

Hobby and part-time farmers in a multifunctional landscape: Environmentalism, lifestyles, and amenity

Bingjie Song¹  | Guy M Robinson^{1,2}  | Douglas K Bardsley¹ 

¹Department of Geography, Environment and Population, School of Social Science, University of Adelaide, Adelaide, South Australia

²Department of Land Economy, University of Cambridge, Cambridge

Correspondence

Guy M Robinson, Department of Geography, Environment and Population, School of Social Science, University of Adelaide, Adelaide, South Australia 5005, Australia.

Email: guy.robinson@adelaide.edu.au

Funding information

University of Adelaide

Abstract

Hobby and part-time farming have become important elements of agricultural development in peri-urban areas of developed countries. Although there has been renewed interest recently in examining the characteristics of this farming, studies have rarely attempted to consider its role in transitional multifunctional landscapes. This article reports on research in the Adelaide Hills, South Australia, using surveys and semi-structured interviews to examine contributions of hobby and part-time farmers to an evolving multifunctionality. Hobby farmers are often recent, well-educated migrants transferring capital from urban areas to the peri-urban fringe. They engage in various on-farm and off-farm activities, with an emphasis on pro-environmental actions and/or keeping horses. In contrast, part-time farmers commonly have a farming background and are often transitioning out of farming while retaining farm-based enterprises representing up to half their household income. While hobby farmers are seeking amenity value from the fringe, part-time farmers are a more integral component of the conventional rural economy. A re-evaluation of the importance of the growing numbers of hobby and part-time farmers is vital as urbanisation pressures increase in peri-urban fringes of major Australian cities. These farmers represent an important bulwark against urban sprawl, helping to retain agricultural and environmental land uses on the fringe.

KEYWORDS

Adelaide Hills, environmentalism, hobby farms, lifestyle, multifunctionality, rural–urban fringe

1 | INTRODUCTION

Both hobby and part-time farming are familiar in many parts of the developed world, especially in the hinterland of major cities where some urban residents acquire farmland in pursuit of “rural lifestyles” on smallholdings or

for farmers to downsize as they prepare for retirement or property sales (Opitz et al., 2016). This trend is not new in the United Kingdom (Britton, 1951) or the United States, where Daniels (1986) observed that hobby farms involved less than two full day’s work per week, occupied smallholdings, and generated little income.

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Some debates in Canada focused on whether part-time farming was a “problem or a resource in rural development” (Fuller & Mage, 1976).

In some cases, hobby farms have become synonymous with recreational “horseculture” (Elg aker, 2012; Zasada et al., 2013) or “horsification” (Sutherland, 2021), but they generally comprise a diverse group of landholders possessing varied relationships with the commercial farming sector (Riley, 2016). Some hobby farmers generate no income from the land, while, for others, income derived from farm-based activities may be an important constituent of household income, and landholders may regard themselves as part-time farmers rather than simply hobbyists (Mittenzwei & Mann, 2017).

There has been renewed interest in examining the characteristics of hobby and part-time farming. For example, Selwood and Tonts (2004) reported that some Australians engage in hobby farming by first purchasing a second home to enjoy a rural lifestyle before becoming hobbyists. Although some hobby farmers may be involved in agricultural production, for most, this is not their main income source or purpose in owning a rural property. Because of urban sprawl and increased land subdivision, the amount of agricultural land in the peri-urban fringe has gradually decreased (Parsons, 2017), but farm fragmentation generates possibilities for land sub-division to create smallholdings for urban–rural migrant “lifestylers” (Spataru et al., 2020). Yet studies have rarely attempted to consider the roles of hobby and part-time farming in the growing multi-functionality of urban hinterland landscapes or to consider relationships between hobby/part-time farming and full-time farming in terms of their contribution to multifunctionality. Indeed, hobby and part-time farming have often been presented as problematic, detracting from “real farming” and comprising part of the destruction of production-based agrarian landscapes (Polyakov et al., 2015; Primdahl, 2014).

Using a South Australian case study in the peri-urban fringes of the capital city of Adelaide (population ~1.3 million), this article examines how hobby and part-time farming contributes to an evolving multifunctional landscape. It analyses key differences and commonalities between types of farmers. Underpinning the research is theory pertaining to multifunctionality (Fagerholm et al., 2020; Wilson, 2007; Zasada, 2011), which is discussed in Section 2. To generate both quantitative and qualitative data for analysis, following ethics clearances (Approval Number: H-2020-095), we employed a questionnaire and semi-structured interviews, focusing on different aspects of multifunctionality, but especially on land management activities, income generation,

Key insights

- Hobby and part-time farmers make significant contributions to multifunctional transition in the Adelaide Hills, South Australia.
- Hobbyists invest capital derived elsewhere to pursue new lifestyles focused on environmental and/or horse-related activities.
- As part-timers transition out of farming, many engage in on-farm tourism.
- Urban sprawl consumes high-quality farmland in the area, and in an increasingly fragmented landscape, hobby and part-time farmers are maintaining agricultural land use but changing its character.
- What emerges is an evolving mosaic of pastures for horses, restored native vegetation, intensive horticulture, vineyards, and “exotic” crops and livestock.

observations about the importance of stated outcomes from the farm, the risks involved, and decision-making factors (Wadduwage, 2021).

In Section 2, we consider the concept of multifunctionality in peri-urban landscapes and then introduce the study area and methodology in Sections 3 and 4, before presenting results that focus on the distinct roles played by hobby, part-time, and full-time farmers in Section 5. This work entails consideration of different contributions made by farmers to key elements of multifunctionality, notably pro-environmental land management, social networks, and the rural economy, in part addressed via farmers’ varying perceptions of risk. We hypothesise that attitudes to risk might be key features distinguishing the three groups and that farmers’ different roles make different contributions to shaping the multifunctional landscape. Conclusions in Section 6 refer primarily to the key question addressed, namely, how and what do hobby and part-time farmers contribute to a particular peri-urban multifunctional landscape?

2 | MULTIFUNCTIONAL PERI-URBAN LANDSCAPES

The term multifunctional agriculture (MFA) has been used to indicate that in addition to production of food and fibre, agriculture possesses other societal functions. These include management of renewable natural

resources, landscape and biodiversity conservation, and contributions to the commoditisation of the countryside and the socioeconomic viability of rural areas (Eftekhari & Shadparvar, 2018). Hence, from individual farms to entire regional landscapes, agriculture can generate multiple outputs and amenities, such as food and fibre, allied processing such as wine, jams, or cheese; various services such as ecosystem, energy, and water; recreational opportunities, landscape, and scenery; and cultural heritage. It is this production of multiple outputs from agricultural systems that has been termed “multifunctionality” (Wilson, 2007) as elaborated in Song et al. (2020).

MFA is more than just a process involving increased farm diversity (Hodbod et al., 2016), because it can have effects at the landscape scale to generate both production and non-production benefits. Certain public products, such as agricultural heritage, retention of agricultural land itself, reduced soil erosion, and enhanced ecosystem services are products of multifunctionality. In addition, MFA has been incorporated into long-term views of global agricultural evolution, notably in terms of the concept of a multifunctional transition, “whereby agricultural stakeholders and society in general more readily value the total impacts of their land management decisions” (Fielke & Bardsley, 2015, p. 233).

