2011; Truninger and Freire, 2014). As local farmers migrate, traditional adaptive knowledge passed over generations may be gradually lost. Currently, various regions in Alentejo are vulnerable systems (Adger, 2006), which may progress to a state of desertification due to future climate related impacts (NAS/AF, 2013).

Addressing this social and ecological context, the research leading to this article had the main objective of understanding whether socially innovative rural initiatives in Portugal can be considered sources of adaptability and increased resilience to land abandonment and land degradation. The adaptability and resilience taxonomy used here originates from the social-ecological systems (SES) research (Nelson, Adger and Brown, 2007; Park et al., 2012). This literature investigates how systems adapt and transform in a changing bio-physical and social environment (Folke, 2006). Its object of analysis is the complex, non-linear, multi-scale dynamics of SES, which are intrinsically connected and co-evolving (Folke et al., 2010). Among the central qualities of the SES heuristic model are the concepts of adaptability and resilience. Resilience is the ability of a system to maintain its characteristics when facing external changes (Walker et al., 2006; Nelson, Adger and Brown, 2007). Adaptation is the property that ‘manages resilience’ (Walker et al., 2006). Under pressure, the system is flexible enough to reorganize itself and continue to function (Folke, 2006), until it reaches a ‘threshold’ point under which adaptability is subsiding (Nelson, Adger and Brown, 2007). Thus, resilience refers to the system’s robustness, but most importantly to its flexibility and capacity for renovation or re-organization (Nelson, Adger and Brown, 2007; Folke et al., 2010). In the resilience framework, moments of crisis are considered windows of opportunity for change (Folke, 2006). In these circumstances, communities may strengthen adaptability if they are able to provide capable institutions, develop participatory modes of decision-making and collective action, and build on available resources and infrastructures to deal with social-ecological challenges (Folke et al. 2005; Olsson et al., 2006).

The collective engagement of local communities in participatory decision-making is not a common practice in Portugal (Carvalho-Ribeiro, Lovett and O’Riordan, 2010). However, a number of socially innovative grassroots innovations (Seyfang and Smith, 2007) have been appearing, with a focus on encouraging ecological practices, promoting participatory learning and collective action for more resilient rural communities (Gonçalves, Marta-Costa and Cristóvão, 2013). Research on this type of innovation is still

emerging (Smith, Fressoli and Hernán, 2014) and is virtually an unexploited topic in the Portuguese context. Drawing from a case study, the article investigates the hypothesis that grassroots innovations can increase adaptability and resilience to climate change-related impacts in vulnerable rural regions. The hypothesis considered that these innovations provide demonstration sites for ecological practices, and seem to be attracting the arrival of new families to scarcely populated ageing villages. Yet, the empirical study led to identification and discussion of more significant sources of social and ecological resilience.

The article continues with a characterization of the case study, and a description of the methodology used. A results section will focus on individual and collective perceptions of the benefits and challenges experienced, as well as lessons learned. The discussion elaborates on the potential sources of resilience created, drawing from the SES literature. In the conclusions section, key findings are distilled and prospects for further research suggested.

Case study

After an initial screening of initiatives, the Amoreiras Village Convergence Centre (ACC) appeared as a pioneer rural innovation in Alentejo. Amoreiras Village is located in the municipality of Odemira in the Alentejo Region (South of Portugal), which is the biggest municipality in the country (occupies a total area of 1720, 25 km²), but is scarcely populated (26 000 residents). The ACC appeared in 2005 and, in its flyer, the project presents itself as a pilot initiative for the promotion of sustainable natural resource management and for the creation of active networks connecting city and country life. Project founders believe that resolving persistent problems in rural Alentejo means also encouraging a more attractive living experience. To make this happen the focus has been as much on experimenting and disseminating ecological land use techniques, as on community art and social activities. The intent has been to create a convergence forum, where different people and organizations would be inspired to promote sustainable development.

Regional and local administrations have been important for the ACC. Odemira municipality provided a venue for the group to work at Amoreiras, while the local administration – the *Junta de Freguesia* – has been an important partner in diverse activity projects. In Portugal, *Juntas de Freguesia* are responsible for administering local resources following municipal policies and guidelines, such as co-managing public spaces and schools.

