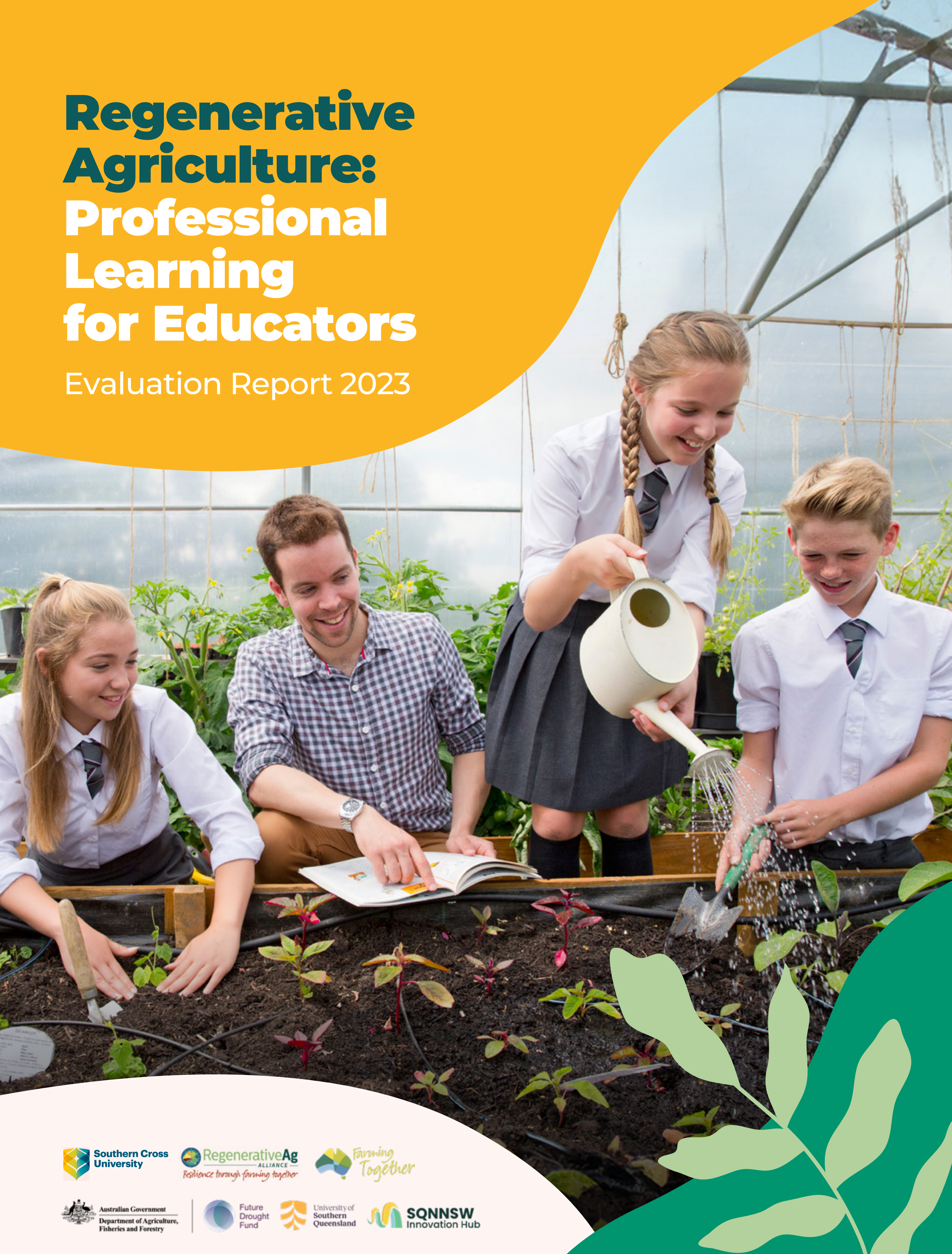
Regenerative Agriculture: Professional Learning for Educators

Evaluation Report 2023



This Regenerative Agriculture Professional Learning (RAPL) has been supported by the Australian Government's Agricultural Innovation Hubs Program. The SQNNSW Innovation Hub receives funding from the Australian Government's Future Drought Fund.

Program Overview

RAPL is the Regenerative Agriculture Professional Learning for Educators program. The program was developed by the Regenerative Agriculture Mentoring Program, The Regenerative Agriculture Alliance, and Farming Together team at Southern Cross University with funding from the SQNNSW Drought and Innovation Hub which receives funding from the Australian Government's Future Drought Fund.

The program was designed to upskill existing agriculture, science, technology and geography teachers with the latest science and research in regenerative agriculture.