MFA has been recognised in trade negotiations such as in the United Nations’ Earth Summit of 1992 (Article 14 of Agenda 21) (Belletti et al., 2003), and it became a core concept in reforms to the European Union’s Common Agricultural Policy in 1992 and 2000 (Potter & Tilzey, 2005). It has also been a key component in strong central government rural policy directives in China (Song & Robinson, 2020), most recently as a central feature of rural vitalisation measures (Long et al., 2019). However, MFA is largely absent from policy and related discourse in many other countries, including Australia (Holmes, 2006) and the United States (Nelson et al., 2014), although in these latter cases, MFA has developed without direct policy stimulus (Dubois & Carson, 2020), especially in the peri-urban fringe (Fielke & Wilson, 2017). For Australia, Holmes (2006, p. 148) referred to MFA developing in various contexts but including the “peri-metropolitan” where competition for resources, growth of recreational and lifestyle activities, high land values, and small-scale farming units producing for the local metropolitan market give rise to heterogeneity and conflict at a local scale, notably in locales experiencing rapid change. MFA in the peri-urban fringe is exemplified in the Perth Hills in Western Australia where Yarwood et al. (2010, p. 236) referred to “the emergence of a boutique landscape of micro-farming” through

sub-division of agricultural properties and the growth of niche production and diversity.

This land use heterogeneity and conflict may be partly related to land speculation in peri-urban areas. For example, recent land use conflicts in the peri-urban fringes of Melbourne have produced “increased input costs, an aging farming population, difficulty in retaining labour, and fluctuations in market conditions ... land fragmentation, encroachment, and increased land value, thus increasing pressure on existing farms” (Spataru et al., 2020, p. 34). Land speculation there is rife but “detrimental to agriculture since farmers can become property developers themselves, regarding their land as a superannuation asset and are less likely to invest in long-term agricultural management” (p. 39). In turn, speculative land holding reduces the capabilities of local agriculture and can usher in further urban development through cycles of speculation and reduced agricultural investment (Bunker & Houston, 2003). The resulting land fragmentation contributes to the creation of smaller holdings that are uneconomic for full-time farming unless agricultural systems can be made highly capital or labour intensive. Hence greater opportunities may be created for hobbyists and part-time farmers as urban influences over the space increase. Indeed, hobby farming has become widespread around major Australian cities and is prominent “not only in traditional industries such as beef grazing, but also in emergent industries such as grape production, fruit crops and niche animal raising” (Buxton & Butt, 2020, p. 106).

Buxton and Butt (2020, pp. 16–17) have referred specifically to “amenity farming” in peri-urban Australia, in which landholders have interests in amenity “as defined by lifestyle factors and environmental landscape attributes, consuming both land and resources but producing little or nothing of value.” They described this as small-lot farming, rural-residential, and hobby farming and see it as a form of “rural dilution” degrading traditional production systems. They viewed this dilution as a move to a multifunctional land use pattern with a mosaic of urban and rural uses and the creation of a landscape of consumption rather than production, in which amenity and proximity to a major urban area are key. Tonts and Grieve (2002, p. 67) have referred to this process as part of the commodification of the countryside in which “rural lifestyle” purchase small rural lots and then do not practise traditional agricultural activities. In so doing, they created a new economy based on the consumption of the rural landscape, often including tourism ventures while attempting to retain certain values that originally attracted them, such as rural amenity. In the new economy, hobby farmers often contribute little by way of economic production from the land (Rosenberg, 2017;

Sutherland et al., 2019), and so the transition is generally viewed in a negative light as being associated with the loss of productive agricultural land. Here, we examine whether the opposite is actually the case—that the multifunctional values and actions of hobby and part-time farmers are limiting urban land-uses within the peri-urban fringe.

Abrams and Bliss (2013) have described the influx of amenity migration as creating a juxtaposition of and transition from landscapes of production (a “working” landscape) to landscapes of consumption (or from productivist to non-productivist) (Amirinejad et al., 2018). The migrants who have become hobby farmers inject a non-commercial element into the landscape alongside a “greening” via pro-environmental agency. Abrams et al. (2012) have referred to this as “re-creating the rural.” There is often a tension created during the transition, with some full-time farmers regarding hobbyists’ activities as “not proper farming” and objecting to poor land management that spreads weeds (Klepeis et al., 2009). The amenity migrants are referred to by Gill et al. (2010) as the “new rural landowners.”

In focusing on multifunctionality in the peri-urban fringe, we conceptualise the research problem as illustrated in Figure 1. The various characteristics of MFA are

indicated as resulting in large part from decisions taken by the farming community, categorised herewith into hobby, part-time, and full-time farmers. Decision-making is based on various concerns, but primarily attitudes to risk, desired outcomes, and responses to the anticipated future of the farm, mediated by factors affecting decision-making as illustrated in the diagram. In investigating the component elements in Figure 1, the research draws upon structuration theory, as developed by Giddens (1984), to understand how the landscape is shaped by human agency working within existing institutional processes and structures including government policies and inputs by various organisations such as farmers’ groups or environmental non-governmental organisations (Barley & Tolbert, 1997). Such human agency, in this case primarily farmer decision-making, also has the capacity to alter or create new structures and processes to develop new outcomes as discussed below.

3 | THE STUDY AREA: THE ADELAIDE HILLS

Since European colonisation began in the 1830s, the Adelaide Hills are defined as the administrative districts of

