

A Survey of Australian dairy farmers' attitudes to their business, its challenges and transitioning to alternative enterprises

Esra Celik^{1,2}, Diana Bogueva¹, Clive J.C. Phillips^{1,3*} & Dora Marinova¹

¹ Curtin University Sustainability Policy Institute, Perth 6845, Australia

² Selçuk University, Faculty of Veterinary Medicine, Department of History of Veterinary Medicine and Deontology, Konya 42003, Türkiye

³ Institute of Veterinary Medicine and Animal Science, Estonia University of Life Sciences, Tartu 51014, Estonia

* Corresponding author: Clive J.C. Phillips (C.J.C.P.) (clive.phillips@curtin.edu.au).

Supplementary Information

Supplementary Material (Survey questions)

INTRO

Good (...) my name is (...) from KG2 Agricultural Research. How are you today?

I am calling today as we are conducting a survey with Dairy Farmers to understand challenges being faced by producers in the industry.

It will take around 15 - 20 minutes, would you be willing to assist us?

CONSENT

Thank you for your time, I will just let you know that the call is recorded for quality assurance and training purposes.

Your responses will be anonymised and used for statistical purposes only.

And, if you have any concerns with any part of the study, feel free to withdraw at any time.

Q1. Using a scale of 1-10, where 1 is Not at All satisfied and 10 is Very satisfied, how satisfied are you with Dairy Farming?

Q2. And why did you give that rating?

Q3. Which of the following are the primary challenges that your dairy farming operation faces? – Read

- 01** Unpredictable weather patterns
- 02** Climate change uncertainty
- 03** Labour shortages
- 04** Rising operational costs
- 05** Unstable milk prices
- 06** Changing consumer demand
- 07** Long working hours and minimal downtime
- 08** Impacts on mental health and wellbeing
- 09** Lack of subsidies and grants
- 10** None of the above

Q3A. For the challenges you selected, using a 1-10 scale where 1 is Very unconcerned and 10 is Very concerned, how concerned are you about them?

Q4. Are you experiencing any hardships due to external factors like drought, floods or rising costs?

- 01** Yes
- 02** No
- 03** Don't know

Q4A. Which concerns are you experiencing?

- 01 Drought
- 02 Floods
- 03 Rising Costs
- a. Other (Specify)

Q4B. Using a 1-5 scale, where 1 is Not severe and 5 Very severe, how severe is the hardship from these factors?

Q4C. How have these hardships affected your property?

Q5: On a scale of 1 to 5, 1 being very unoptimistic, 5 being very optimistic. How would you rate your outlook on the sustainability of dairy farming in Australia?

Q6. In light of the industry's current market conditions and challenges, are you considering transitioning away from Dairy Farming?

- 01 Yes
- 02 No (open-end)

Q6A. What are the primary reasons impacting your decision?

- 01 Declining profitability
- 02 Improved profitability of alternative practice
- 03 Market volatility
- 04 Climate concerns
- 05 Animal welfare considerations
- 06 Aging or health issues
- 07 Labour shortages
- 08 Retiring
- 09 Input costs
- 10 Other (Specify)
- 11 Other (Specify)
- 12 Other (Specify)
- 13 Don't know

Q6B. For the reasons you listed, using a 1-5 scale where 1 is Not at all significant and 5 is Very significant, how significant are these reasons to your decision to transition away from dairy farming?

Q7. Are you open to exploring any other agricultural alternatives to dairy farming? E.g. Cropping, horticulture, rewilding.

- 01 Yes
- 02 No
- 03 Don't know

Q7A. What are the main factors that influenced your interest in these alternatives?

- 01 Factor One
- 02 Factor Two
- 03 Factor Three

Q7B. For the factors you listed, using a 1-5 scale where 1 is Not at all influential and 5 is Very influential, how influential are these factors to you?

Q8A. Would you be open to transitioning away from dairy farming and exploring the possibilities of horticulture or other business ventures if support and assistance were provided by the government?

- 01 Yes
- 02 No
- 03 Don't know

Q8B. What aspects of these opportunities are appealing to you?

Q9 Would there be any specific types of support or incentives from the Government that could encourage you to transition away from Dairy Farming?