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This report was compiled by Dr. Simone Blom, Program Manager; Mathew Alexanderson, Project Developer; and Lorraine Gordon, Program Director, for the Regenerative Agriculture Professional Learning for Educators program (RAPL).

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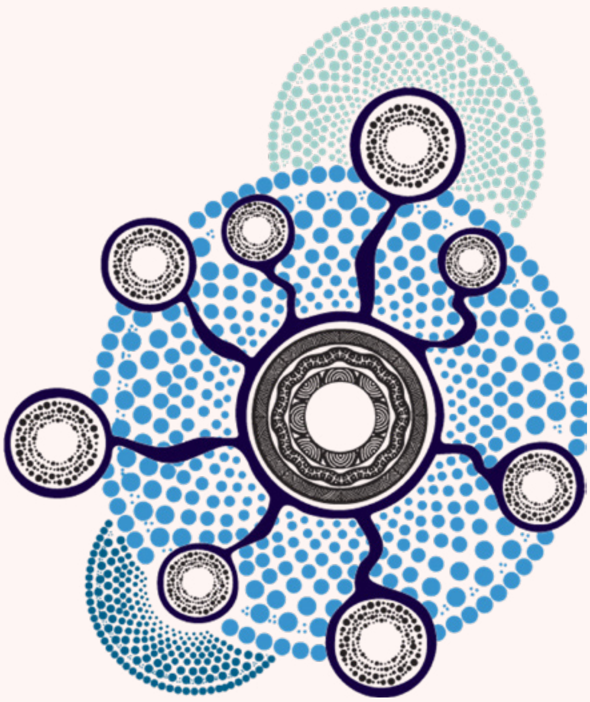
Acknowledgement of Country

We acknowledge Widjabal Country as the Country where Southern Cross University originated and grew, and from where it continues to grow. It seeded the growth of our Gumbaynggirr Campus in Coffs Harbour, our Yugambeh Campus in Coolangatta and it planted the seeds to transform the Countries we are on.

We acknowledge and pay respect to the ancestors and descendants of the Lands upon which we work, meet and study. We are mindful that within and without the buildings, the Land always was and always will be Aboriginal Land



Foreword

“How do we best support our teachers to upskill efficiently and effectively to improve their competency and confidence in the teaching and learning of agriculture for a sustainable future?”

This question is what fuelled our motivation to propose a teacher professional learning in regenerative agriculture informed by Australia’s peak body and education institution in support of Regenerative Agriculture – the Regenerative Agriculture Alliance and Southern Cross University.

Backed financially by the Australian Government’s Future Drought Fund’s SQLDNNSW Drought and Innovation Hub, the program aimed to facilitate a series of online and full-day face-to-face workshops to increase teachers’ confidence and competence to teach regenerative agriculture for a safe, viable and productive agricultural future for Australia.

The workshops drew on the agricultural smarts of the team that conceptualised and brought to fruition, Australia’s first undergraduate degree course in Regenerative Agriculture – Southern Cross University.

The workshops that informed the findings in this report, were facilitated by regenerative agriculture leaders and pioneers in Australia, Lorraine Gordon, Brian Wehlburg and Glen Chapman.

This report captures the responses to the RAPL by the participants to demonstrate the value and impact of investing in high-quality programs that improve teachers confidence and competence for the improvement of skills and knowledge in the future workforce and society.

We trust you will enjoy the findings and are excited as we are about the potential this holds for the future.

Dr. Simone Blom PhD
Program Manager
Regenerative Agriculture Professional Learning Program

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List of Abbreviations

PL	Professional Learning
RAPL	Regenerative Agriculture Professional Learning
NSW	New South Wales
SCU	Southern Cross University
SQNNSW	Southern Queensland Northern New South Wales

Summary of Findings

This evaluation report for the Southern Queensland Northern New South Wales (SQNNSW) Drought and Innovation Hub funded Regenerative Agriculture Professional Learning program (RAPL), details the approaches and findings of the program that ran from May 2023 to June 2023. The report is designed to provide information about the program for industry bodies and individuals, government, policymakers, teachers and other educators who are seeking to improve their teaching and learning practice to ensure they are educating about farming for the future in a way that not only sustains, but regenerates.

The RAPL team at SCU conducted a post-program survey to evaluate the success of the program. The program was not intended to be a research program; thus these findings are purely evaluative. Participants were originally invited to participate in the RAPL by registering through the Humanitix ticketing platform. The link was sent through local email and social media networks. The course was fully funded by the SQNNSW Drought and Innovation Hub at no cost to participants. The registration survey was open for approximately six weeks from 20th March 2023 – 3rd May 2023 when the program commenced. The program was originally offered online and face-to-face at Lismore and Coffs Harbour in New South Wales, Australia. However, the Lismore workshop only had 8 attendees on the day, the Coffs Harbour workshop had 2 attendees registered so the event was cancelled. The online program had 132 participants who registered. The face-to-face programs were offered as full one-day programs. The online program was offered for one hour per week from 4 – 5pm for six consecutive weeks. A further program was offered face-to-face at Toowoomba with a similarly low level of interest to the other face-to-face programs and was cancelled.