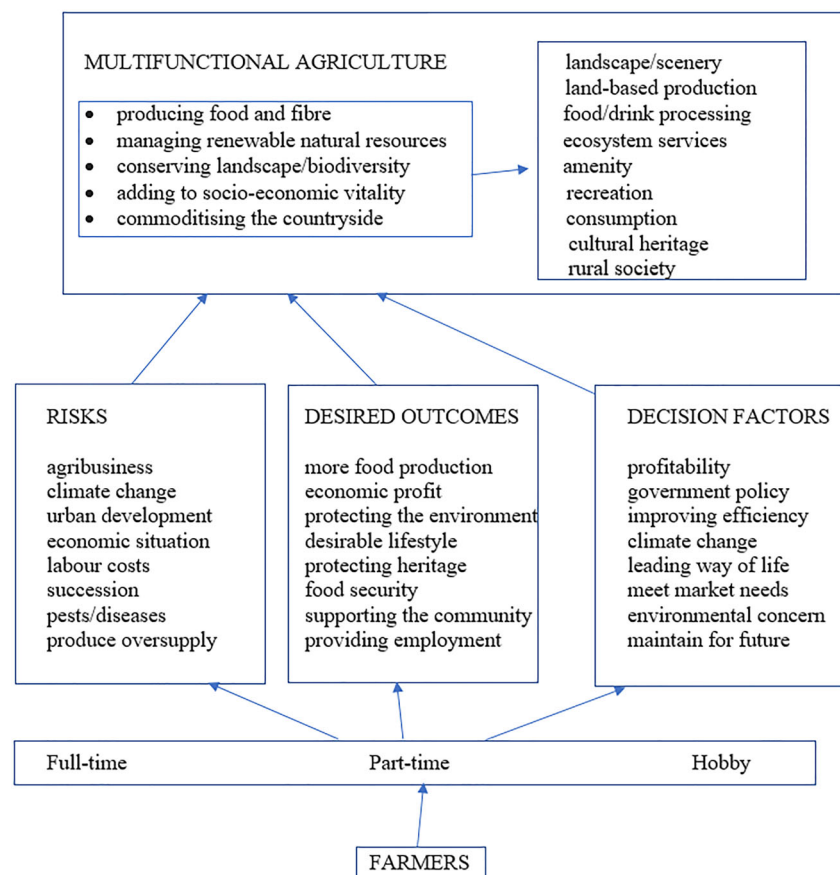


FIGURE 1 Conceptual framework

Adelaide Hills and Mount Barker for the purpose of this article, and have been a major provider of food for the city of Adelaide, which is located on the coastal plain immediately west of the Hills (Figure 2). In the 19th century, pioneer German women settlers walked the 25 km from Hahndorf in the Hills to the city overnight to bring fresh fruit and vegetables to market (Merckenschlager, 2010). The area became dominated by fruit and vegetable production (Piddock et al., 2009), but with some farms also running small dairy herds and keeping poultry. The 1885 Workingman's Act assisted smallholders onto the land by enabling small lot subdivision. In the 20th century, specialisation developed, with farmers growing apples, pears, and cherries in higher parts of the Hills around Lenswood, vegetables and market gardening predominating in the Piccadilly Valley (Smith, 1966), and vineyards prevailing in better watered

areas. Potatoes were widely grown for subsistence, while sheep and beef cattle were more numerous in drier eastern parts of the Hills (Bunker & Houston, 2003).

While there are growing numbers and types of opportunities for hobbyists and part-time farmers in the Adelaide Hills, the creation of smallholdings and land subdivision is not new. In the 1960s and 1970s, there was conversion of "much land from genuine agricultural use to urban residential, rural residential and hobby farming use" and a substantial growth in hobby farming on newly created "lifestyle blocks" (Menzie & Bell, 1981, p. 1). The population of the administrative districts of Adelaide Hills and Mount Barker grew from under 15,000 in 1911 to around 35,000 in 1947 and over 70,000 today. Construction of the South-East Freeway (M1 highway) in the 1990s greatly increased ease of commuting from the Hills to Adelaide and prompted significant new housing

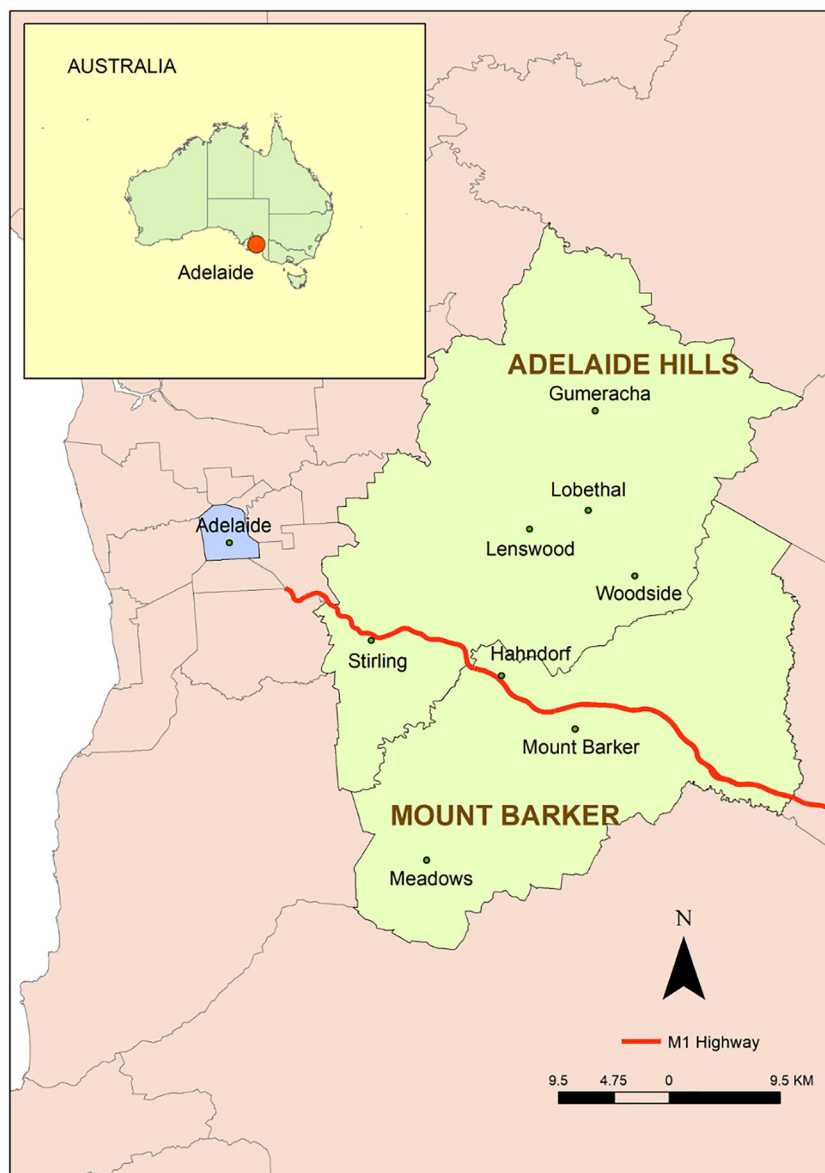


FIGURE 2 The study area: The Adelaide Hills, South Australia

development, especially around the main town of Mount Barker (Liu & Robinson, 2016), as well as further growth in numbers of hobbyists and “lifestylers.” Similar developments across the country mean that there may be as many as 60,000 hobby farms in Australia, occupying as much as 20% of the country’s agricultural land (excluding rangelands) (Global Rotomoulding, 2020). Indeed, Australian cities have consumed rural land at among the highest rates in the world per capita, prompted by people moving to edges of city locations, attracted by suburban and semi-rural lifestyles in commuting distance of a city (Buxton, 2014). In the Adelaide Hills, as much as one-third of urban development after 1980 has occurred on prime agricultural land (Robinson & Liu, 2015).

The District Council of Mount Barker had an estimated population of 38,590 in 2021, and that is predicted to grow by nearly 50% by 2036 (idCommunity, 2021). Ongoing development pressure can be seen even in heart of the main commercial orchard area around Lenswood, where some farmland has recently been converted to boutique holiday accommodation. Farmers possessing several different land titles may have the opportunity to raise capital by selling off some land for such developments or to hobby farmers or to real estate developers, who then hold the land speculatively awaiting rezoning (Pirro & Anguelovski, 2017). In this way, while multifunctionality can be said to include new land uses (horseculture, tourist development, housing estates, and abandoned former farmland), the landscape becomes more fragmented, with land uses that are not part of either natural or agricultural ecosystems (Gomes et al., 2019), but part of an irregular transition from farm to non-farm land.