In a broader landscape context, the ACC is part of a worldwide Permaculture movement, and has joined the Transition Towns movement in 2009, a network of community-led initiatives (Seyfang and Haxeltine, 2012). The ACC embraces Permaculture as a way of thinking and leading its work, albeit not

all its members are attentive to this approach. Permaculture has been defined as a 'set of principles and practices to design sustainable human settlements' (Hemenway, 2009, p. 5). Likewise, the European Commission's Youth in Action programme has been an important institution, from which the group received volunteers from the European Voluntary Service.

ACC may be considered a Grassroots Innovation, based on the characterization provided by Seyfang and Smith (2007), which refers to communities being mobilized to create new systems of provision, and contributing to sustainable development by finding solutions for local problems.

Methodology

The article addresses the impacts of a grassroots innovation for adaptability and resilience in the Alentejo rural region. The empirical basis of the article is a participatory learning case study (Pretty, 1995). Participation has been considered important for adaptability (Engle and Lemos, 2010, Engle, 2011), because collective modes of decision-making are expected to be more inclusive and best suited towards local expectations, perceptions and needs (Smit and Wandel, 2006). Participatory approaches may equally stimulate social learning, characterized as an 'interactive reflection that occurs when we share our experiences (...) modelled on group learning processes' (Armitage, Marschke and Plummer, 2008, p. 88).

The systematization of experiences (SE) (Carrillo, 2010; Mantilla, 2010) was the chosen methodology. SE have been used to evaluate rural development processes in a participatory way (Selener, Purdy and Zapata, 1996). It is an analytical and procedural approach, with a focus on drawing a final set of guidelines for the future, and understanding how different characteristics of the process have influenced a project's history, its results and impacts. Thus, it provides the setting for a social learning experience. A first manual of the SE is provided by Selener et al. (1996). The methodology may be adjusted according to the projects assessed, and various methods and tools may be integrated (Tapella and Rodríguez-Bilella, 2014). Table 1 lists the different research interactions, its objectives, methods and tools used.

A coordinator group (CG) formed by researchers and ACC representatives was to supervise the SE. On a kick-off meeting, the ACC representatives presented a Timeline of their project until 2013, identifying specific periods differentiated according to the main goals and activities implemented, as Table 2 shows.

Collecting systematization questions

The CG agreed the systematization should be able to respond to the questions of a wider group of people and institutions with whom relations had

Table 1 Systematization of experiences: methodological stages

Methodological stages (from May 2013 to February 2014)	Objectives	Interactions, methods, and tools
Co-delineate the methodology design	Define research questions; establish a coordinating group	Meeting with ACC, learn about the timeline of the project
Continue outlining the methodological design [systematization questions]	Collect questions among ACC partners and former members	Analysis of 137 questions; identify main themes
Interviews	Prepare and apply 17 interviews. Provide a synthesis report of results	Participatory interview schedule (meeting with the ACC group); 17 in-depth interviews
Three-day residential workshop	Design and implement workshop (26 participants)	Collective design of workshop programme: World Café; Responses Session; Quantify Successes exercises
Follow-up and synthesis	Final meeting; collect results; produce a systematization report for participants	Audio and video recordings; notes; photographs; flipcharts

Table 2 Timeline of the amoreiras village convergence centre

Timeline	2005–2013
Initial experiments: workshops on ecological topics and community art events.	2005–2007
Social programme: community art activities; workshops on environmental issues; activities for children; dissemination activities.	2008–2010
Sustainable village initiative: shared future vision; Permaculture design for a sustainable village.	2010–2012
New era: continuing implementing the Permaculture design, strengthen relations with regional administrators and business owners.	2012–2014

been established. These groups included: present and past members of the ACC; individual collaborators and friends; organizations; members of the Transition Towns Network; Permaculture Initiatives; and village residents. The CG collected and analysed the questions and subsequently shared them with all ACC members.

Interviews

Between July and September of 2013, seventeen participants were interviewed, out of a total of thirty-five who were members of the ACC for at least a period of one year. Interviewees were aged from thirty to forty-four years old. Eight were male, and nine were female. Except for three persons, all were still living at Amoreiras Village or nearby. Two had completed high school, all others had university degrees. Four were graduated in Environmental Engineering; four in Educational Studies; three in Fine Arts; one in Phycology; one in Geography; one in Biology; and one in Sociology. All names referred in interview quotes are aliases.

