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Does the farmer want a market? Factors impacting on participation by local producers in farmers markets

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This paper presents the findings of a study which aimed to investigate the barriers to participation in farmers' markets by the wider farming community in South Australia (SA) with a particular focus on small-to-medium-sized primary producers. While the experiences and motivations of farmers participating in markets outside Australia have been studied, there has been very little research conducted in Australia or internationally on raw food producers who remain outside the farmers' market community. Both descriptive and multivariate analysis has been undertaken in an effort to rank and summarise the factors which inhibit participation by producers in farmers' markets. Six key dimensions are identified as underlying the survey results and these are used to group producers into three clusters. Finally differences between farmers within each cluster groups are identified.

Keywords: farmers' markets; producers; participation

Introduction

This paper presents the findings of a study which investigated the barriers to participation in farmers' markets by the wider farming community in South Australia (SA) with a particular focus on small-to-medium-sized producers. While the experiences and motivations of farmers participating in markets inside and outside Australia have been studied (Brie, 2005; Coster & Kennon, 2005; Fielke & Bardsley, 2012) there has been little research conducted in Australia or internationally on raw food producers who remain outside the farmers' market community. Yet this group is critical to farmers' markets which rely fundamentally on consumers doing their weekly shop for fresh food. It appears, however, that it is the raw food producers who are the hardest to attract to the markets (Page, 2011). The reasons remain unclear and are largely unaddressed in the literature. This study aims to address this knowledge gap by means of a baseline survey of key stake holders being local rural producers in South Australia (SA).

Background

The significance of the study is reflected in the Australian Federal Government first national food plan (DAFF, 2011) which recognised the significance of the informal components of the nation's food service sector as represented in particular by farmers' markets (DAFF, 2011). Government support for this form of food retailing has grown as it understands the strategic importance of ensuring competition through the provision of alternative venues for fresh produce (DAFF, 2011). The study is also significant in

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light of recent comment by social observers such as Brett (2011) who have identified a widening gap between rural and urban societies in Australia. Brett (2011) suggests that rural Australia faces the threat of abandonment by cities with its contribution to the nation dismissed and its historic purposes forgotten. Yet the federal food plan recognises that the city still depends on rural Australia for a great deal of its sustenance; economically, environmentally and socially and that, in this context, farmers' markets can act as important points of contact between city and country, creating support and interest in the rural sector (McEachern, Warnaby, Carrigan, & Szmigin, 2010). As such farmers' markets have a potential role to support food security, through the preservation of farmland and thus to regional and local economic development, as well as making a contribution to health and well-being through access to healthy and nutritious food.

Literature

In the past, the study of farmers' markets has mainly focused on consumer characteristics and values (Page, 2011) and on the benefits to consumers. The research has broadened as farmers' market have expanded and now includes aspects such as understanding the benefits to small farms, their role within sustainable agriculture and food systems, the design of and planning for market space, linkage to state and federal policies, direct marketing, retail spaces and their contribution to community resilience.

Farmers markets as part of agriculture and agricultural food systems

The Australian Farmers' Market Charter outlines the aims of farmers' markets as being to:

- preserve farmland and sustainable agriculture;
- support and stimulate the profitable trading, viability and business growth of independent primary producers, hobby farmers, community and home gardeners and associated produce value adders;
- provide customers with regular supplies of fresh food and access to improved nutrition, and
- contribute to the economic, social and health capital of the host community (Johns, 2010).

One of the key features of farmers' markets is the direct selling of produce. This is not a new process (Fielke & Bardsley, 2012) and it is estimated that Australian farmers' markets annual turnover approaches $40 million with a factored economic impact of $80 million across Australia (Brie, 2005). There are, however, other options for direct selling. In the UK, it has been shown that, even though farmers' markets are growing in numbers, farm shops and farm gates generate greater income for organic growers than farmers' markets (Brie, 2005). Fielke and Bardsley (2012) contend, however, that Australian agriculture is struggling with social, ecological and economic risk and that farmers' markets offer a way for some farmers to transition 'into a more sustainable agri-food system'. A recent national study (RIRDC, 2014) of stallholders has identified that farmers' markets can be viewed as important in facilitating or enabling a range of services to farmers, market vendors, consumers and communities.