Of the 132 participants who registered for the program, approximately 85 attended live during the first week, with the attendance dropping and stabilising at approximately 65 participants after that for the remainder of the program. There were 42 participants who completed the final, anonymous evaluation survey. Those who completed the program were from a range of areas in education across Australia; most states and territories were represented. Educators included secondary agriculture, science and other teachers. There were also TAFE, Landcare and other educators who participated. The findings from the project illustrate the success of the program in effectively and positively impacting educators knowledge about regenerative agriculture principles and practices overall.

Participants found the topics covered in the workshop to be personally engaging and of great interest. Respondents were asked about their reasons for undertaking the PL workshop, with responses collected using a 4-point Likert scale. All participants chose to attend the workshop due to their personal interest in acquiring knowledge and skills related to the workshop's content (see figure 1: 100%). In addition, some participants expressed that their primary motivation for enrolling in the workshop was the fulfillment of regulatory or registration requirements (see figure 2: 40.5%). Furthermore, all participants highlighted that they chose to participate in the workshop because it focused on knowledge and skills that directly informed their job responsibilities (see figure 3: 100%). This indicates that the workshop offered practical and applicable insights that could enhance their professional performance. Overall, these findings suggest that participants' motivations for attending the PL workshop varied, including both compliance-driven factors and a genuine desire for personal and professional growth.

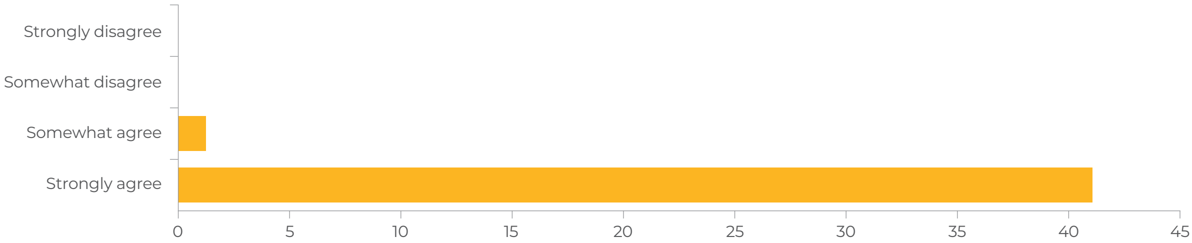

Figure 1: Reason for attending the course (1) - Personal interest

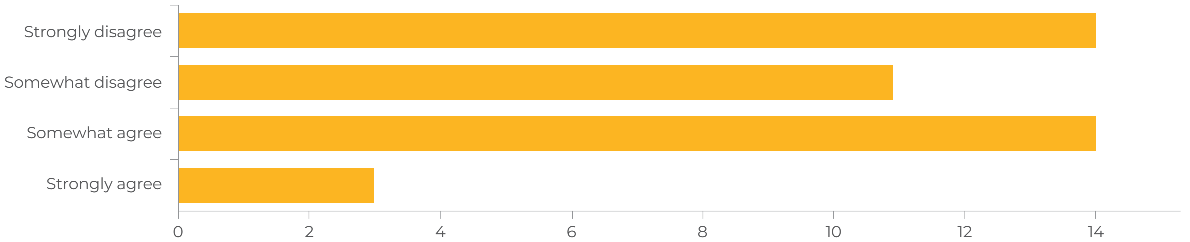

Figure 2: Reason for attending the course (2) - Fulfil regulatory / registration requirements

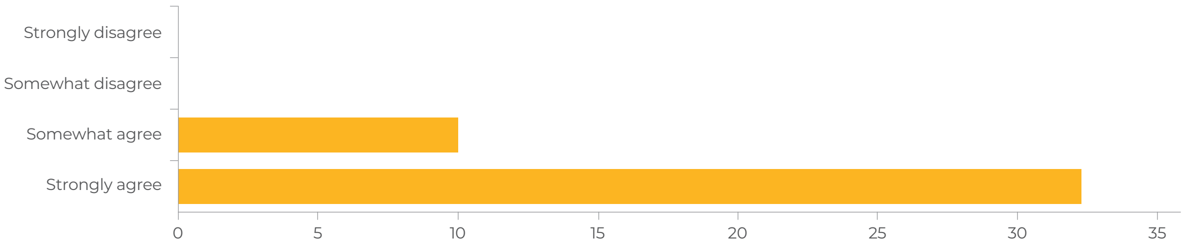

Figure 3: Reason for attending the course (3) - Informed their profession

The feedback received from participants who attended the professional learning (PL) workshop on regenerative agriculture provided valuable insights into their experiences and perceptions. The feedback was collected using a 4-point Likert scale with each result receiving an average outcome of 3 *(somewhat agree)* or better (see figure 4).

