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# Exploring the feasibility of setting up community allotments on abandoned agricultural land: A *place, people, policy* approach

Jean Marc Pace Ricci, Elisabeth Conrad*

*Institute of Earth Systems, University of Malta, Malta*

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ABSTRACT

Agricultural land abandonment is a key driver of land use change in Europe. At the same time, urban land cover is expanding rapidly, often resulting in increasingly limited public access to green spaces. Within this context, this exploratory study sought to explore the feasibility of siting community allotment gardens on abandoned agricultural land within the small island state of Malta. Such an initiative could serve a dual purpose, i.e., limiting degradation of abandoned land on the one hand, and providing increased opportunities for community interaction with nature, on the other. Feasibility was explored in three steps, focusing on *place, people,* and *policy*, respectively. First, land within the peri-urban regions of three municipalities was identified and evaluated for suitability on the basis of specific criteria adapted for the local context. Second, interviews were employed to explore the views of members of the public and of other relevant stakeholders, and to identify potential coalitions of support. Finally, existing legal and policy frameworks for land-use planning were evaluated to determine the extent to which they are able to accommodate such land repurposing. Results showed that suitable land is available within all three municipalities considered. Furthermore, there is clear public support for the establishment of such allotments, as well as moderate interest by respondents in participating actively through rental of plots. However, institutional barriers in the policy sphere would need to be addressed. Key recommendations include the creation of a dedicated allotments policy, empowerment of local government authorities, and establishment of collaborative partnerships between governmental and non-governmental actors. Successful implementation of such a project would also require better streamlining of land ownership data and an ability to ensure security of tenure.

## 1. Introduction

Agricultural land abandonment has been identified as one of the dominant land use change processes currently underway in Europe (van der Zanden et al., 2017), with modelling studies predicting a significant increase in abandonment in the region over the next decades (Renwick et al., 2013). The issue of abandonment is complex and contentious, partly because of the lack of a uniform definition of what constitutes abandoned land. Notwithstanding, there has been a clear decrease in cultivated agricultural land in Europe, especially in marginal areas and in small-scale and extensive systems (Renwick et al., 2013; Fuchs et al., 2015), possibly driven by environmental or socio-economic factors, or by combinations of both (Munroe et al., 2013; Terres et al., 2013, 2015). Such abandonment can have positive ecological effects, through vegetation recolonization and secondary succession and through strengthening of a variety of ecosystem services (Novara et al., 2017). However, it can also result in loss of species richness in areas with rich agrobiodiversity (Agnoletti, 2014) and, particularly in the Mediterranean, raises concerns about increased risk of fire and soil erosion (Ursino and Romano, 2014; Jones et al., 2016). In the absence of effective land use zoning and planning mechanisms, abandonment could also potentially open up tracts of currently rural land to urban speculative development (Russo et al., 2014). Indeed, more than 46% of land converted for urban development within European countries (EEA-39) between 2006 and 2012 was originally agricultural (European Environment Agency, 2017).

At the same time, the population of Europe has become increasingly urbanized, with estimates that up to 80% of citizens could be living in urban areas by 2050 (Cabezas et al., 2016), up from 73% in 2014 (United Nations Department of Economic and Social Affairs, 2014). Such regional statistics hide significant national-level disparities; the small island state of Malta, for example, which was the focus of this research, has 95% of its population living in urban areas, while the figure reaches 100% in Gibraltar. Conversely, Bosnia and Herzegovina

* Corresponding author at: Room 311, Chemistry & Pharmacology Building, University of Malta, Msida, MSD 2080, Malta.
*E-mail address:* elisabeth.conrad@um.edu.mt (E. Conrad).

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has a relatively low proportion of 40% of its population living in urban areas. The increasing urbanization of human populations has been suggested to be a contributing factor to increasing disconnect from nature, with associated negative psychological and physiological consequences (Restall and Conrad, 2015), as well as with impacts on people's level of engagement with and interest in nature (Breuste and Artmann, 2014; Perkins, 2010). In turn, connectedness to nature has been shown to be a key factor influencing environmental behaviour (Gosling and Williams, 2010; Otto and Pensini, 2017). For these and other reasons, there has been growing attention paid to the role that urban green spaces can play within city environments, with these not only providing varied social, economic and ecological benefits (Baycan-Levent et al., 2009), but also potentially serving an important environmental justice role (Rutt and Gulsrud, 2016).

Based on the above, this work explores the feasibility of simultaneously mitigating the impacts of agricultural abandonment and providing opportunities for urban residents to engage with nature, by converting abandoned agricultural land in peri-urban areas into community allotment gardens. An allotment garden is defined as a parcel of land, subdivided into cultivable plots that are individually rented out to members of the public for their own private use (Bell et al., 2016). The study focuses on the heavily urbanized context of the Maltese Islands, where population density averages 1361 people per $km^2$ and where more than 30% of land is built-up, significantly higher than the EU average of 4% artificial surfaces (European Environment Agency, 2017). For purposes of this work, abandoned agricultural land is taken to refer to parcels upon which active management (Terres et al., 2013) and economic rural activities (Cassar, 2010) have ceased, and that have not been significantly recolonized by natural vegetation, afforested, or converted to other land uses. The study applies an approach based on three pillars necessary for the success of an allotment scheme i.e., availability of suitable land parcels (referred to as *place* aspects), interest from relevant stakeholders (*people*), and presence of an enabling policy framework (*policy*).