- 01 Yes
- 02 No
- 03 Don't know

Q9A. What type of support or incentives would this be?

- 01 Grants for transitioning (including for infrastructure, land development and technology)
- 02 Loan subsidies
- 03 Technical support and training
- 04 Sponsored time with a transition agency
- 05 Market development assistance
- 06 Tax incentives
- 07 Insurance
- 08 Grants for ecological services
- 09 Other (Specify)
- 10 Don't know

Q9B. For the support you mentioned, using a 1-5 scale where 1 is not at all helpful and 5 is Very helpful, how helpful would such support be in transitioning farm types?

Q10. If you were to transition your farm to a different agricultural model or business, what challenges do you foresee occurring?

- 01 Enter Here
- 02 No Challenges
- 03 Don't know

Q10A. And how could such challenges be addressed or mitigated?

Q11 On a scale from 1-5, 1 being not at all important and 5 being very important, how important are the following additional resources for making an informed decision about the future of your farm?

- 01 Direct government support
- 02 Financial advice
- 03 Technical advice
- 04 Sponsored time with a farm management agency
- 05 Sponsored time with a transition agency

Q11A Are there any other additional resources that may be important for making informed decisions about the future of your farm?

Q12. In your opinion, should the government provide the following support to farmers during their farm transition process?

- 01 Direct government support
- 02 Financial advice
- 03 Technical advice
- 04 Sponsored time with a farm management agency
- 05 Sponsored time with a transition agency
- 06 Other (Specify OE)
- 07 None of the above (Do not read out)
- 08 Don't know (Do not read out)

Q12B. And what outcomes would you expect from government assistance?

- 01 Enter Here (Open-ended)
- 02 Don't know

Q13. Have the challenges that you have faced as a dairy farmer impacted the mental well-being of you or your family?

- 01 Yes
- 02 No
- 03 Don't know

Q14. Have the challenges that you have faced as a dairy farmer impacted the welfare of your cattle?

- 01 Yes
- 02 No
- 03 Don't know

Q15. Do you have any other concerns or hesitations about transitioning to a new agricultural model or business, and if so, how could these be addressed?

01 Open End

02 No Other concerns

Q16 Would you prefer to receive financial and/or other support to either:

01 Remain in the industry.

02 transition into a different form of farming or business

03 for something else (please specify)

Supplementary Table S1. Farmers' satisfaction with current dairy farming activities.