Participants acknowledged that the workshop had specific learning outcomes tailored to their needs (92.5%) and made reference to the evidence base in Regenerative Agriculture (95%). They reported an enhanced ability to think creatively (95%) and make personal judgments about their teaching and learning practices (92.5%). The workshop's structured approach, outlined through six modules, was well-received (90%).

Participants appreciated the inquiry learning and personal reflection to facilitate their learning process (92.5%), which further fostered engagement in learning for its own sake (95%). Collaboration and a sense of professional community were notable outcomes (82.5 and 95%, respectively). Participants also expressed confidence that the workshop would enable them to respond more innovatively and confidently to professional challenges (87.5%).

The workshop's effectiveness in teaching new concepts for implementation (95%) and enhancing job-related skills and knowledge (87.5% and 92.5%, respectively) were also recognised. The workshop structure was perceived as a good fit for participants' learning preferences and professional work practices (90% and 87.5%, respectively). Participants felt an increased ability to inquire, reflect, think critically (85% each), communicate, and collaborate with others (85%).

Overall, the majority of participants highly recommended the PL workshop to others (97.5%; see figure 8). These findings highlight the workshop's success in addressing participants' needs and fostering positive outcomes in their professional development in regenerative agriculture (see figure 4).

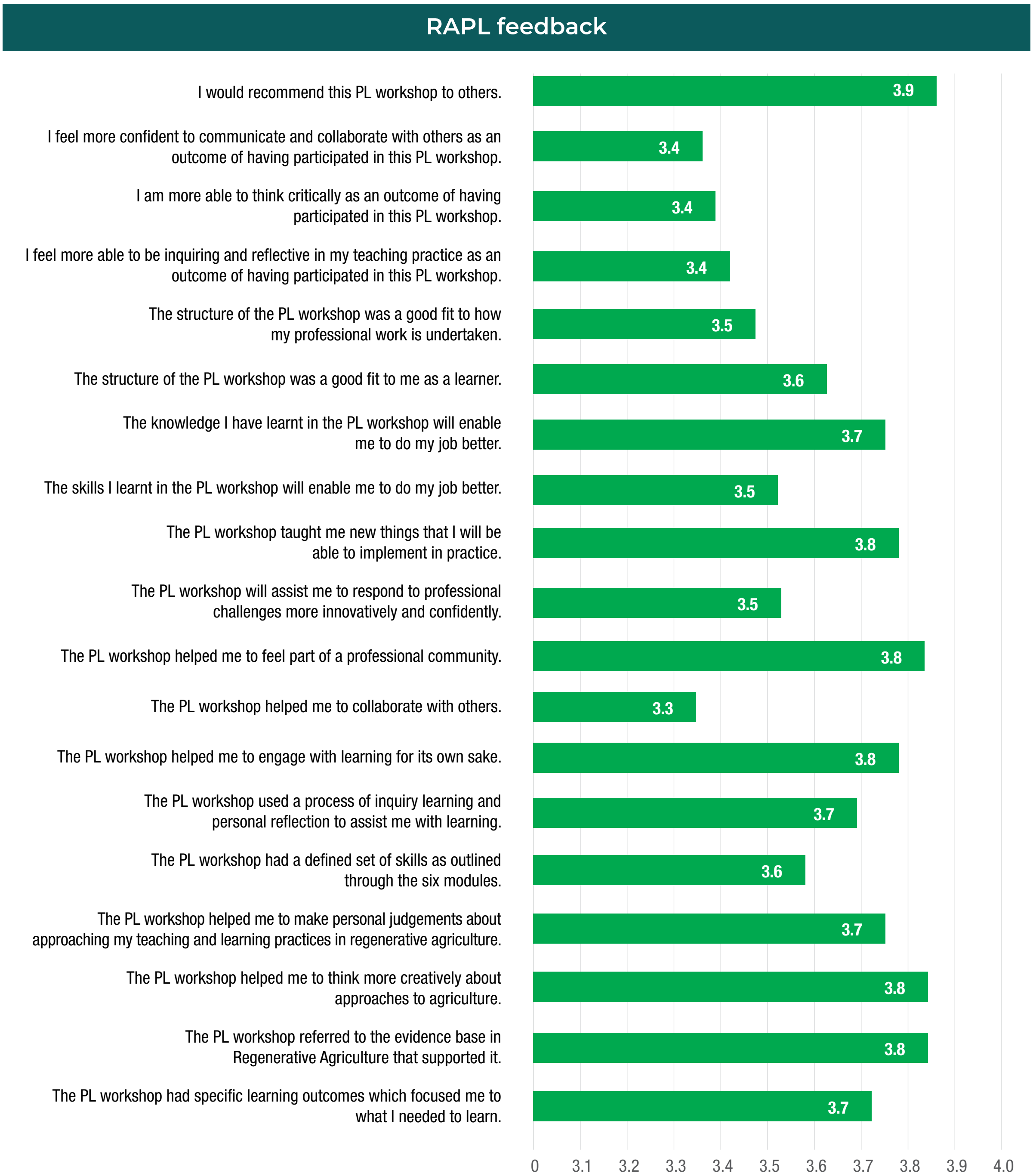

Figure 4: 4-point Likert scale feedback results from a regenerative agricultural teacher learning workshop.

Introduction

To respond to the call of practicing agriculture, science and geography teachers, and other educators, the RAPL program was designed to upskill teachers and other educators in regenerative agriculture principles and practices. Through personal experiences and anecdotes from practicing teachers, it was evident that there was a gap between what teachers knew about agriculture and the changes that were occurring at an industry level to ensure sustainable, and moreover, regenerative farming principles and practices into the future. This professional learning activity drew on well-known, experienced industry practitioners, researchers, and educators to deliver the program. The workshops were offered both online as a series of six, one-hour weekly sessions and face-to-face as a full, one-day workshop. The program aimed to support teachers to upskill into regenerative agriculture to ensure future farmers and agricultural industry leaders were receiving up-to-date information about regenerative agriculture. While the flow-on impacts that this program will have on school students now and into the future is difficult to measure, the enthusiasm and appreciation for this course are clearly evident and further outlined in this evaluation report.

The program was promoted using the flyer (see figure 5) through email and social media channels with the booking system Humanitix used to take bookings