Coster and Kennon (2005) identified three categories of farmers' market vendors. Those that achieve more than 20% of overall sales at the farmers' market and consider

the markets to be strategically important for their business; those that use the farmers' markets as an opportunity to showcase their produce to the local community; and those that have 'outgrown' farmers' markets and no longer supply the markets. This latter category has been described as one of the successes of the farmers' markets concept, in that these are producers who recognise the contribution of their involvement in farmers' markets to their ongoing marketing and business development (Coster & Kennon, 2005).

Growth in farmers' markets

In Australia, new-generation farmers' markets started in 2004 and now number at least 170 with ongoing growth in number (Page, 2011). As of 2010, 150 farmers' markets were officially recognised by the Australia Farmers' Market Association (Fielke & Bardsley, 2012). Farmers markets are also popular internationally. In the USA they have grown from 340 in 1970, 1755 in 1994, 3000 in 2001, 6132 in 2010 and in 2013 number over 7100 with over 1000 markets created in 2011 (Brown, 2002; Fielke & Bardsley, 2012). The United Kingdom has some 550 farmers markets (Umberger, Stringer, & Scott, 2007) and New Zealand has over 50. In Australia, markets are generally located in regional towns or small towns close to a significant regional population. While farmers' markets exhibit variations, the essence of their operations is to match demand and supply and as such there is ongoing work 'to build up one or the other to ensure that the wants and needs of both are continually met' (Balfour Consulting, 2010). An indicator of the stability and attainment of 'critical mass' is suggested to be a market's ability to afford a full-time market manager, to undertake regular promotion and to communicate with seasonal and year-round vendors (Balfour Consulting, 2010).

Benefits for farmers' market vendors

A number of benefits to primary producers of participation in farmers' markets have been recognised (Conner, Smalley, Colasanti, & Ross, 2011). These are generally consistent across Australian and international studies and include profitability, education of customers, market research, skills learnt, ease and flexibility of making a sale, new outlets, psycho-social and pride and control (Brie, 2005).

The most popular benefit which has been identified is social, followed by cash sales, consumer feedback, supplementing income and product promotion. Other studies suggest promotional rewards, selling locally and the market as a social event as reasons to participate other than for profitability (Brie, 2005; Coster & Kennon, 2005; Fielke & Bardsley, 2012). Indeed Fielke and Bardsley (2012) observe that the social nature of farmers' markets is in contrast to mainstream 'productivist' agricultural approaches. These social benefits are potentially more important for female stallholders. A study of societal changes in farming families showed that 'women's satisfaction with their lives is a better indicator of the potential success or otherwise of a farm enterprise than farm size or profitability' and that 'continuing attendance [at markets] is greatly influenced by quality of life and enjoyment' (Barr 2002 cited in Brie, 2005, pp. 24–25).

There is limited information on the impact of farmers' markets on vendors actual incomes as vendors are reluctant to discuss their sales (Brie, 2005). However farmers who participate in farmers' markets can manage a 40% to 80% return on their product (Coster & Kennon, 2005) while those distributing through supermarkets generally receive only between 10% and 20% of the retail price with products such as lettuce

returning as little as 5–10% (Coster & Kennon, 2005). Without the 'middleman', farmers can recover costs that would otherwise be lost to transport, handling distribution and labelling (Andreatta & Wickliffe, 2002).

Farmers' markets can act also as business incubators (Coster & Kennon, 2005; RIRDC, 2014) and provide an opportunity for small-scale producers to sell when they are often too small to sell at wholesale markets and much too small to deal with supermarkets (Page, 2010). Farmers' markets provide a low-risk environment to grow a new business or to test products and brands (RIRDC, 2014). For individuals, farmers' markets may also help them manage transition at different stages of life (Coster & Kennon, 2005). For instance, from full-time to part-time farming, part-time to full-time farming, city to rural living, traditional farming to direct marketing or employment to productive retirement. For the agricultural sector as a whole, farmers' markets are seen as important for protecting and enhancing rural land use and land values (ICMA, 2006) and increasing land under cultivation.

Methodology

The research methodology that was adopted for this study included a survey of small to medium-sized farmers in three case study areas: the Adelaide Hills; the Barossa Valley; and the Riverland, SA, using a paper-based questionnaire. The conceptual framework followed Garforth and Rehman (2006) and Defra (2008). Within this framework the intention to adopt a particular behaviour is understood as a function of attitudes including perceptions held, social factors such as peer influence, internal factors including willingness to change and external factors such as cost, market conditions and policy settings. The survey questions were derived after initial meetings with the Agricultural Bureau of SA (ABSA) and the Advisory Board of Agriculture for SA.