N	Positive	Neutral	Negative
1	"You can build a good asset down the line and also the variation of the work." (VIC)	"I don't know how else you make the same income on a small block of land." (NSW)	"The industry is in poor form at the moment". (NSW)
2	"Things are pretty good. Good season and prices." (VIC)	"The dairy industry is not promoted enough as a good work industry or career, but I also love what I do. There're just not enough young people in the industry." (VIC)	"Everything is just getting too expensive. Yes, we got a higher mil price, but everything else is going up." (VIC)
3	"I personally love it; I just wonder whether the support for dairy farmers is as good as it should be." (VIC)	"Probably age related more than anything. Just getting to that stage of getting older and looking to exit the industry." (TAS)	"I have it a 5 because it's all I've ever known. Price pressures and irrigation are an issue. They are taking water off me. It makes you wish you were in the public service." (VIC)
4	"Things are pretty good. Good season and prices." (VIC)	"Weather, price (income), and operating conditions." (VIC)	"Don't want to work so hard." (NSW)
5	"Everything is going well at the moment, getting good prices/good season, making money." (VIC)	"It's a better way of earning money compared to beef which is our other option. Doesn't get 10 because of the bloody long hours." (VIC)	"Stage of life, extreme workload and long hours. Shortage of labour and high stress." (VIC)
6	"Because I like it." (VIC)	"Milk price" (VIC)	"Too hard to get a profit." (VIC)
7	"At the moment satisfied. Doing really well at the moment, good season and satisfied." (VIC)	"Very good milk prices but the labour is still difficult to obtain." (VIC)	"The cost has ballooned. Fuel, electricity, wages." (SA)
8	"Good price at the moment." (VIC)	"The history of the industry has been tough." (SA)	"Age and it's just getting harder and harder." (WA)
9	"Well, prices are good, the season is ok and from my own position, I'm handling it pretty well. Haven't got a lot of debt to service which as well makes it easy." (TAS)	"Milk prices aren't bad, and we are fortunate enough to live in an area with good green grass." (NSW)	"The bureaucratic regulations constraints that are increasing month by month and year by year are dampening my dairy farming and along with the costs, mainly with energy and environmental levies." (VIC)
10	"We're pretty well sorted and managed, a few little issues with transport but season and milk prices are good." (VIC)	"Oh, look try to look for the good, but costs have gone up as well." (VIC)	"It's becoming a bit harder than it used to be with age." (TAS)
11	"Milk prices are good at the moment." (VIC)	"The cost of everything with milk price going up but inputs came up with feed." (NSW)	"We had sponsored backpackers for four years and they left after two. They were good but we weren't prepared to hire new people. We're looking to get out now." (QLD)
12	"Well, it's fulfilling, that's the main reason." (VIC)	"The only thing we have an issue with is labour." (VIC)	"Can't get labour currently, \$30 an hour to sit on tractors and you can't get people to work with livestock." (VIC)
13	"Getting a reasonable return on our investment at the moment." (QLD)	"Generally, things are good at the moment, but the future may be concerning." (VIC)	"Input costs, capital outlay, return on investment and red tape which pushes our costs higher." (TAS)
14	"We have our markets and our own company selling our milk. Good farm and good land. Well set up with irrigation. Have a government scheme	"Because I like the industry and reasonably financially rewarding currently. Has challenges but like that it's different." (VIC)	"There's a few challenges at the moment that make it a bit hard." (VIC)

	with the dam. Close to the coast and get a reasonable drop of rain." (QLD)		
15	"I enjoy the lifestyle." (VIC)	"Price of milk not too bad at the moment." (NSW)	"The cost structures are a major problem. As soon as we increase production and payouts up to the costs. Fertiliser, fuel, energy everything." (VIC)
16	"There's good money in at the moment good lifestyle. You're your own boss." (VIC)	"I'm happy with doing what I am doing. But there is a drawback to finding staff and labour." (VIC)	"I just having a bad time, can't find staff I'm just over it. Too long hours not enough family time." (VIC)
17	"Good milk prices at the moment, okay weather." (NSW)	"New to it. Young and keen. Love being outdoors and around cows." (VIC)	"The farm that we are leasing is run down, and we have been here for 3 years and are going bankrupt cause it can't milk the cattle." (VIC)
18	"I like the industry." (VIC)	"I don't know, just is." (TAS)	"The industry isn't keeping up with commodity prices. Everything is getting out of control including fuel etc." (NSW)
19	"I'm happy doing what I'm doing, it's not perfect but it's good." (VIC)	"Not fully satisfied but not dissatisfied with it" (VIC)	"Milk and beef prices are good although water is still an issue in this area, cotton production has impacted the area, cost of production is the big killer." (VIC)
20	"Price is ok for the milk and the season is quite good." (VIC)	"Price is good, but costs are going up." (VIC)	"Prices are good but there are other factors that come into it that impact our cash flow, mostly season and input prices." (VIC)
21	"The prices are alright this year and were getting in front of the season at the moment." (VIC)	"There are days you'd like to finish a bit earlier. Some days it's not great but some days it can be awesome." (NSW)	"Whilst the milk price is good, the inflation and costs are high too. It's a lot of work." (VIC)
22	"The dairy industry is in the best place it's been for over the last 20 years." (VIC)	"Milk prices" (VIC)	"I'm just worn out, I'm burnt out. Exhausted. Sold 60 cows about 6 weeks ago, starting a winding down phase." (VIC)
23	"Pretty happy at the moment, hope the milk price doesn't drop." (TAS)	"Could be better could be worse, in the middle but better than what it has been." (SA)	"The cost of production has increased." (VIC)
24	"Things have been pretty good. we will see how it goes as people drop out." (VIC)	"I've been doing it for nearly 60 years." (VIC)	"Frightened of what is ahead of us with governments and carbon and other pressures." (SA)
25	"We've chosen to invest fairly heavily in the industry and have a succession plan with my son who will own the farm one day. I feel encouraged by milk prices, and we're in a nice area." (NSW)	"Back last year, there was a flood grant that went out, and we weren't notified, so we didn't get the grant money. By the time I found out, it was too late." (VIC)	"Just because the labour is hard to get." (VIC)
26	"Milk prices are good, and conditions are good." (VIC)	"It's my lifestyle choice." (VIC)	"Getting towards the end of my career and I am disenchanted with the industry bodies, their culture and their policies." (VIC)
27	"I'm still involved in it and I'm happy with the price." (VIC)	"I have faith in the industry." (VIC)	"It's getting harder because of short staff and the weather because we are dry land it was either too wet and now it's too dry." (NSW)