Figure 5: Original program promotional flyer.

Presenters

1. Lorraine Gordon

Lorraine is the Founder and Director of the National Regenerative Agriculture Alliance. As Director of Strategic Projects at Southern Cross University, Lorraine acted as a conduit between industry and research, delivering regenerative agriculture solutions nationally with a focus on mitigating the effects of climate change. She was the instigator and co-designer of the Bachelor of Science in Regenerative Agriculture – the only degree of its kind in the world and now the largest agricultural degree in the country.

She has assisted over 28,500 farmers, fishers and foresters around the country to progress collaborative projects including establishing Cooperatives which will benefit their various industries as Director of the Commonwealth Government's Farming Together Program.

2. Brian Wehlburg

Brian Wehlburg delivers Holistic Management training and consultation across Australia through Inside Outside Management, and is also a board member of Holistic Management International. He has experience as a farmer and grazier both in Africa and Australia and is passionate about the importance of regenerative farming in our way forward.

https://insideoutsidemgt.com.au/

3. Glen Chapman

Glen has been working in regenerative farming for over 20 years and is an accredited Holistic Management educator. Having worked with leading consulting firms as a trainer and facilitator, he has also travelled internationally researching regenerative farming practice. Glen is the principal and founder of Southern Blue Regenerative.

Source: https://www.southernblue.com.au/

Project aims

- ✓ Design a face-to-face regenerative agriculture teacher program
- ✓ Design an online regenerative agriculture teacher program
- ✓ Deliver face-to-face workshops
- ✓ Deliver six online workshops

Context

After the intense disruptions of covid school closures and with many teaching staff unable to work due to covid vaccination restrictions, the professional learning took place at a time when teachers were ready for more professional learning opportunities. During 2022 and still in 2023 - which could be considered 'covid-recovery' years for education departments, at least in NSW - it was difficult for teachers to engage in professional learning due to the lack of available replacement teaching staff. The perceived lack of teaching replacement staff and support made an impact. It was certainly evident in the number of staff who registered to attend face-to-face compared to online. Further, teachers who had registered to attend face-to-face frequently withdrew their interest 'last-minute' due to staffing limitations.

In addition, national and state curriculum and syllabus documents for agriculture subjects are based in conventional farming practices and principles and have not moved to consider alternative ways of farming that are resilient, generative and work to address climate concerns such as droughts, flooding and extreme weather events. In this sense, the offer of this professional learning opportunity to very timely as demonstrated by the large number of teachers and other educators who took part.