Farmers were contacted through their membership of the local branch of ABSA which is a non-political organisation with 78 operating branches in SA that meets regularly to exchange ideas and to keep up to date with the latest developments in agriculture. All of the ABSA branches sampled were within four hours driving time of Metropolitan Adelaide (approximately 250 kms). Within the three areas, the survey aimed to adopt a cross sectional design in order to capture producers of different size operations and a diversity of land uses, as there are likely to be different issues for fruit growers compared with grain growers, livestock or wine producers.

According to the ABS Agricultural Census (ABS, 2009) there are about 3000 agricultural business in the Statistical Division (SD) of Outer Adelaide. The study aimed to survey at least 80 farmers, that is, about 2.5% of the Outer Adelaide SD farming population. Previous surveys distributed through the ASBA have achieved a 50% return rate (Peck & McDonald, 2001). Based on this return rate 180 surveys would achieve an adequate sample.

Each ABSA was contacted directly either in person or by phone to arrange for a member of the project team to address a selection of branch meetings in order to explain the project and to distribute the questionnaire to members for later collection. The questionnaire was designed to take about 15 to 20 minutes to complete and included mainly closed questions with tick boxes plus a small number of open ended questions. Most of the closed questions sought a response measured along a Likert scale of not at all important to very important. The survey also identified the characteristics of participants and non-participants in terms of age, household type and

education, length in time in farming, location and size of farm and land use type as well as existing stallholders.

A web-based survey was not considered viable as most rural producers in South Australia only have dial up access to the internet and as such would experience difficulty in opening small attachments or inputting data. This would significantly impact on the response rate to the survey. Many rural research agencies (ABARE, 2010; ABS, 2009) still use face to face interview as a means of survey. The team was of the opinion that for this study face to face interviews, coupled with a paper survey which has been presented and explained directly to groups of farmers, would elicit the best response.

Analysis of the survey results adopted a standard approach to reporting of survey instruments (Malhotra, 2009; Veal, 2005) using descriptive and multivariate analysis which included ranking of items and identification of differences between groups using Analysis of Variance (ANOVA). Principal components analysis (PCA) was used to summarise the survey responses and to identify any underlying structure (Hair, Anderson, Tatham, & Black, 1998). This multivariate technique is useful when attempting to identify sets of variables that are strongly aligned. Bundles of survey responses are brought together under a small set of factors, with each factor labelled in accordance with the original responses it has summarised best. Thus PCA is helpful both in summarising large data sets and in identifying patterns within them.

Participants in the survey have then been grouped or clustered together (Hair et al., 1998) based on their collective responses to the survey as identified through the PCA analysis. These clusters bring together respondents who hold similar views as represented by the 'scores' they have achieved through the PCA analysis. Farmers were clustered by means of hierarchical clustering, based on Ward's method (Hair et al., 1998), into one of three groups which reflected the scores individual farmers achieved across the factors. Three clusters were considered adequate given the sample size and each of these three clusters brought together producers whose attitudes to farmers markets adopted a similar pattern. Finally the characteristics of farmers within each cluster were determined and significant differences between the clusters identified using ANOVA. Thus the responses of producers have been summarised, producers have been grouped together according to this summary and any differences between the groups identified.

Results

Descriptive analysis

Farmer characteristics

Some 200 surveys were distributed during a series of Agricultural Bureau of SA (ABSA) meetings with 71 surveys completed; a success rate of over 35% which reflects the cooperation of the respective local Agricultural Bureau groups and the benefits of speaking directly to would be participants about the survey. These 71 respondents, of which 93% were male, represent about 2.1% of the farming community in SA (ABARE, 2010). On average land holders spent over 80% (81.6%) of their time as primary producers, achieved 61.1% of their income from farming, had spent over 32 years in primary production and had lived for almost 30 years on the same property.