28	"Milk prices have a lot to do with it and off the back of good seasons." (NSW)	"Because the factories look after the retailers, not the producers." (VIC)	"Because it's a waste of effort to get anywhere." (NSW)
29	"I just enjoy it, If you don't, you should do something different." (NSW)	"Labour and profitability." (VIC)	
30	"Because I love it, it has been my life and have been able to create a lot of wealth for myself." (VIC)	"On the fence about whether it's worthwhile." (NSW)	
31	"It's as good as it's going to get, the price is good, purely price for milk solids." (VIC)	"Because if it is all like it is right now, I would say 10. If it was like it was 5 years ago, I'd say 1 - we weren't making anything then." (SA)	
32	"The lifestyle in general, and it pays the bills." (VIC)	"It's been worse, but it could always be better." (VIC)	
33	"It's profitable" (NSW)	"It's satisfying but it's getting the shit kicked out of it by the government and tree-huggers." (NSW)	
34	"Lifestyle, you are your own boss, you get out what you put in, current milk prices." (VIC)	"Obviously, input costs are very expensive. getting workers is pretty difficult, maybe even a 7. I enjoy the jons, as long as everything is in place, I am happy." (VIC)	
35	"I think it's good, things are going well, we've had a few good years." (VIC)	"Reasonably satisfied but the costs are really biting now." (VIC)	
36	"The climate is pretty good at the moment, milk prices are not too bad and compared to other jobs, one of the best." (VIC)	"I've done it for 40 years." (VIC)	
37	"Because I get up in the morning and it's a lifestyle for me." (VIC)	"As much as I have been here all my life and love it but there are definitely challenges. Struggling with interest rate changes, staffing, weather and so forth." (QLD)	
38	"We're doing alright at the moment from a financial view. Our costs are killing us, but the prices are good." (VIC)	"We are doing organic farming." (VIC)	
39	"I'm optimistic about the industry and our margins have increased." (NSW)	"Just the weather at the moment makes it really hard. I can't get ahead. Just dry." (NSW)	
40	"What's not to like about it? You are your own boss. You're outdoors, you're working. Good environment. The only problem is that you buy at retail and sell at wholesale but not too bad." (VIC)	"It has its challenges with labour and poor management. I enjoy it more than my previous job." (VIC)	
41	"Been doing it for thirty years and getting to a stage where I'm getting good at it. Also, it's been very profitable in the last couple years." (VIC)	"Once we are getting a good price for our milk, but weather is an issue." (QLD)	
42	"It's got its challenges that tweak the mind. We're making quite substantial profits at the moment and we're doing well compared to other industries. I like the code of conduct that we're under as well." (NSW)	"There's always challenges but it's probably better than it has been." (NSW)	