Participants

The program was originally offered online and face-to-face at Lismore and Coffs Harbour in NSW, Australia. However, the Lismore workshop only had 8 attendees on the day, the Coffs Harbour workshop had 2 attendees registered so the event was cancelled. The online program had 132 participants who registered. A further program was offered face-to-face at Toowoomba with a similarly low level of interest to the other face-to-face programs and was cancelled.

Of the 132 participants who registered for the program, 84 attended live during the first week, with the attendance dropping and stabilising at approximately 65 participants after that for the remainder of the program. Of the 84 engaged participants, 51 were from New South Wales, with other participants from Queensland (n = 12), Victoria (n = 5), Canberra (n = 3), Western Australia (n = 2), South Australia (n = 2) and undisclosed (n = 9). See figure 6 for an overview of the participants locations across Australia.

There were 45 participants who completed the final, anonymous evaluation survey. Four participants completed the additional 'Statement of Participation' assessment program to receive recognition for a unit of postgraduate study.

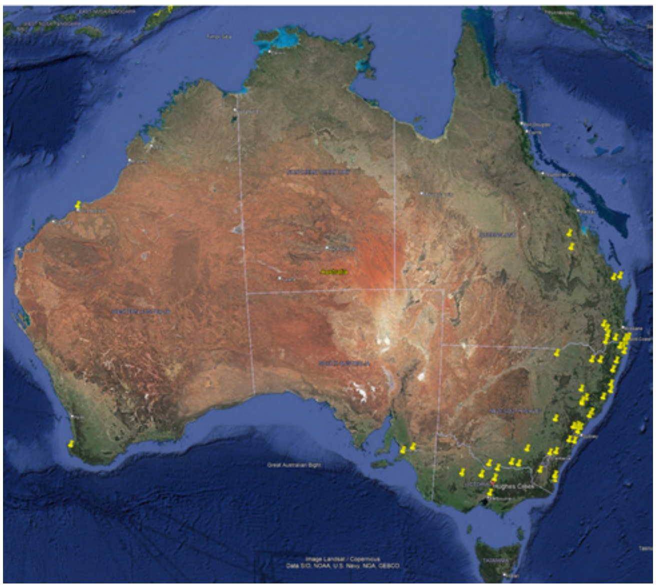

Figure 6: Map of participants' locations. Source: Google maps

Program outline

The program was developed over a six-month period from November 2022 through to April 2023 primarily high-school agriculture and science teacher with over twenty years of experience Alison McGeary, in consultation with program manager Dr. Simone Blom. Other contributors included: regenerative agriculture practitioner, researcher, farmer and leader Lorraine Gordon, regenerative agriculture researcher and project developer Mathew Alexanderson, practitioner and educators Brian Wehlburg and Glen Chapman, teacher and farmer Kate Spry and First Nations Advisor Jacob Birch. Lorraine and Brian delivered the face-to-face program in Lismore in May 2023 and Lorraine and Glen delivered the online program from May to June 2023.

In addition to undertaking desktop research to gather content, the program drew on content from the Regenerative Agriculture Mentoring Program which had previously developed a 12-topic educational program. The RAPL condensed the topics to suit the 6-week delivery schedule, while not removing any important information or content. The included modules can be seen in figure 7. Alison drafted an 84-page interactive workbook for teachers and other educator participants in the course to have a reference of information as well as suggested activities for practice in the classroom. The content was aligned to the Australian Professional Standards for Teachers, the Australian Curriculum and the NSW Syllabus including the Stage 6 Agriculture Syllabus.

The program was extended by the creation of a website section on the Farming Together website that holds the recorded presentations along with additional resources for each of the modules. Recordings of the six-online workshops, plus additional resources are available from the Farming Together website: *https://farmingtogether.com.au/our-work/professional-learning-for-educators/*

RAPL Topics
Module 1: Regenerative Agriculture: Principles and Practices
Module 2: Resilience of a System
Module 3: Ecosystem Services: Biodiversity
Module 4: Landscape Function and Soil Health
Module 5: Holistic Decision Making
Module 6: Carbon Farming, Sequestration and Markets

Figure 7: The 6-topics of the RAPL

Results and Discussion

Key themes

From the data some common themes emerged enabling the identification of key areas of concern or satisfaction. Moreover, an additional nine comments specifically focused on suggestions for improvements, highlighting the respondents' eagerness to contribute to enhancing the overall experience. The comprehensive analysis of this diverse feedback dataset has proven instrumental in gaining meaningful insights and driving targeted enhancements to meet the needs and expectations of the stakeholders involved.