The next section of this paper first briefly reviews the historical background of allotment gardens and their societal role. After the study context and research methods are outlined in Section 3, results of the feasibility assessment are presented in Section 4. The final Discussion and Conclusions section reflects on the findings of this study and proposes necessary measures for successful implementation of the proposed land repurposing scheme.

## 2. Allotment gardening: a brief review

Community allotments and gardens have been a fixture of the European countryside for centuries (Bell et al., 2016; Keshavarz and Bell, 2016), and many large European cities have long-standing allotment sites that function as small oases amidst dense urbanization (Foley, 2014; Bell et al., 2016). The allotment experience varies by country. In the UK, for example, allotment history may be viewed as following two distinct routes – that of the rural allotment, initially set up as a means for the poor to be able to feed themselves, and that of the urban allotment, in demand among the relatively wealthy middle class of inner cities (Bell et al., 2016). More broadly across Europe, allotment history has been characterized as evolving over four phases: European industrialization (1700–1910), the World War period (1911–1950), the post-War period (1951–1972) and the revival period (1973–present) (Keshavarz and Bell, 2016). Allotments served different purposes at different points over this history, at times contributing to food security for the poor, at other times providing distractions from the horrors of war, and more recently providing opportunities for reconnection with nature in an era of increased urban disconnect. Many countries have specific legal instruments that regulate the establishment and running of allotments (e.g. Smallholding and Allotments Act of 1908 (UK), Federal Laws on the Regulation of Allotment Gardening 1958 (Austria), Federal Act of Small Garden 1983 (Germany), Allotment Gardens Act 2001(Denmark)).

The benefits provided by allotment gardens have been extensively documented. Studies have shown that allotment sites may contribute to achieving principles of sustainable development (Barthel and Isendahl, 2013; Colding and Barthel, 2013), providing benefits within economic (Perez-Vazquez et al., 2006), social (Soga et al., 2017), and environmental spheres (Acton, 2011). The benefits of allotments can also be assessed through the lens of ecosystem services (Langemeyer et al., 2016), while other studies have shown how allotments can improve the resilience of both natural and urban environments in the face of issues such as climate change (Barthel and Isendahl, 2013; Colding and Barthel, 2013). Of particular interest are studies that highlight the impact allotments have on community empowerment, social cohesion, and the inclusion of marginalized populations (Bishop and Purcell, 2013; White and Bunn, 2017), their ability to foster a sense of connectedness to nature (Church et al., 2015), and the potential health benefits they can provide, especially to senior citizens (van den Berg et al., 2010). These aspects are particularly relevant to the study area of Malta, which has rapidly expanding and increasingly multicultural urban communities, a large urban footprint, an ageing population, and where health issues such as obesity are on the rise, highlighting the need for meaningful and health-enhancing recreational activities (Wood et al., 2016). There is ample evidence that contact with nature through activities such as gardening benefits physical and mental health (van den Berg et al., 2010). Likewise, the ability of allotment gardens to contribute to provisioning, regulating, cultural and supporting ecosystem services (Terres et al., 2013) is highly relevant to the Maltese context, given significant pressures on ecosystems and related issues of habitat loss, fragmentation, and land degradation (Dwyer et al., 2014). The maintenance of such green spaces can also enhance the economic value of specific localities (Özgüner et al., 2012).

Notwithstanding the above, there are also difficulties associated with the allotment concept. For example, while often considered as a form of urban agriculture, since they are generally cultivated by city or town dwellers (Spilková and Vágner, 2016), the extent to which these are made available for community or individual use varies from place to place, leading to ambiguity surrounding their definition. Such a plot area also needs to be made *legally* available to these individuals or groups, to be used for growing of food or horticultural crops, but generally not for residence (Holmer et al., 2003). Spilková and Vágner (2016) argue that there can be a tension created by individual plot ownership in a context of a general need for green spaces accessible to *all* citizens. Similarly, allotments have sometimes been characterized as in-between 'third spaces' (DeSilvey, 2003), that are neither places of agricultural production, nor places for passive leisure, and that are characterized by dichotomies – e.g., between private and public, production and consumption, labour and leisure. These ambiguities can create challenges for local authorities to accommodate allotments within their land-use planning systems. Furthermore, experience has shown that successful implementation of allotment projects is dependent on community empowerment and on bureaucracy-reducing procedures that may not necessarily be present (Rego, 2014).

## 3. Material and methods

This section first briefly describes the study area context (3.1); this is followed by a description of the methods adopted to evaluate place (3.2), people (3.3) and policy (3.4) dimensions.

### 3.1. The study area

Malta is one of the smallest EU member states but also one of the most heavily urbanized and densely populated. The agricultural sector makes a minor contribution of roughly 1.65% to the country's Gross Value Added (National Statistics Office, 2016). The sector employs a total of 19,066 persons, the great majority of which are male and > 45