43	"Because I enjoy it." (VIC)	"Been in the industry a long time, 42 years. Our father had it before. Challenges but still in it." (NSW)
44	"We have had a lot of good years, and we have a good milk price." (VIC)	"We have a profitable cycle at the moment and the season is not too bad." (NSW)
45	"The prices and weather are good. We also have good labour at the moment. However, the input costs are increasing too quickly." (VIC)	"Don't know, milk prices are ok, got a bit of rain, and cattle are a good size." (VIC)
46	"I am soon to retire but still enjoy farming dairy." (VIC)	"Some days I wonder whether there is something better to be doing." (TAS)
47	"It's a pretty good lifestyle and the returns aren't too bad but work hours can be long." (NSW)	"It's still challenging but I'm not going to stop any time soon." (SA)
48	"Job satisfaction and I'm fifth generation so we have been going for a fair while and that helps it." (VIC)	"Some things are good some things aren't." (VIC)
49	"Good milk prices and good weather conditions have improved for us and good staff." (VIC)	"Issues with the environment and external pressures." (SA)
50	"Because we are self-employed, and I love what we do." (VIC)	"Well, I think milk prices have been reasonable, even better next year. But mindful of increased input costs." (VIC)
51	"Oh, because we've managed to make reasonable profit and returns. The biggest problem is always labour." (VIC)	"Just taken on a new share farmer last year and he is doing very well." (VIC)
52	"I am soon to retire, but I love the lifestyle and milk prices are good and I have family in Dairy." (VIC)	"Because". (NSW)
53	"Prices are good. This year was a good season/ Still enjoy it as far as management goes." (VIC)	"Good profession and pays reasonable. The workload is massive but I'm a farmer. It's challenging. What I know." (TAS)
54	"Just the conditions and everything at the moment." (SA)	
55	"The industry is excellent, with lots of potential with it. Some labour shortages are so hard to balance lifestyle and dairy." (VIC)	
56	"At the moment it's the best I've been paid in my life." (SA)	
57	"The milk prices are finally reflecting the cost of production and we've had some good seasons." (VIC)	
58	"Lifestyle and being out in the country." (VIC)	
59	"I think that higher access to water over the last three to four seasons has been good for farming and provided us with more stable milk prices and made farming more favourable." (VIC)	
60	"I've been doing it for 55 years and still enjoy it." (TAS)	
61	"Good as it's ever been. 3 good seasons and good prices. Profitable." (VIC)	

62	"It has its ups and downs in terms of external factors but on the farm, we have a good lifestyle and the freedom to live how we want on the land." (VIC)
63	"Been doing it all my life, so I love it." (VIC)
64	"It represents my life's work, and I'm good at it." (TAS)

Supplementary Table S2. The relationship between dairy farmers' willingness to transition away from dairy farming in the face of challenges and other associated factors.

Variables		In light of the industry's current market conditions and challenges, are you considering transitioning away from Dairy Farming?	
		No	Yes
		Count	Count
Are you open to exploring any other agricultural alternatives to dairy farming? E.g. Cropping, horticulture, rewilding.	No	55	12
	Yes	45	35
Remain in the industry	No	29	32
	Yes	71	15
Transition into a different form of farming or business	No	89	29
	Yes	11	18

Supplementary Table S3. The impact of the challenges they face as dairy farmers on themselves, their families, and their cattle.

Variables	Group	Frequency	Percent (%)
Impacts on the mental wellbeing of them or their family	No	46	31.3
	Yes	101	68.7
	Total	147	100.0
Impacts on the welfare of their cattle	No	117	79.6
	Yes	30	20.4
	Total	147	100.0

This table has been evaluated only on frequency and percentage values.

Supplementary Table S4. The relationship between dairy farmers' outlook on the sustainability of dairy farming in Australia and other relevant factors.

Variables	Group	N	Mean Rank	Sum of Ranks	U	p
In light of the industry's current market conditions and challenges, are you considering transitioning away from Dairy Farming?	No	100	81.74	8174.00	1576.00	0.001**
	Yes	47	57.53	2704.00		
	Total	147				
Are you open to exploring any other agricultural alternatives to dairy farming? E.g. Cropping, horticulture, rewilding.	No	67	81.37	5452.00	2186.00	0.040*
	Yes	80	67.83	5426.00		
	Total	147				
Have the challenges that you have faced as a dairy farmer impacted the mental well-being of you or your family?	No	46	84,17	3872,00	1855.00	0.037*
	Yes	101	69,37	7006,00		
	Total	147				

* $p < 0.05$, ** $p < 0.01$

Supplementary Graphic S1. The relationship between dairy farmers' willingness to transition away from dairy farming in the face of challenges and how satisfied they are with dairy farming.