Table 3 Interview schedule

Why moving to the village to join the ACC?
What had been the best and worse experiences of living in the village?
What had been the best part of working in the ACC?
What had been most challenging?
What did she/he felt to have given to the village?
What did she/he felt to have given to the ACC?
What had been learned?
What visions for the future?

The leading researcher undertook a first version of the schedule and afterwards discussed and co-developed it with the ACC (see Table 1). Interviews lasted an average of two hours. This article’s account of the interviews condenses the main findings from seven questions listed on Table 3.

Residential workshop

A three-day residential workshop with twenty-six participants (including fifteen interviewees) took place in the village. Interview results were shared with the participants before the workshop. The workshop programme was designed collectively. Each person made suggestions for methods and tools to be used; among these were: the World Café, the Responses Session, and the Quantify Success exercises. The World Café is a method for facilitating debate on a large-scale (Brown, 2010). Results were registered through audio recordings, which the notes participants took on flipcharts complemented. In the Responses Session, participants were invited to choose one or two systematization questions (posted on the wall), and organize themselves in small groups, with the objective of responding together to the questions. Recording devices were used by each group and all conversations were later transcribed. The Quantify Successes exercise (Kerth, 2001) had the objective of bringing attention to the achievements of the group over the years. Participants identified appropriate indicators to measure activities undertaken throughout the project’s timeline. Afterwards, activity reports were used to quantify the different indicators. After the workshop, the quantification exercise was revised and all outputs of the SE were collected (e.g. audio recordings, flipchart notes, notes taken by participants, graphical illustrations, photographs).

Results

Systematization questions

The ‘systematization questions’ informed the following methodological stages, but have also been a first result. A total of 137 questions were

received, from which 63 concerned the ways the project contributed to a more resilient village; 33 questions referred to the ways the ACC had sustain itself over the years; and 41 to issues of communication and engagement.

Regarding the resilience topic, questions indicate local partners and villagers were well aware of the land abandonment problems in the region, and of the need to create a more sustainable territory. Sixteen resilience questions were from village residents, who were curious to know: 'What benefits do you hope to bring to the village?' 'Do you intend to stay for the long-run?' Villagers' questions express some perplexity regarding the presence of the new residents in a region where youth typically migrates to urban centres: 'There is no future in the village – so why are you here?' Other partners asked: 'How many people became permanent residents in the village or of other villages nearby because of the ACC?' 'What adaptation measures (e.g. to reduce soil erosion) have been implemented?' These questions translate a concern with land abandonment and the need to prepare for the effects of climate change.

As regards the sustainability topic, the main concern was to understand how the project had been able to maintain itself over the years and how to ensure a more sustainable future. Examples include: 'Were you able to create jobs for those involved?' 'How did you fund your activities?' These questions signpost a concern with how the ACC responded to the issue of unemployment – a main cause for migration to urban centres.

Finally, the questions on the issues of communication and engagement sought to understand how the project had developed participatory learning and governance mechanisms. It was perceived that the ACC had been successful in communicating its work to society, and partners were curious about the conditions that supported dissemination. Examples include: 'How many people were directly involved by your work?' 'What participatory methodologies were used?'

Individual experiences

Most of those involved in the ACC had moved from a city to a very small rural village. Their individual routines and ways of life changed significantly and were strongly interlinked to working commitments. Interview findings provide insights into the individual perceptions concerning the benefits and challenges of being involved in the project.

Regarding the benefits, interviewees aspired for an opportunity to live in a rural area and enjoy a lifestyle that reflected their ecological values. This included being 'close to nature', using low-carbon energy sources in their homes, and growing their own food. Fourteen claimed to have learned about ecological techniques and practices. This learning process resulted from the meeting and daily interactions between individuals with different

competences. Examples of the techniques learned included: learning about local native plants; acquiring practical experience with eco construction materials and techniques; and assembling their own solar water heaters and solar ovens.