Despite the loss of some high-quality farmland to urban development, the Adelaide Hills remains an important area for horticultural production. Apples, pears, and cherries are still dominant in the higher areas over 450 m, but smallholder vegetable production, once concentrated in the Piccadilly Valley, has largely moved out of the Hills (Houston & Bardsley, 2018). The area under strawberries has increased in recent years, while commercial wineries have extended the economic aspects of multifunctionality via wineries’ cellar door sales, restaurants/cafes, and on-farm production of wine. Grapes occupy around 4,000 ha, an area similar to that in the mid-2000s (Anderson et al., 2010, p. 64; Wine Australia, 2019). The number of beef cattle has increased, too, with the Black Angus breed dominating through its association with high-quality beef, ease of calving and care, and rapid growth (Hooper, 2021). Smallholdings maintaining horses for recreational purposes have become more numerous, reflecting land fragmentation and growth of hobby farming. In some respects,

therefore, more variety has been injected into the landscape through the growth of hobby and part-time farming, including of olives, alpacas, flowers, herbs, goats, nuts, feijoas, and rare breeds, the information for which was collected from a survey as described in Section 4.

4 | METHODS

The research employed a sequential mixed methods approach. This brings together quantitative and qualitative data to provide greater understanding and insight to the topic at hand that may not have been obtained analysing and evaluating different datasets separately (Bowen et al., 2017). For example, findings from interviews can help explain and elucidate quantitative data obtained from a questionnaire, giving more insights into human agency (Creswell et al., 2003). In this case, participants were selected based on responses to a questionnaire. The approach enabled triangulation of the findings, with the quantitative data providing information on broader patterns and key themes while qualitative data enabled reflection upon interviewees’ experiences to generate greater depth of enquiry.

A sample of hobby farmers was compiled as part of a broader sample survey of landholders in the Adelaide Hills taken from October to December 2020. The sampling frame for this larger survey comprised businesses that were members of professional growers’ and farmers’ associations, notably the Apple and Pear Growers Association of South Australia (which also includes cherry growers), Adelaide Hills Wine, Ausveg SA, and agricultural businesses listed in trade directories and the Yellow Pages. Farmers/businesses were contacted initially online with an invitation to complete a survey on agricultural multifunctionality. Those that did not respond were then sent a questionnaire by post with a stamped addressed return envelope.

In the survey, participants could self-identify as either full-time farmer, part-time farmer, or hobby farmer. Several identified as hobby farmers despite, in a few cases, having websites for their farm business or indicating that they employed workers on their farm, but none obtained over 25% of their household income from the farm, and some derived no income from the farm. To expand the sample to include additional hobby farmers in the area, a snowballing approach was applied, using information obtained from interviews and from the Adelaide Hills Natural Resource Centre, which circulated an online link to their members, some of whom were farmers, including hobbyists. The questionnaire was divided into eight parts, as shown in Table 1.

TABLE 1 Survey of landholders in the Adelaide Hills

1. Information about the farmer and the farm/property. This included a question on the importance of 10 potential outcomes from on-farm activity, using a 5-point Likert scale to assess the farmers' views. Farmers were asked to list the farming and agricultural activities in which they were engaged (including land management and the labour force) as well as on-farm non-agricultural activities, such as running a bed-and-breakfast and/or food processing.
2. Details of agricultural production and marketing.
3. Government support obtained for the farm and paid professional support from commercial advisors.
4. Protection of cultural heritage, including relevant certification.
5. Tourism on the farm.
6. Current or potential risks to the farm, with respondents offered 21 categories from which to choose the top five perceived risks.
7. Factors affecting decision-making, with 17 categories from which to select the five most important.
8. The future of the farm, with questions about possible changes in the next 5 years.

The number of participants was determined through a process of data saturation in which interviews continued until participants expressed few new themes in their accounts of farming in the study area. The qualitative data provide the opportunity to elaborate on responses given in the questionnaire, especially regarding land management activities, enterprise development, risks, and decision making. Interviews were structured, being based on a standardised set of questions to identify key themes relating to participants' farming and land management activities. However, to explore themes further, follow-up questions were asked to clarify findings and explore specific points arising in discussion. We used a theme-based analysis in the qualitative software package Max-QDA (Verbi, 2015). Interview data were transcribed and then coded to relevant themes. Themes were defined as risks, government support, COVID, organic farming, cultural heritage, conservation, markets, purpose, and motivation in managing the farm, change, and the future.

The quantitative dimension of the analysis was based on responses to the questionnaire. Differentiation between hobby, part-time, and full-time farmers was analysed using Spearman rank correlation based on responses relating to desired outcomes from farming, land management characteristics, on- and off-farm characteristics, attitudes to risk, and factors in decision making. Further investigation used simple frequency counts supplemented by quotes from interviews.

5 | RESULTS AND DISCUSSION

Completed surveys were received from 20 hobby farmers and 12 part-time farmers or 42.7% of the larger sample of 75 farmers, which itself represented a response rate of 35.4% (the overall population size of farmers receiving surveys being 212).

While the number of respondents who self-identified as hobby farmers is a relatively small proportion of the total number of hobby farmers in the Adelaide Hills, responses were obtained from a spectrum of hobbyists: from holdings less than 5 ha on which there are no or very few income generating activities to larger properties (around 20 ha) with some commercial production. For those claiming to be part-time farmers, the holding sizes ranged from 11 to 173 ha (see Table 2).

Semi-structured interviews were performed with 36 landholders across a spectrum from hobby to full-time farmers, of whom 6 (16.7%) were hobbyists and 8 (22.2%) part-time farmers.

Table 2 indicates the clear size differential between the hobby farms and part- and full-time farms as well as the differences in the amount of household income derived from the farm.

Horticulture was the dominant enterprise, with wine grapes, apples, and cherries the principal enterprises of full-time farmers. Cherries were the main crop of the part-timers, while hobbyists pursued a range of horticultural activities but often focused primarily on environmental management (as discussed below). For all three types, the modal age group was over 65 years of age, highlighting a problem apparent across the developed world and also some developing countries, that of an ageing population of farmers which can have important implications for farm production, succession planning, and land transfers to new landholders (Conway et al., 2016). However, 85% of hobby farmers had purchased their properties, while 33.3% of part-timers and 53.5% of full-time farmers had inherited their farm. Of the hobbyists, 90% had a university education compared with 75% of part-timers and 55.8% of full-time farmers.