General overall feedback

The general feedback for the teacher training course was filled with enthusiasm and a strong belief in the importance of preparing students for the future. Participants recognised the significance of regenerative agriculture and expressed their love for the course, stating that they would *'recommend it to their colleagues'*. Of the 45 responses, 44 (97.5) agreed that they would recommend the PL to their colleagues (see figure 8). The one who did not, was not a teacher.

"I found this PL workshop extremely informative and relevant for my role as a geography teacher - it enabled me to deepen my understanding of regenerative agriculture so that I can develop more effective teaching sequences to incorporate this knowledge. I felt like I engaged with other teachers and educators who had similar interests and desire to improve their knowledge of regen. I really liked the variety of guest lecturers who have so much practical experience in this field. I would definitely recommend it to others."

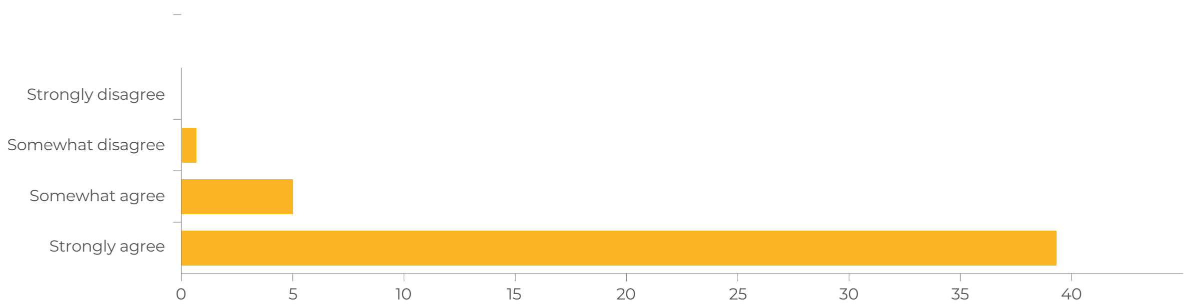

Figure 8: Recommending the Professional Learning Workshop to others

There was a strong call for increased understanding and awareness of regenerative agriculture among teachers and other individuals. The workshop provided a *'great opportunity to be with like-minded people'* who care about this approach. Participants emphasised the need to replace the word 'sustainable' with 'regenerative' in the Agriculture Syllabus, again highlighting the important work being done at Southern Cross University.

The feedback further emphasised the belief that all agricultural teachers should be teaching regenerative agriculture strategies and implementing them on their school farms, as it is considered the *'way of the future'*. Participants saw the course as a valuable resource and recommended it to a wide range of teachers. They specifically highlighted the suitability of this region for educating students on regenerative agriculture techniques. While there is growing awareness about the need to transition to regenerative practices, participants acknowledged that many people are still unaware. They stressed the importance of making regenerative agriculture universally understood and considered every opportunity to spread this knowledge necessary. Overall, the course was seen as providing participants with *'new skill sets'* and a fresh perspective on agriculture, while allowing participants to *'connect to other educators'*.

"A very good evidence based presentation. It has made me re-think my conceptions of the impact of hard hooved grazing animals in the Australian landscape. Forward thinking and inspiring. Provides an interesting and thought promoting viewpoint to encourage observation and reflection. I will be implementing some of the principals on my own property.

Really well organised workshop. Content was fantastic. Speakers amazing and knowledgeable. I would recommend this course to a range of teachers."

Content

The professional development course for educators has received exceptional feedback from participants, emphasising the immense value and importance of the content provided. Many described the content as *'informative, fantastic, and very interesting,'* provoking new ways of thinking and offering practical ideas for implementation. The course was praised for its ability to 'encourage observation and reflection' by presenting interesting and thought-provoking viewpoints. Participants found the content to be *'fantastic, very informative,'* and appreciated the examples given on how to teach the concepts in a classroom setting. For many, the course served as a *'great introduction to Regen Ag'* providing a solid starting point for implementing regenerative agriculture practices in agricultural education. The participants expressed gratitude for the knowledge shared, describing it as *'phenomenal, evidence-based,'* and providing valuable insights into the field of regenerative agriculture.

One participant highlighted the effectiveness of breaking the information into *'manageable modules,'* making it easier to grasp and apply the concepts in practice. Another participant acknowledged the strength of information related to regenerative agriculture and expressed excitement about the direct learning outcomes expected from the course. The course's introduction and thought-provoking nature were commended, stimulating participants' thinking and inspiring them to reconsider their previous assumptions. One participant specifically mentioned being pleasantly surprised by learning about the impact of running animals on the soil, challenging preconceived notions taught in their previous soil-related university course. This new perspective has prompted them to consider implementing regenerative principles on their own property. Overall, the course was deemed *'very interesting, valuable, and forward-thinking,'* leaving participants with newfound knowledge and inspiration to make positive changes in their teaching and personal practices.