Sixteen interviewees pointed out the importance of collecting traditional knowledge gained through daily interactions with villagers, especially the elders. John felt that collecting traditional ecological knowledge was his most important task. The words 'listen', 'observe', and 'be patient' were often used when characterizing the knowledge exchange that had been experienced. John explained: 'you need to be willing to listen, establish trust, and learn step-by-step'. He gave the example of a village elder, who had a small allotment: 'It took me more than a year of conversations for him to begin teaching me something'. Peter referred he would have liked to create a repository with documents, pictures, images, and audio recordings of local practices, 'before they were lost forever to memory.' Conversely, three people had little interest in socializing with villagers. One interviewee talked about a 'cultural shock', as it was hard for her to accept the 'culture of drinking and hunting'. Another felt 'oppressed' by the constant 'gossiping'. These three individuals were no longer living in Amoreiras at the time of the interview.

The group had contributed to counter land abandonment and rural exodus, fifteen stated. They had followed the opposite trend by moving from urban centres to rural areas. In total, they were parents to eleven children living in the village. The nearest school 'would probably have been closed were it not for our kids', claimed Lana. Interviewees felt they had benefited the village by 'just being here' (Luisa).

Referring to the ACC as a 'family', interviewees highly esteemed their life in the community: 'This has always been the reality in the village. We did not create a culture of sharing, exchange and mutual support. We just became part of it', said Phillip.

All argued that their work had contributed to disseminating environmental issues to society, particularly among village residents and regional partners and networks. The working methods of the group based on participatory approaches were equally appreciated: 'You can take these techniques anywhere', says Jenny, 'We get really creative in our meetings'.

Regarding the challenges, after receiving from Odemira's Municipality a map of abandoned schools to explore, it took more than a year to find a suitable location. 'I wanted to be outside, away from the computer, but those months we spent hours inside a car', said Richard, 'some schools were in ruins; we knew when we saw Amoreiras – it was the place'. While settling at Amoreiras Village, they had a problem with housing, because villagers were apprehensive about renting to 'strangers'.

All interviewees mentioned the challenge of sustaining their livelihoods throughout the years. Six people initially moved with a one year contract to work in ACC activities. Others arrived as volunteers, using their own financial resources and trusting that eventually the ACC would create jobs. Yet, job creation was only possible for short-term periods. Except for one, all had to find ways of earning money outside the ACC. Three ultimately left for financial reasons.

For some, adjusting to moving from a large city to work on a small rural village was difficult. As thirteen referred, tasks took longer than expected, and this was sometimes a source of frustration and stress. A lot of time was used up providing local services to villagers. It had been necessary to give way to the unpredictability of each day and to 'an organic rhythm', says Luisa, making it very difficult to keep a working routine. Yet, Luisa notes, this was 'part of the learning' process they were experiencing.

The usefulness of their work was questioned by two interviewees. Richard told a story he had heard of a politician, campaigning around a village in Africa. 'A villager asked the politician – 'Sir, do you know the story of the monkey? No, I don't. Well, a monkey was hanging from a tree, he saw a fish and decided to pick it up for fear it would drown' – 'Sometimes', claimed Richard, 'we were a bit like monkeys'.

Richard's idea that the group 'tried to do too much' was prevailing, and fifteen agreed it would have been best to 'focus on just one project and make it work' (Richard).

Shared conclusions and reflections

A set of shared conclusions and reflections resulted from the participatory experiences held throughout the residential workshop (i.e. the *World Café*, the *Responses Session*, and the *Quantify Successes* exercises). These findings relate to four topics of interest to participants, namely: the sustainable village system; the ACC as a demonstration site versus the need to learn from traditional practices; the financial sustainability of the project, and the successes achieved.

Participants highly valued the 'sustainable village'. This was a proposal for co-producing with the villagers a 'dream village' based on the principles of Permaculture Design and the needs and aspirations of the villagers. The design should be grounded on a positive vision for the village and on a sustainability plan. Since implementation should be based on integrated solutions applied mostly with the villagers' own resources, the first step was to develop a shared vision for the future and a collective understanding of what a sustainable village would be. This was achieved through a series of street meetings and a door-to-door survey with residents, who identified their 'village dreams'. The surveys allowed mapping the material and