5.1 | Comparing hobby, part-time, and full-time farmers

Using the responses obtained from the questionnaire, Spearman's rho (ρ) rank correlation was used to test the degree of similarity between the three groups of farmers: hobbyists, part-time farmers, and full-time farmers. Correlations were calculated using responses to questions about landholders' assessment of the most important

TABLE 2 Characteristics of sample farms, Adelaide Hills ($N = 75$)

Type	<i>n</i>	%	Mean. size ha	Modal size ha	Modal farmer age years	Male %	Fem. %	Modal from income farm %	Modal enterprise type
Full-time	43	57.3	57.2	20–49	>65	79.1	20.9	>75	Wine/horticulture
Part-time	12	16.0	43.6	10–19	>65	41.7	58.3	26–50	Cherries
Hobby	20	26.7	7.2	<5	>65	70	30	1–25	Misc. horticulture

TABLE 3 Comparison of landholder types using Spearman (ρ) rank correlation ($n = 75$)

	Outcomes	Land management	On-/off-farm activities	Risks	Decision-making
No. of categories	10	13	11	22	18
Hobby vs. part-time	0.36	0.75***	0.81***	0.37*	0.36
Hobby vs. full-time	0.03	0.24	0.39	0.36*	0.57**
Part-time vs. full-time	0.50	0.55*	0.56*	0.49**	0.73***

*Significant at 0.10 level.

**Significant at 0.05 level.

***Significant at 0.01 level.

outcomes on the farm, land management, on- and off-farm activities, farmers' identification of the most important risks on the farm, and the chief factors affecting their decision making. Table 3 provides a basis not only for comparing the three types of farmers but also for examining the individual components on which the comparison is based, primarily those for which significant correlations were obtained: land management, on- and off-farm activities, risks, and decision making.

Hobbyists and part-time farmers were strongly correlated with regard to land management ($P = 0.00$) and on-/off-farm activities ($P = 0.00$). There was a less strong correlation regarding key risks identified ($P = 0.09$) but no significant correlations regarding important outcomes and principal factors in decision making. Surprisingly, hobbyists and full-time farmers had significant similarities ($P = 0.01$) regarding their decision making, though the correlation between part-time and full-time farmers was stronger ($P = 0.00$). All three types of farmers prioritised similar risks, but the strongest similarity was between part-time and full-time farmers ($P = 0.02$). The closest similarities between hobbyists and part-time farmers were expressed with respect to activities (including land management and on-/off-farm activities). In particular, this finding highlights similarities across the three groups with respect to their pro-environmental land management. Hence, these actions are addressed first below before then focusing on the other aspects of Table 3 with respect to other inputs to multifunctionality.

5.2 | Pro-environmental land management

The majority of hobby farmers were committed to pro-environmental approaches to land management, with two thirds reporting they had engaged in restoration of native vegetation and providing habitat for native flora and fauna, which could include creating wildlife corridors (Table 4).

Only 2 of the 12 part-time farmers gave a score of 5 (most important outcome) to "protecting the natural environment" compared with 11 (55%) for hobbyists. Similarly, 15 (75%) of the hobbyists rated "concern for the environment" among the five most important factors affecting their decision making, in contrast to just two (16.7%) of the 12 part-timers and 9 (20.9%) full-time farmers. However, it is important to note that both full-time and part-time farmers also expressed pro-environmental sentiments and engaged in activities such as preventing soil erosion, restoring native vegetation and creating wildlife corridors, even though there was no direct monetary value associated with such activities.

The focus on environmental aspects of land management by hobbyists accords with Wilson's (2008) conceptualisation of multifunctionality, in which he contended that hobby farmers are more likely to produce environmental benefits from the land, by virtue of not needing to focus on seeking profits, so they can produce environmental gains "by default" (see also Groth-Joynt

TABLE 4 Land management and on-/off-farm activities

	Hobby farmers		Part-time farmers		Full-time farmers	
	N = 20		N = 12		N = 43	
	<i>n</i>	%	<i>n</i>	%	<i>n</i>	%
Land management						
Restoring native vegetation	13	65	7	58	12	28
Preventing soil erosion	12	60	9	75	32	74
Providing habitat for native flora/fauna	12	60	8	67	18	42
Creating wildlife corridors	12	60	8	67	16	37
Minimising use of fertilisers/pesticides	11	55	7	58	32	74
Protecting riparian environment	8	40	4	33	11	26
Managing nature reserve	7	35	5	42	7	16
Using organic fertilisers	6	30	3	25	17	40
Sequestering carbon	5	25	1	8	8	19
Provide regular and sufficient irrigation	4	20	5	42	33	77
Managing farm wastes	4	20	4	33	14	33
On-/off farm activities						
Maintaining heritage buildings/artefacts	4	20	2	17	6	14
Contracting for other farmers	4	20	2	17	11	26
Processing	3	15	3	25	10	23
Farm-gate sales	3	15	4	33	18	42
Pick-your-own	1	5	3	25	6	14
Cellar door sales	0	0	0	0	13	30

Note: Not all activities are listed.

et al., 2020). For some hobbyists and part-timers, though, these gains were quite intentional:

We are planting native vegetation on purpose, especially in the creek line. So, we have got the little Para River running through here. We fence livestock out of there and protect it. We have created some other corridors and things and adding in improved pasture. I have planted a few gum trees just in the middle of a pasture because we have had some big gum trees. I'll put up very elaborate protection from the alpacas chewing them off. (Part-time alpaca breeder, male, aged 50s)

Hobbyists referred to enjoying “getting close to nature” by providing habitat and landscape on the farm suitable for native wildlife, such as kangaroos and birds. Some have planted trees as corridors in order to protect native plants in the creek line and have generally increased native vegetation in the landscape. Even though these small patches may still be beneficial to animal wellbeing and biodiversity protection both directly

and indirectly, the habitat areas are often fragmented and limited to small, isolated areas.

One hobbyist expressed a clear view of the type of farm she was trying to create:

Purposely I wanted to rebuild from scratch. I wanted to find a piece of land that had very little value on it, and to actually re-establish that value. I find the environmental scene very depressing. I want to do something positive. The land is there for different purposes. So, I would probably have a higher-level conservation interest than some people. (Hobby farmer keeping horses, female, aged 40s)

This recreational horse owner also referred to the damage horses can do to pasture (see Newsome et al., 2004), pointing out numerous instances of such issues across the Hills as horseculture continues to spread. She contrasted poor land management of some horse owners with those who were providing sufficient nutrition for the horses, maintaining their health, and protecting the local environment, such as growing lucerne as feed for horses. However, due to recent

droughts in the Hills and the expense of irrigation required for lucerne, feed prices were rising, along with other costs incurred by hobby farmers, rising living costs being perceived as a major risk by 6 of the 20 hobbyists.

Both full- and part-time farmers complained about the increasing numbers of hobbyists who were “not proper farmers” and who “do not manage the land properly.” They referred to lack of appropriate land management leading to proliferation of invasive weeds, which can diminish the quality of nearby native vegetation (Hutchinson, 2020) and can also spread to neighbouring properties. The latter was duly noted by a part-time farmer who expressed a keen concern for the well-being of the land while rearing beef cattle:

There’s a problem of weeds spreading from my neighbour up the hill (a hobby farmer). He does not take proper care of his land and I am having to deal with weeds encroaching on my property! (Part-time beef cattle farmer, female, aged 65+)

Prevention of soil erosion was another active concern, with steps taken to minimise use of fertilisers and pesticides, which accords with findings reported by Raymond and Brown (2011) for the South Australian Murray-Darling Basin region, who identified well-educated hobby farmers employed in professional or managerial occupations as the most likely farmers to plant native vegetation on their holding. It also corresponds with Wardell-Johnson’s (2016) observation for South-East Queensland’s peri-urban fringe that holdings under 10 ha were more likely to show concern about the sustainability of resource use, investing in activities enhancing biological conservation and fostering ecological integrity.