The sample of producers showed a spread of land uses which include vines, sheep, cattle, cereal, fruit and citrus. As producers of staple and main stream farm produce

these are exactly the types of producer that farmer's markets find hard to attract. Vine growers represent almost 50% of the survey participants as response from the grape growing region of the Riverland was particularly high. However tests of difference between vine growers and other producers did not indicate any significant bias in results. As such land use is strongly represented by wine growers (48.5%) with about 39.7% represented by sheep or cattle producers and only 4% were primarily cereal growers. A range of other crops were produced but at much lower levels. These include nuts, citrus, dairy, poultry and flowers.

A spread of farm size was also represented. This is considered important as the regularity and volume of supply may be impacted by farm size. Almost a quarter of the properties (23.9%) were of small area (up to 20 hectares), while some 22.4% were between 100 and 500 hectares. Another 17.9% of the sample farmed much larger properties of at least 500 hectares.

The majority of producers, almost 65%, were at least 55 years old with 33.8% over 65 years. As such the sample represented an ageing population of primary producers much in line with published statistics and other studies (ABS, 2012; Deloittes, 2014) as well as reflecting the general ageing of the Australian population. The majority of households, 48%, were couple only households with 32% of them being couples with children, which is close to the Australian average of 30.7% of families. About one-fifth were single households. Some 32% of producers had high school as their highest level of educational attainment while another 26% were university educated, somewhat higher than the Australian average of 14.3% (ABS, 2012). Almost 50% had some form of further education at diploma level or above.

Some 50% of farmers gained over 75% of their income from primary production, and over 72% spent at least 75% of their time farming. However almost 30% of those surveyed suggested that less than 25% of their income came from farming their property. The majority of land producers were of long standing in farming production with 51% in farming for over 30 years and 32% for over 40 years.

In summary, the sample represented an older, stable farming population with substantial years of experience in primary production. As producers most were involved in vine growing, sheep or cattle working on properties that ranged in size from quite small to very large. There were only three existing stall holders among those surveyed (4%) though two of the three had been involved in farmer markets for over five years. Of the sample, only 15.5% were involved in direct selling which included by means of phone, web, and email or shed door sales.

The decision not to participate in farmers' markets – Likert Scale

The top 10 items which were cited as most important in the decision not to become a stall holder (Table 1) were primarily focused on external and farm related rather than social factors. Management issues around form filling, volume of regulations and bureaucracy were cited as important constraints to participation. Also important were internal factors such as the need to produce sufficient volume and regularity of product and the uncertainty of profit making given the perceived inadequate or unseasonal production particularly if paying for extra staff at weekends. However farmers did not exhibit any strong negative perceptions about farmers markets *per se*. In the main they did not consider them a fad and the fact that few farmers in the region were involved in farmers markets appeared not to be an important constraint. It very much came down to a business decision associated with the difficulty in meeting the demands of regular

Table 1. Why are you not a stallholder?

	Why are you not a Stallholder?	N	Mean Likert Score (1 Really Not Important to 3 Really Important)
1	The insurance fees are too high	40	2.38
2	I don't produce enough market ready produce to supply a market regularly	36	2.31
3	You need to comply with too many regulations	43	2.30
4	I don't produce enough of one product to supply a market regularly	40	2.30
5	I wouldn't make enough profit to make it worth my time	42	2.24
6	I don't want to pay for staff at the weekend	40	2.20
7	There is too much form filling	40	2.20
8	There is too much bureaucracy involved	40	2.20
9	I don't have enough seasonal variety in my produce to supply a market regularly	40	2.20
10	I don't produce enough surplus to supply a market regularly	34	2.18

Source: Author Survey.

production, sufficient to cover costs, a decision made stronger by the perceived complexity and cost of farmers' market rules and regulations.

Multivariate analysis

Factor analysis

Using a set of 50 variables from the survey and based on labels of importance attached to various items, PCA was carried out to identify the core factors that cumulatively help to explain the attitude of farmers to participation as a stall holder. KMO and Bartlett chi square and significance tests (Hair et al., 1998) indicated that the data set was suitable for this type for analysis (Table 2).

Based on the criteria of Eigen values greater than one, eight factors were produced which summarised the reasons which influenced participation in farmers' markets. Eight components represented at least 80% of the total variance within the data which is considered quite adequate for the purposes of the analysis (Hair et al., 1998) (Table 3).