immaterial resources available, such as land allotments, competences, and demographics, to name a few. Once 'dreams' were identified, working groups of villagers and administrators were tasked with finding strategies to implement them. It was recognized that most dreams would be materialized through collaborations with the parish administration (*Junta*). Although in some cases the municipality would need to intervene. The ACC equally used its own resources. The dream for a 'prettier village', for instance, led to a group of volunteers whitewashing the village walls. Various village infrastructures were recovered during this period, such as the 'social centre' (a space to organize meetings and parties), a public clothes washing area; and a soccer field. However, when the ACC suggested fixing walking paths and street benches, which were particularly important for the elderly population, 'the Junta opposed', said Philip. 'They felt we were undermining their authority with the villagers'. After some time those areas were fixed. Similarly, for the children's playground (another village dream), Marta recounts that 'volunteers would build it, they had a nice project designed, but people said building would be illegal without a municipal permit'. The project was presented to the Mayor, and two years later the playground was built (just before municipal elections). During the following period the Permaculture design for a 'dream village' was completed and presented. Figure 1 shows one of its maps.

The issue of land degradation was frequently raised throughout workshop sessions. The main causes attributed were intensive and industrialized agriculture in Alentejo, and inefficient measures against soil erosion. It was agreed that the ACC had been able to demonstrate land use practices to fight the degradation of soils, such as the Permaculture Swale – a technique against landslides and for more efficient water retention in the landscape. There had been an effort to promote the use of more adapted species, native to the region, as well as biodiverse farms. These practices were demonstrated in small scales, using the land of villagers. Conversely, it was believed that new and old techniques needed to be combined in order to deal effectively with current and future environmental pressures. ACC members sustained that the discourse of development policies for the region presented innovations as being the best option, without first exploring the value of traditional knowledge. 'Maybe the best impact we can have here, is not to have an impact', said Susan, supported by Mark and others who felt that traditional practices were undervalued by a 'technical and urban society'.

The project was not able to achieve financial sustainability, and there were no doubts this had been its main problem: '(...) The coming and going of people was frustrating, there was no money and people never stayed long, (...) we couldn't apply for grants when we were unsure of who would do the work.' said Phillip, one of the project founders. Employment was created



Figure 1 Map of a permaculture design for a sustainable village

in some moments of the project, but for the most part, each person found hers or his own means of earning an income (e.g., seasonal jobs elsewhere). Thus, the ACC was not able to create jobs and address a fundamental cause for land abandonment. A possibility suggested would be to develop a broader project (rather than having several activity projects), with tangible objectives, which would support financially all those involved. This strategy was thought to benefit from building stronger relations with local administrators and landowners. It would imply changes in the group's internal working structure and functioning. Participants were particularly interested in projects that would allow reinstating traditional land use practices.

Nevertheless, important successes had been achieved, particularly through the social dynamics introduced. Activities were measured in numbers for the previous eight years through the 'quantify successes' exercise. Activity programmes included ecology and demonstration events (Ninety-one); art and cultural programmes (197); health and well-being (Twenty-two); and dissemination activities (Twenty-nine). The social programme and the sustainable village initiative were found to be the most active

engagement periods (with 232 events done). The type of services provided to local population was a continued activity. Examples included: teaching Portuguese lessons; assisting with computers and the internet; helping with writing letters; and organizing activities for children. Dissemination activities were considered important tools to promote awareness raising on environmental issues. It was concluded that the ACC had benefited from the strengths of its 'sister' organizations, such as the Transition Towns Network in Portugal. These networks provided an important support in awareness raising activities by opening up communication channels, such as contacts with media (newspapers, radio, TV), and supporting online dissemination activities.

Discussion

The activities and projects developed since 2005 by the Amoreiras Village Convergence Centre (ACC) have aimed at tackling the core problems identified for the region. But can we consider that the village became a more adapted and resilient social-ecological system because of the presence of this group of people?