Hobby farming generally combined some food self-provisioning (FSP) either with pro-environmental behaviour (PEB), in echoes of contemporary rural development in parts of eastern Europe (Ančić et al., 2019) or with keeping horses for recreational purposes. The combination of FSP and PEB is a significant contribution to both environmental and social sustainability, as hobbyists often do not use herbicides/pesticides and engage in various forms of PEB while developing social support networks. In the Adelaide Hills, the latter has primarily involved participation in Landcare schemes and projects organised by Landscape Boards (formerly Natural Resource Management Boards) and environmental non-governmental organisations (Bardsley et al., 2021; Magnusson, 2019). This contribution to environmental and social dimensions of multifunctionality is described by Smith and Jehlička (2013, p. 30) as part of “quiet sustainability” practices. The evolving social networks

being created by these pro-environmental hobbyists have parallels with the “learning communities” reported for new “agroecological and alternative” farmers in Ontario and Manitoba (Laforge & McLachlan, 2018).

There are, though, clear differences among the hobbyists. Those with a strong focus on conservation are primarily managing the land purely for an environmental outcome, with commercial farming activity absent or subservient to pro-environmental goals. In contrast, for those engaged in recreational horse keeping, ecological concerns are largely secondary to maintaining pasture for horses (Klepeis et al., 2009). Land management for recreational horses contributes to maintaining a more open landscape and in some cases to biodiversity conservation and species richness, though there may be issues with overgrazing and decreased water quality due to nutrient leakage from manure (Hammer et al., 2017; Parvage et al., 2015). One hobby farming horse owner noted the problem of overgrazing on the small paddocks in her possession and cited “keeping the weeds under control” as her main land management issue. Given the numbers of people needed to look after horses and to staff riding schools, the recreational horse industry has also added additional labour to the land compared with traditional agriculture.

5.3 | Limited income generation from the land

Of the 20 hobby farmers, 8 (40%) stated that their farm had contributed no income and 6 (30%) less than 5% household income in the past financial year. There was one other participant whose only on-farm income came from bed-and-breakfast accommodation. In contrast, all part-timers derived some income from on-farm activities involving crop and/or livestock production and the majority between 26% and 50% of household income. Hobbyists’ lack of concern for income generated from the farm reinforces the view of Argent et al. (2014) who observed that rural in-migrants frequently command assets derived from non-land-based sectors of the economy, which enables them to outbid local farmers for plots of land and property. These external sources of capital and income then allow many hobbyists to exist without the need to focus on revenue generating on-farm activities, and hence, they make little direct contribution to economic production aspects of multifunctionality. Their greater financial resources when applied to the land and property market may also limit opportunities for expansion by commercial farmers and new entrants to the agricultural sector whom they can outbid in the property market.

A study by Sutherland et al. (2012) in north-east Scotland recognised important differences among non-commercial farmers based on whether the farm household primarily relied on income from off-farm sources or from on-farm diversification such as farm-based tourism. This distinction is echoed in our survey, with just five (25%) hobbyists recording >10% of their annual household income from sales of produce grown on their farm, with the corresponding figures for part-time and full-time farmers being 84% and 95% respectively. Two full-time farmers recorded no income from their farm in 2019–2020 because of the impact of the Cudlee Creek bushfire (see below). Across all three groups around one fifth to one quarter of farmers derived some income from working for other farmers such as helping with harvesting fruit or supplying casual labour. Similar proportions derived income from on-farm processing, but diversification into tourism was dominated by part-time and full-time farmers, primarily in the form of running cellar doors, farm-gate sales, and pick your own (PYO).

A substantial cohort of the part-time farmers remains attached to an economic conception of farming, maintaining income-generating activities, while our interviews suggested that some are scaling down and often planning how to hand over their farm to successors. The scaling down was frequently enforced by reduced physical capabilities with age, but farmers still wished to maintain a reduced herd of beef cattle or horses or continue growing fruit trees before handing over to the next generation. Even injuries occurring in combating recent bushfires had not deterred this strategy for a couple of the interviewees, and one female grazier still retained a small herd in her mid-80s.

In the sample, 85% of the hobby farmers had purchased their farm rather than inheriting it, so hobbyists were largely neither former full-time nor part-time farmers who had simply downscaled their farming activities, though one interviewee had moved from a full-time farm elsewhere to purchase a “lifestyle” holding “because full-time farming was no longer paying sufficient money to reward all the hard work” (male hobby farmer, late-50s). He recorded no income from the new holding, though some of his land was used by a neighbour for agistment of livestock. Only one hobby farmer was planning to expand their farm business into a full-time operation.

Four hobbyists referred to employing non-household labour on the farm: One used contract labour to collect firewood and “thinnings” from an on-farm plantation, which were then sold to generate the only on-farm income; the other three used seasonal labour to harvest crops. In contrast, 7 of the 12 part-timers employed labour, mainly at harvest time,

including one cherry grower who hired 30 workers to harvest a substantial crop. In contrast, 3 part-timers growing cherries operated (PYO) schemes for the cherry harvest. Despite having to organise car parking, collection of entrance fees, and weighing facilities, they argued that they could make more money this way, interacting with and selling directly to the public. It also eliminated the need for negotiating contracts with supermarkets and being part of a long payment cycle. PYO contributes to the rural economy by bringing tourists into the area. The cherry growers can engage in face-to-face interaction with the tourists, helping them gauge market demand and preferences quickly and directly.

One of the advantages of doing pick-your-own is that we are in contact with customers every day. We can do direct market research, with people saying, “Have you got sour cherries?” And that really came to me when I started to go to cherry meetings and cherry conferences, and they were paying lots of money to get information about what customers wanted. (Part-time cherry grower, female, aged 65+)

The growing numbers of property owners keeping horses for recreational purposes in the Adelaide Hills contribute to what Sutherland (2021), for north-east Scotland, terms a “gentrification” process whereby amenity migration transfers substantial amounts of capital into land-based investment in a smallholding, with clear visual evidence, including stables (sometimes purpose-built by the new owners) and a new landscape devoted to pasture, board fencing (also often newly erected), livery yards, and sanded riding arenas (manèges) with horse jumps for exercising and training horses (p. 41; Sutherland, 2012). Some of the smallholders also produce their own hay for feed. These hobbyists were therefore contributing to a subtly changing landscape and economy, one aspect of the latter being new shops in the area catering specifically for recreational horse owners as well as commercial thoroughbred horse breeders. We recorded eight such specialist retail outlets in the Hills, indicating the buying power of the growing number of properties keeping horses. The recreational horse owners were also supporting the growth of riding schools in the area, including some with specialist teaching provision such as horse riding for the disabled. In addition, the horse owners were establishing new social networks associated with these riding schools, training children to ride and the use of particular trails for horse riding.