After rotation, six factors were identified based on a summary of those survey variables with factor loadings greater than .5. Factor scores for each participant were also calculated and standardised. These scores can be used to identify the nature and extent

Table 2. KMO and Bartlett Test.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy		.685
Bartlett's Test of Sphericity	Approx. Chi-Square	5245.828
	df	1326
	Sig.	.000

Source: Author Survey.

Table 3. Cumulative variance explained by dimensions.

Cumulative Variance Explained			
	Rotation Sums of Squared Loadings		
Dimension	Eigenvalue	% of Variance	Cumulative % of Variance
1	10.002	19.234	19.234
2	9.881	19.001	38.235
3	6.787	13.052	51.287
4	4.385	8.433	59.720
5	4.218	8.112	67.833
6	3.095	5.952	73.785
7	1.795	3.452	77.237
8	1.517	2.917	80.153
Extraction Method: Principal Component Analysis.			

Source: Author Survey.

to which each factor is represented by an individual. Factor labels were given to the first six of the principle components produced by the multivariate analysis (Table 4). The substructure of attitudes which each component or factor has summarised is reflected in this label. The first factor is the most important in that it summarises the largest level of variance in the data, the second is next most important, the third next and so on.

The six factors produced in this analysis have been labelled as Factor 1 External Factor – Farmer Market Bureaucracy (based on the summary of variables representing attitudes to form filling, insurance fees, regulations, bureaucracy); Factor 2 Internal Factor – Staffing and Commitments (based on variables representing such items as requirement for extra help, weekend commitments, family commitments); Factor 3 External Factor – Farmer Market Costs (summarising variables covering market rents, costs of outlay, competition, production requirements); Factor 4 Internal Factor Produce (based on regularity of supply, variety of supply, levels of production); Factor 5 Social Factor – Peers (based on variables reflecting the views held by peers) and Factor 6 Social Factor – Individual (based on individual lack of interest). These dimensions are in line with the conceptual framework of the study as discussed by Garforth and Rehman (2006) and Defra (2008). Within this framework the intention to adopt a particular behaviour is understood as a function of attitudes which reflect social, external and internal factors.

Thus the most important dimension to come out of the survey results was an external factor attendant to farmer market management issues with regard to form filling, policy and regulations. This dimension alone explained almost 20% of the variance in the data and agrees with the earlier Likert scores attached to items listed in Table 1. The next most important factor which explained a similar level of variance was associated with internal issues such as the requirement for extra help, existing weekend commitments and extra staff responsibilities. The third dimension related to costs and policies associated with participation in farmers' markets while the fourth dimension was aligned around farm production issue in terms of quality and the need for regularity of supply. These four factors summarised almost 60% of the variance within the survey responses.

Thus time poor producers, who may be already facing a series of controls within their own industry, find the extra work attached to market regulations and paperwork to

Table 4. Survey dimensions.

Survey Dimensions/ Factors	1 External Factor - Farmer Market Bureaucracy	2 Internal Factor - Help and Commitments	3 External Factor - Farmer Market Costs	4 Internal Factor - Produce	5 Social Factor - Peers	6 Social Factor - Individual
% of Variance in Data explained by Dimension (Cumulative Variance explained 73.7%)	19.2%	19.0%	13.0%	8.4%	8.1%	6.0%
Survey variables which are strongly associated within the dimension	The insurance fees are too high	I don't have help that can be relied on every weekend	The market rent fees are too high	I don't produce enough market ready produce to supply a market regularly	I've heard negative things about farmers markets	I don't know enough about farmers markets
	There is too much bureaucracy involved	I don't want to spend my weekends in farm-related activity	The costs of outlay in order to set up a stall are too high	I don't produce enough surplus to supply a market regularly	None of the local farmers around here are involved in farmers markets	My family are not interested in farmers markets
	You need to comply with too many regulations	I don't have anyone to help me staff a stall	The farmers market produce mix policy restricts my entry as a stallholder	I don't produce enough of one product to supply a market regularly	Farmers markets are only a fad	I'm not interested in farmers markets
	Kitchen Farm inspections are too invasive of your privacy	I don't have any family or associates that would be eligible to help on a stall	There is too much competition from existing stall holders	I don't have enough seasonal variety in my produce to supply a market regularly	I don't know anybody who is involved in farmers markets	
	I don't have the right transport to take produce to the market	I have too many other commitments	The distance required to travel to the nearest farmers market is too far	I would lose income if perishable produce is not sold out on market	I don't agree with direct selling	
		I don't like working with people	There are not enough regular local buyers			

(*Continued*)

Table 4. (*Continued*).