In the SES literature, studies have investigated how society re-organizes itself when faced with external pressures or moments of crisis (Nelson, Adger and Brown, 2007; Walker *et al.*, 2006). Resilience studies have argued that collective action is a significant determinant for increasing adaptive capacity (Adger, 2003) and that local forms of governance and institutions play a central role for implementing effective adaptations (Folke *et al.*, 2005). Similarly, there is an important argument for relying on polycentric dynamics and deliberative decision-making process (Olsson *et al.*, 2006) that promote adaptability in complex SES. New forms of governance or modes of deciding together on collective issues (Folke *et al.*, 2005) have been proposed, such as adaptive governance (Folke *et al.*, 2005; Olsson *et al.*, 2006). The innovation studied has not attempted to use any of these approaches, of which participants were not even familiar with. Nevertheless, many of the processes developed echo the characteristics of adaptive governance. The best example has been the process of making a 'sustainable village' design, leading to the first permaculture design for a village in Portugal (Vizinho *et al.*, 2014). The design is based on a systems' perspective, acknowledging the co-evolving dynamics of human and ecological interdependencies, and taking a systematic account of how land, sociocultural, and material resources can be integrated in a shared vision and action planning for the village system, making it more resilient and sustainable. The village design was co-created with the local community and thus embedded in a participatory governance experiment for co-managing local resources. After mapping the villagers'

dreams and resources, working groups decided together on how to implement the dreams and make the best use of existent resources. These decision-making and co-management procedures led to collaborations with local administrations. At times, the ACC pressured administrations to act on fulfilling needs identified by village residents. Thus, a deliberative governance process begins emerging as the different social actors, with particular interests, power relations, and available resources engage through interdependent processes of negotiation and collaboration (Dryzek, 2010). Despite the results achieved, the governance process has waned since 2012, and did not apparently grow beyond the boundaries of Amoreiras village. There seems to be still a large potential for a more transformative change that may imply a new type of structure for the innovation, and a more effective institutional support, including adequate financial mechanisms to sustain the project.

Based on a comparative case study analysis, Folke *et al.* (2005) highlight four interrelated factors that are prevailing in complex systems facing periods of incremental or transformative change: 'learning to live with change and uncertainty; combining different types of knowledge for learning; creating opportunity for self-organization towards social-ecological resilience, and nurturing sources of resilience for renewal and organization.' (Folke *et al.*, 2005, p. 452). These four factors serve as guidelines to characterize the innovators' impact within the village system. Looking back to the past eight years, participants appear to have mostly focussed on creating opportunities for self-organization (e.g. resource management); and on exploring sources of resilience, for renewal and organization (e.g. a more socially active village). However, a learning process gradually brought a closer attention to the first two listed factors. The experiences in the village led to acknowledging the importance of rethinking how the traditional system had coped with past changes and learn from these memories. Thus, the group reversed its initial strategy of being a demonstration site, by focussing mainly on recovering traditional rural knowledge and acting as brokers between the village and society at large. This was enacted individually on a daily life basis, but also collectively through the 'sustainable village'.

The topic of Traditional Ecological Knowledge has been approached in the SES literature (Berkes, Colding and Folke, 2000; Fabricius *et al.*, 2013). On a survey of case studies of indigenous cultures around the world, Berkes *et al.* characterize the practice of Traditional Ecological Knowledge and its interrelations to local social mechanisms, which include the ways knowledge is embedded and internalized in institutional and cultural life, as well as dominant worldviews and values (Berkes, Colding and Folke, 2000, pp. 1255–1256). The ACC's willingness to collect local knowledge echoes equally the concept of a 'social or collective memory' (Colten and

[Sumpter, 2009](#)) as a source of social-ecological resilience. [Barthel *et al.* \(2010\)](#) refer to 'collectively shared mental maps for dealing with a complex world' (p. 256). Their study investigates how a collective memory of practices, knowledge, and experience is passed on among urban allotment gardeners, concluding that oral communication had been the most important form for conveying ecological practices between gardeners. Likewise, participants spoke of the need to 'talk' and 'listen' to villagers in order to learn traditional land use practices. These interpersonal relations were time consuming and gaining the villagers' trust required perseverance. While [Barthel *et al.*](#) conclude that social-ecological memory plays a pivotal role as a 'carrier of knowledge and practice' (2010, p. 262), the question remains how to tap into this knowledge, when the local community requires effort and time to reveal its 'secrets' to outsiders, who conversely are met with great challenges to finance their availability, time, and effort. Arguably these 'secrets' could remain unrevealed, participants could be acting like 'monkeys' saving the fish from the water, as one interviewee mentioned. Yet, there is a strong argument from participants, and rebounded in national studies ([Do Rosário, 2004](#); [NAS/AF, 2013](#)), that the channels for transmitting collective memory in Portuguese traditional rural societies affected by industrialization and land abandonment trends have been broken. Therefore, new contexts need to be created to promote discussion, participation and the sharing of knowledge. If the group is right to say that traditional knowledge holds many responses and ecological practices which have been devaluated and abandoned, then restoring this social memory maybe an important source of resilience. Moreover, the process of collecting and empowering traditional knowledge has been intertwined with new ecological practices (namely those based on Permaculture principles). A sustainable village would benefit from integrating the various knowledge systems in shaping a novel form of living in the territory. Thus, the participants may be considered to have acted as interpreters, facilitators, and visionaries in a changing SES (see [Folke *et al.*, 2005](#) for an identification of roles based on co-management case studies).