Workshop delivery

The workshop delivery received high praise from participants, with feedback highlighting its effectiveness and relevance. Participants described the delivery as *'great, well organised, and excellent'* emphasising that it was *'delivered well'* and suited the variety of skill sets within the group. The workshop provided participants with a *'big picture'* perspective, encouraging them to think beyond specific agricultural skills and instead focus on broader concepts and approaches. The presenters were commended for their outstanding delivery, backed by evidence, which added value and credibility to the workshop content. Participants expressed that all agricultural teachers would benefit from this workshop, highlighting its importance in enhancing teaching practices.

The structure and delivery of the course were also positively received, both in person and online. Participants appreciated the *'wonderful workshop'* organisation and expressed satisfaction with the pacing, ensuring that it accommodated the diverse skill sets within the group. The online delivery allowed for convenience and flexibility while still providing a valuable learning experience, with one respondent commenting they *'Loved that it was online and after school - much easier to attend'*. Overall, the feedback reflected a high level of satisfaction with the workshop delivery, recognising its impact and potential benefit for agricultural teachers.

The Presenters

The workshop received positive feedback regarding the presenters, with participants describing them as *'great, amazing, and knowledgeable'*. The speakers were highly regarded for their expertise and their ability to deliver engaging, relevant, and concise presentations. Their knowledge and expertise in the subject matter were clearly evident, and participants appreciated the valuable insights they provided. The presenters were praised for their ability to effectively convey information and keep the audience engaged throughout the workshop. Their expertise and presentation skills greatly contributed to the overall success of the event.

Improvements

While the program received positive feedback, there were also suggestions for improvement. Participants expressed a desire for *'more time to complete activities,'* allowing for a deeper exploration of the content and application of concepts. Additionally, some attendees mentioned the challenge of *'finding the assigned rooms'*, indicating a need for clearer directions or signage to enhance the participant experience.

There were varying opinions on the delivery method, with one participant suggesting that *'in-person sessions might have been more effective'*. This feedback reflects a preference for face-to-face interactions, which can provide enhanced engagement and networking opportunities that may be lacking in virtual settings.

One participant, approaching the program from an academic perspective, felt that *not enough scientific evidence* was presented and that there was a reliance on personal opinions and biased viewpoints. They emphasised the importance of evidence-based knowledge and expected a more balanced approach that supported the content with scientific evidence.

Other suggestions included *'increased flexibility in accessing presentations at alternate times'*, considering a *'different time of year for the program'* to accommodate the busy marking and reporting periods for teachers, and providing more practical examples such as *'units of work, lesson plans, and approaches to setting up a school plot, garden, or farm'* to support the implementation of regenerative agriculture practices in educational settings. These valuable insights provide opportunities for program organisers to enhance the structure, delivery, and content of future iterations.

Supplementary program: Statement of Participation in Regenerative Agriculture Professional Learning

Participants were invited to complete an assessment program to gain a credential called a 'Statement of Participation'. The credential is recognised as an equivalent to a unit of study for entry into a postgraduate course such as the Graduate Certificate in Professional Learning at Southern Cross University.

As part of the assessment program, participants were required to create educational resources and present a reflection of their learning experience in the RAPL program with their peers. These reflections were recorded and uploaded onto a platform to submit as part of the assessment.

These reflective presentations are available for viewing as part of this report. See the links below.

- Professional Learning Presentations:
  - Jeff McLennon: *https://www.youtube.com/watch?v=2ZJM0pTGekk&t=49s*
  - *Amanda Coy: https://www.youtube.com/watch?v=mKrd0w4pdWw*
- Assessment Task:
  - Amanda Coy: *https://www.youtube.com/watch?v=14x0rfz5low*

Conclusion

In the context of a large shift in thinking about agricultural practices in Australia and at a time with severe teacher shortages, the Regenerative Agriculture Professional Learning (RAPL) opportunity provided teachers and other educators with a welcome chance to expand their knowledge and understanding of alternative ways of farming. Participants regarded the professional learning very highly enjoyable and effective at improving their knowledge and understanding of regenerative agriculture. Participants enthusiastically reported on the aspects of content, workshop delivery, presenters and areas for improvement. It is evident that professional learning in regenerative agriculture is desperately needed for teachers and other educators. The online delivery option had greater uptake than the face-to-face option and is a program that could be delivered again in the future. The online resources are accessible and could be used to facilitate self- or guided professional learning for teachers and other educators. Overall, the program is evaluated to be highly successful in achieving and exceeding all objectives and has made pivotal steps in improving teachers and other educators regenerative agriculture knowledge and understanding for their students, and therefore, the future of farming.