5.4 | Risk management

As part of the focus on human agency in creating the multifunctional landscape, all respondents were asked to name the five most significant risks faced on their farms. The responses of the three groups were closely similar (Tables 3 and 5), with all three overwhelmingly identifying climate change as the main risk (69.3%). In part, this identification reflected important links being drawn between climate change and increased risk of bushfires, with the latter mentioned by several interviewees with memories of the Cudlee Creek fire (see below) fresh in people's minds. One participant had been seriously injured in the fire, 4 others had lost substantial numbers of livestock or suffered major crop damage, and several wine grape growers mentioned smoke taint on grapes.

Bushfire has been a major threat in the Adelaide Hills, with a major bushfire event, the Cudlee Creek fire, occurring in December 2019. This fire burned >25,000 ha, killing one person and >3,750 cattle and horses, and destroying 98 homes, >540 outbuildings and other properties and >700 ha of viticulture (South Australian Independent Bushfire Review Team, SAIBRT, 2020). Given that the questionnaire and interviews were conducted only between 9 to 12 months after these fires, this risk to farmers' properties, native vegetation, the wider farming landscape, and their mental health and lives was at the forefront of many farmers' concerns across all three categories.

For full-time farmers, the possibility of more bushfires means they could face crippling economic losses. Even for those who do not aim at production at all,

bushfire poses a huge threat to life, safety, and infrastructure. Several participants recognised that, although various local, state, and federal government departments and non-profit organisations are actively cooperating in response, effective bushfire mitigation is extremely difficult. In some cases, this perception was based on recent first-hand experience.

For me, the biggest thing I think about is bushfires and just doing management to reduce the risk or reduce the damage that can occur on our house and garden. (Hobby farmer, male, aged 50s)

There was a link between level of education and recognition of the importance of climate change: Hobby farmers with the highest levels of education most readily identified that the climate is gradually warming, with spring coming earlier, the length of time with high temperatures increasing, and a rising prevalence of extreme weather events, notably drought and heatwaves (see Houston & Bardsley, 2018).

I guess climate and rainfall are probably the two most external events. I've certainly noticed that it is getting warmer. So those sorts of things make it harder to ... like ... I wanted to get some seedlings into one of the paddocks even leaving it a couple of weeks, but it dried out more quickly than I was expecting. (Hobby farmer growing fruit, male, aged 50s with a postgraduate degree)

TABLE 5 Chief current or potential risks on the farm

	Hobby farmers		Part-time farmers		Full-time farmers	
	<i>n</i> = 20	%	<i>n</i> = 12	%	<i>n</i> = 43	%
Climate change	14	70	11	92	27	63
Pests/diseases	12	60	5	42	28	65
Urban development	9	45	2	17	7	16
Excessive regulation	7	35	5	42	15	35
Government policy	6	30	4	33	3	7
Living costs	6	30	1	8	4	9
Biosecurity	5	25	1	8	10	23
Lack of customers/unstable markets	5	25	0	0	3	7
Labour costs	3	15	5	42	27	63
Economic condition	3	15	2	17	17	40
Succession	1	5	4	33	10	23
Oversupply of your produce	1	5	4	33	10	23

Note: Only most commonly stated risks are listed.

These hobbyists also tended to be most likely to be taking pro-environmental actions on their farm. Similarly, part- and full-time farmers making clear links between climate change and bushfires were those most likely to create wildlife corridors, plant native vegetation, and engage with environmental groups. Hence, there is an environmental contribution to the landscape from representatives of all three types distinguished in the research. Wardell-Johnson (2016, p. 46) has described these environmental concerns as introducing values “transcending traditional lifestyle-farmer divides.” Thus, it may be possible to fuse the pro-environmental values expressed by many of the part- and full-time farmers with those of the hobbyists “to move peri-urban landscapes from transition zones between urban growth and rural

decline” (p. 45) by embracing a mixture of economic, social, and ecological values.

Pests and diseases are other major risks that all farmers identified, and especially fruit growers. In addition to common pests and diseases affecting most crop production, soil-borne fungal disease and fruit fly were perceived as the main threats. Perceptions of risk from pests may have been heightened by the fact that as the survey and interviews were in progress (late 2020) an outbreak of fruit fly occurred in the Adelaide Hills, which is usually fruit fly-free; several orchards were threatened, and government instated precautionary measures affecting part of the Hills. Bait spraying, cover sprays, mass trappings, and attract-and-kill are common control options for farmers, but require considerable investment,

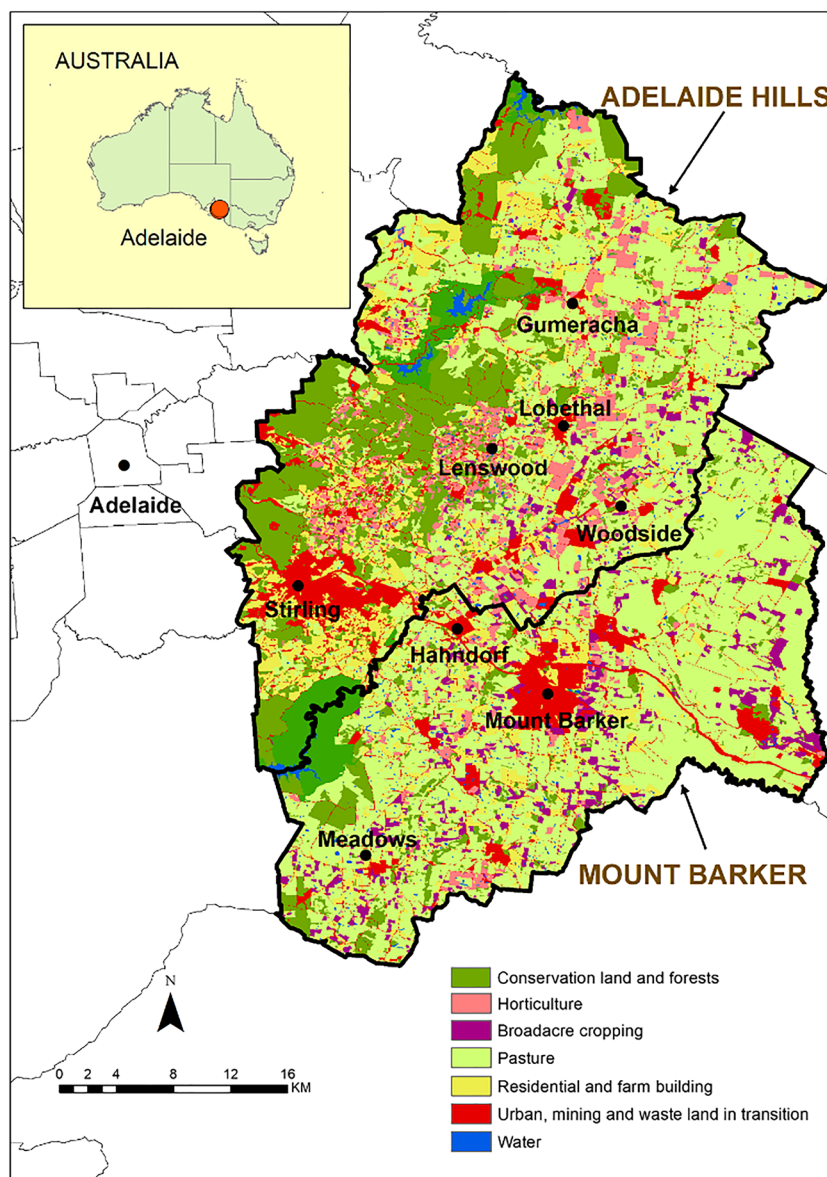


FIGURE 3 Land use in the Adelaide Hills, South Australia. Data source: Department of Agriculture, Water and the Environment, Australian Government, catchment scale land use of Australia—update December 2018

which most hobby and part-time farmers may be unwilling to make.