As a component and outcome of social memory, the concept of social capital ([Adger, 2003](#); [Ostrom and Ahn, 2003](#)) refers to resources within communities amassed over the continuous relationships established through networking and learning arrangements ([Kay, 2006](#)). Social capital can be understood as a set of immaterial assets of individuals or communities that are reproduced and shared through the dynamics of networks. As social capital is incrementally built up, collective responses to environmental challenges are able to rely on a broader support base. Therefore, this type of capital is considered of central importance for adaptability ([Adger, 2003](#)).

The first strategy of the ACC was to promote spaces and mechanisms for collective dialogue and decision-making. The group set-up multiple occasions

for community festivities and celebrations that created stronger ties with the local residents, and promoted personal relations built on trust and friendship. The meeting of these communities possibly means the assembly of two social memories that have built up social capital. Furthermore, over the years, the ACC has been able to endorse new networks and social connections in the region. First, through joining existent networks such as the Transition Towns Network. Relations were also established with other local communities and initiatives, including Eco villas and non-governmental organizations. These networks supported the group's awareness raising activities. Finally, there have been collaborations with local administrators and landowners. Thus, through its networking activities, the ACC has added to the social capital of the village by acting as a facilitator of connections. But also by bringing its own shared knowledge and expertise, such as the participatory methodologies which framed governance experiences implemented.

Regarding the impact of the innovation in countering land abandonment by contributing to populating the village with young families and children, more years would be needed to find out if this has been a temporary or a longer-term trend. Participants have also claimed to support local quality of life in ways local administrations could not, by providing free services to more vulnerable residents. Other studies would be needed to understand the impact of these activities, including a survey to local villagers to gain insights into their perspective.

Conclusions

The retrospective assessment confirmed the hypothesis that this type of community has provided new sources of adaptability and resilience in a Mediterranean system facing increased land abandonment and land degradation, which climatic changes may exacerbate. Yet, the study led to unexpected results regarding the ways the project promoted adaptability. First, the making of a permaculture design for a more sustainable and resilient village appears as a grassroots process of co-managing local resources, building new networks and promoting the sharing and connectivity between distinct, yet complementary, bodies of knowledge. Second, through the creative process of finding future and shared visions for a more sustainable village, participatory modes of governance were encouraged. These activities translate into an unplanned governance experience, which could not be labelled or characterized into a specific framework, but which nonetheless embodied some of the characteristics of adaptive governance approaches. Thus, the ACC's role in the village can be characterized as a facilitator of new modes of governance, visionary of sustainable ecological futures, interpreter and collector of social memories, and a networker that builds up social capital.

Particularly in socio-political contexts where participatory learning and collective decision-making processes are not usual, grassroots innovations may provide new governance designs, built upon more fluid and relational societal dynamics, rooted in contrasting living experiences, worldviews and cultures, yet shaped within rural societies. Furthermore, learning from local culture may represent a still underexplored pathway for adaptability in regions where traditional land use and resource management practices have been gradually lost to industrialized farming. However, without appropriately addressing the issue of unemployment and providing financial sustainability for their members, these type of initiatives may not make significant advancements in converging for deterring land abandonment.

Lastly, contrary to this article's case study of a group who moved to a rural area with their own particular vision of change, it is important to examine local community driven initiatives without external influence. This could be useful in order to seek innovative solutions for present and future challenges, which are endogenously found. However, possibly, not one perspective (exogenously driven initiatives) or the other (endogenously driven initiatives) are the only solutions for facing challenges in local communities. More research is needed to understand whether a mix of the two – towards hybridized forms of change – might work better, and what lessons can be drawn from such experiments.

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