Survey Dimensions/ Factors	1 External Factor - Farmer Market Bureaucracy	2 Internal Factor - Help and Commitments	3 External Factor - Farmer Market Costs	4 Internal Factor - Produce	5 Social Factor - Peers	6 Social Factor - Individual
	I don't understand the regulations		to make a stall viable	I wouldn't make enough profit to make it worth my time		
	There is too much form filling	I don't want extra staff management responsibility		I am not convinced I could make money		
	I don't want to pay for staff at the weekend	The weekends don't suit my family				

Source: Author Survey.

Table 5. ANOVA –dimensions/factors which are most significant in distinguishing between farmer clusters.

ANOVA Survey Dimension/Factor	Sig * > .05
1 External – Farmer Market Bureaucracy	.000*
2 Internal – Help and Commitment	.088
3 External – Farmer Market Costs	.023*
4 Internal – Produce	.000*
5 Social – Peers	.063
6 Social – Individual	.318

Source: Author Survey.

be a serious deterrent. Secondly the proclivity of markets to be held at weekends also acts as an important impediment to participation by producers seeking some time off the job. The third most important factor also recognised costs not just of opportunity but also upfront fees and stall costs. In line with the earlier discussion, production issues again surfaced in the fourth factor. Negative sentiments around direct selling and lack of interest came out as the fifth and sixth dimensions in the survey.

Cluster analysis

When farmers were clustered together into one of three groups based on the scores they achieved along each of the dimensions described above, there were 35 farmers brought together in Cluster 1, 10 farmers in Cluster 2 and 26 in Cluster 3. When tested for differences using ANOVA (Table 5) these groups of farmers could be distinguished most from each other in terms of Factors 1, 2 and 3 as indicated by a level of statistical significance greater than .05 ($p > .05$). This suggests the hypothesis that there is no significant difference between the groups can be rejected with at least a 95% probability of being correct. The most distinguishing factors between the three groups of producers were their attitudes to farmer market bureaucracy (Factor 1), their views on farmer market costs such as outlay and fees (Factor 3) and their concerns over their ability to produce a reliable supply of produce (Factor 4).

Table 6. Cluster groups.

Survey Dimension/Factor (Sig >.05)	Farmer Cluster Group	N	Mean Cluster Score on Dimension
1 External – Farmer Market Bureaucracy	1	35	−0.731
	2	10	0.113
	3	26	0.940
	Total	71	0.000
3 External – Farmer Market Costs	1	35	−0.242
	2	10	−0.254
	3	26	0.424
	Total	71	0.000
4 Internal – Produce	1	35	−0.349
	2	10	1.905
	3	26	−0.263
	Total	71	0.000

Source: Author Survey.

Table 7. Cluster averages.

Farmer Cluster Average Survey Variable	Farmer Cluster 1	Farmer Cluster 2	Farmer Cluster 3
Age	65+ years	56 to 65 years	46 to 55 years
Education Level	High School	University	Technical
Household Type	Couple	Couple	Couple with Children
Primary Occupation	Farmer (full time producer)	Other (part time producer)	Farmer (full time producer)
% Income from Farming	>75%	up to 50%	up to 50%
Years in Farming	31 to 40 years	11 to 20 years	11 to 20 years
Years on Property	31 to 40 years	11 to 20 years	11 to 20 years
Farm Size	41 to 100 hectares	21 to 40 hectares	41 to 100 hectares
Primary Land Use	Vines	Sheep and Vines	Sheep and Vines
Dimension/Factor Important to the Farmer Cluster		Internal – Produce	External – Farmer Market Bureaucracy External – Farmer Market Costs
N	35	10	26

Source: Author Survey.

Analysis of mean cluster scores (Table 6) for each dimension indicated that farmers in Cluster 1 and Cluster 2 were not over concerned about farmer market regulation and bureaucracy (Factor 1), whereas producers in Cluster 3 were particularly concerned about this issue. In terms of costs associated with market participation and set up (Factor 3), the farmers in Cluster 3 also stood out as most concerned. On the other hand Group 2 farmers were most concerned about issues related to regularity of production (Factor 4). Therefore, in summary, farmers in Cluster 3 stood out as particularly concerned about issues with regard to farmer market bureaucracy and market costs while farmers in the smallest cluster were most concerned about supplying enough produce and on a regular basis. Farmers in the largest group, Cluster 1, could not be significantly distinguished from the other two clusters and exhibited similar views to one or other cluster in terms of market bureaucracy, market costs or reliability of supply.