So, fruit fly is a serious problem; it will mean the commercial growers will have to have extra documented processes. They'll have to pick their fruit; they'll have to have their packing shed properly excluded so that no fruit fly either goes in or out. They have to have traps, the monitoring, their packing shed ... (Part-time cherry grower, female, aged 65+)

In contrast to full-time farmers, hobbyists did not highlight concerns about the economics of the farm business. Few hobbyists employed workers, so they were largely not concerned about labour costs. They were also not intending to pass on their farm to family members, so had few worries over succession. Yet, in common with full-time farmers, hobbyists expressed concerns about urban development and its intrusion into the landscape. For hobbyists, this response may be part of a “draw-bridge,” “anti-development,” and nimby mentality (Halfacree, 2010; Kiley & Robinson, 2010) whereby the most recently arrived residents express the greatest levels of concern over the possibility of new housing being built in the vicinity and, in this case, threatening the rural amenity and environment that the hobbyists had sought when purchasing their properties. A specific concern among those hobbyists committed to environmental protection was the growing fragmentation of the landscape by new development, which was exerting tremendous pressure on the natural environment and land management (Figure 3). Paradoxically, these hobby farmers are the beneficiaries of small rural properties available for purchase as a result of fragmentation. However, they tended to distinguish themselves from new “lifestylers” and often complained about the latter.

You look at Mount Barker, and the amount that it's grown is absolutely phenomenal. Subdivision is crazy. In fact, even some of the smaller towns around us have significant redevelopment (sighs). I reckon it's just a matter of time before someone starts coming in and buying up large areas, subdividing it and getting permission because councils love it ... they get more rates. (Environmental hobby farmer, male, aged 65)

This quote especially bemoans the spread of new housing estates on the outskirts of the area's main town, Mount Barker, where many of the residential estates are

being built on high quality farmland (Liu & Robinson, 2016). Planning reforms in South Australia in 2016 designated much of the Adelaide Hills as an Environmental and Food Production Area (EFPA), intended to protect land in Adelaide's peri-urban fringe from unrestricted development, with constraints on land sub-division for housing (PlanSA, 2021). Yet within the EFPA's are Rural Living Areas scheduled for new housing, so that the population of Mount Barker is predicted to grow by over 40% by 2035. The interviews revealed strongly held views among hobby farmers about the need for additional policies that would do more to support environmental and cultural outcomes of agriculture and curb further urban sprawl. In contrast, part-time and full-time farmers focused more on a desire to see government provide more economic support for agriculture and diversification of farm businesses.

6 | CONCLUSION

The growth of hobby and part-time farming in the Adelaide Hills is part of a dynamic multifunctional landscape, as is the case in many other rural-urban fringes across the developed world. Hobby farmers are imprinting distinctive characteristics on the landscape in terms of contributions to growing fragmentation, making piecemeal environmental improvements, and producing pastures for horses. Hobbyists share certain similarities with part-time farmers but, in contrast, derive little or no income from land-based production and often have no prior farming background. Essentially, they are well-educated urbanites who have sought out rural or semi-rural lifestyles by investing capital sourced from their previous or ongoing careers. Most have “retired” to a rural retreat where they are able to pursue pro-environmental interests using the land for some subsistence agriculture and occasional income generation, possibly via farm-gate sales/pick your own. Although generally minor, on-farm income generation for hobbyists comprises a wide variety of activities such as selling flowers, fruit, and vegetables, providing agistment, and offering bed-and-breakfast accommodation. These activities make small contributions to the multifunctional peri-urban economy but probably less than the contributions made by recreational horse owners to specialist retailing in the study area. In contrast, part-time farmers are more focused on deriving on-farm income and have often developed farm-based enterprises that contribute up to half of household income. A minority of both hobbyists and part-timers help add another dimension to MFA by engaging with tourism activities (including bed-and-breakfast accommodation), although full-timers were more involved in

tourism, principally via cellar doors and restaurants associated with wine production.

While multifunctionality has become a feature of the Adelaide Hills, it is an evolving and dynamic condition with respect to decision-making agency among hobbyists and part-time farmers. Half the part-timers were intending either definitely or possibly to exit farming within the next 5 years. Similarly, of the 20 hobbyists, one was definitely planning to sell up, while 8 were considering exiting and one was going to reduce their agricultural activities. In contrast, only 3 were planning to expand, one moving towards becoming a full-time farmer, one to generate more income (from agistment and letting buildings/stabling) by acquiring another rural property, and another to start a bed-and-breakfast. However, 6 had made changes to their farming operations in the last 5 years (generally diversifying, with new crops or livestock).

The hobbyists and part-time farmers are clearly part of the transitional nature of this peri-urban fringe, producing distinctive changes to both landscape and socio-economic characteristics. However, change from within the traditional farming sector is also adding to the more fragmented pattern of land use, which, in part, is occurring because of the ongoing turnover of ownership and occupation of the land—for example, the moves from full-time to part-time farming and the associated patterns of succession. It is also because of responses to pressures on full-time farming, which have brought observable changes in the landscape via farm-based tourism, on-farm sales outlets and processing, and farm diversification. As experienced in Melbourne's peri-urban fringe (Butt, 2013), this transition has seen locational transferrence of some activities, notably the movement of specialist dairying, and vegetable and potato production largely out of the Hills.

In terms of the multifunctional landscape, hobby farmers' focus on pro-environmental actions is making a small contribution to increased biodiversity and restoration of native vegetation in the Hills. These actions may be in contrast to traditional governance approaches towards environmental and biodiversity conservation, which often fail to embrace local farmers' views and knowledge, and places financial pressures and management responsibilities onto government authorities (Coad et al., 2019). A transition from traditional production to hobby farming is preferable for long-term natural resources management when compared with losing farmland to urban development. Hobbyists and part-time farmers perform the key function of maintaining rural land use when many socio-economic pressures are working against that in high-value agricultural areas on the peri-urban fringe.

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CONFLICT OF INTEREST

There is no conflict of interest.

ETHICS STATEMENT

Ethics approval H-2020-095 was granted by the Faculty of Arts and Faculty of the Professions, University of Adelaide. Informed consent was obtained from all individual participants included in the study.


DATA AVAILABILITY STATEMENT

Data are stored securely at the authors' institution and are available on request.

ORCID

Bingjie Song  <https://orcid.org/0000-0003-2652-5887>

Guy M Robinson  <https://orcid.org/0000-0003-1652-6456>

Douglas K Bardsley  <https://orcid.org/0000-0001-7688-2386>

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