Farmer cluster characteristics

Next the average characteristics of each cluster were identified (Table 7). Cluster 1 represented farmers who were generally not educated beyond high school, of whom most were at least 65 years of age. Their farm income constituted at least 75% of their income and farming was their primary occupation. Their households were mainly couples only and most had been involved in farming production for at least 30 years, occupied an average farm size of 41 to 100 hectares and were primarily vine growers. This group was relatively indifferent to management issues but showed average levels of concern about costs and the need for a regular and sufficient supply of market produce.

The smallest group of farmers, Cluster 2, represented a younger, more highly educated set of farmers, the majority of which had spent no more than 20 years in farming and occupied smaller farms of some 21 to 40 hectares. Households were primarily couples only, who had non farming occupations as their primary source of income. Their

land uses were most commonly sheep and vines. This group, as part time producers, were particularly concerned about issues relating to reliability and volume of production.

The final Cluster 3 represented farmers between the ages of 46 to 55 years, with a mix of educational backgrounds whose primary occupation was farming. Most were couples with children who had spent at least 20 years on farming. Their properties were on average 41 to 200 hectares with sheep and vines as their primary production. As family households and fulltime farmers, this group is likely to be time poor and financially committed. They were significantly concerned about farmer market bureaucracy and farmer market costs.

Conclusions

The finding in this survey suggest that the recognised benefits of farmers' markets to producers (Conner et al., 2011; RIRDC, 2014) still seem some way from being accepted by the farmers reported in this study. Farmers are not against the concept of farmers' markets *per se* and do not appear to be under any social peer pressure to avoid them. However, they remain unconvinced that given their farm size, volume of produce and regularity of supply that they are likely to make a profit. This runs contrary to the 40% to 80% return on product suggested by Coster and Kennon (2005). In the main they are also time poor and spending precious weekends behind a stall does not hold much attraction. There are issues around help, management of staff, transport and transport cost which also play their part in detracting from participation.

The attitudes of producers to farmer markets very much reflects their personal circumstances with regard to level of income derived from farming, whether they are full or part time farmers, their family commitments and farm size. In line with earlier studies (Brie, 2005), issues associated with regulations, policies and costs are a serious deterrent. As Brie (2005) has commented, other methods of direct selling such as farm gate and shed door sales available seven days a week and often at very competitive prices may have greater appeal given their ease of set up, the absence of additional paperwork or transport requirements and greater flexibility in terms of staffing. This study supports this finding in that form filling and adherence to regulations as well as the length of time taken and the distance required to take produce to market appear to be important deterrents to participation. Existing regulations around farmers' markets which restrict the number of producers assigned to a product could be an important disincentive, while producers who own larger farms do not necessarily have a need to sell small quantities of produce on a regular basis.

This survey would appear to support earlier studies which suggest that larger producers in particular are less motivated to sell through farmers markets (Balfour Consulting, 2010) while older farmers may appear disinterested in ventures requiring new investment (ABARE, 2010). Also producers who only work part time on the farm are likely to be particularly time poor and given the increasing complexity of farm management in Australia (Kingwell, 2011), could be significantly deterred by the pressure of providing a regular and sufficient supply of produce.

Coster and Kennon (2005) have suggested that the move to direct sales is a major commitment for producers. Brie (2005) proposes that 'very few traditional farmers have been able to make the attitudinal change to switch to direct marketing'. However this survey does not suggest any ingrained resistance to farmers markets. Rather, farmers in Australia who already face complex decision-making processes in terms of farm

management need to be strongly convinced of the merits of any new venture for it to be received or adopted.

Significant and useful suggestions to increase participation came out of the survey and match the main disincentives of regulation, cost and time. Producers would be interested in a trial period at a market given that costly infrastructure was supplied, hearing from existing stallholders and mentoring over a period on how to get established as a supplier. In line with the challenges attached to production, producers would also be keen on training in how to supply a market regularly and in how to effectively market their produce.

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