

Facilitating change in soil health

The experience of being a Community Facilitator in the Farming for Sustainable Soils Project



Merron Ipsen, Craig Cossar and Adam Twigg can all attest to both the opportunities and challenges of working with farming communities to inspire change in agricultural practices and improve soil health.

Merron, Craig and Adam all work as Community Facilitators under the Farming for Sustainable Soils (FSS) Project, managed by the North Central Catchment Management Authority (CMA) and funded by the Australian Government. They work with landholders, the CMA, soils experts, scientists, agronomists, and other agricultural

organisations, businesses and stakeholders to empower their local farming communities to improve the health and productivity of their soils.

The Community Facilitators are supported by staff at the North Central CMA - the advice, expertise and support from Phil Dyson and his team allows Merron, Craig and Adam to effectively engage with their communities. Key to the FSS Project's success is this dedicated team working together.



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The Farming for Sustainable Soils Project is funded by the Australian Government's National Landcare Program and delivered by the North Central Catchment Management Authority in collaboration with local farming communities.



Pulse trial on a local farmer's property

Each with their own unique backgrounds and personal journeys with soil management, Merron, Craig and Adam tell their stories of facilitating change through the FSS Project and into the future.

A passion for soil health - Merron (Timor West)



Timor West FSS Community Facilitator, Merron Ipsen

"I've always been passionate about soil health [...] it's a fundamental part of agriculture. The soil is intrinsically part of the whole production system and so being someone who has grown up on a farm, it's always been something that's going to interest me [...] my passion for soils, it all stemmed from there." (Merron Ipsen)

Merron has lived in the Timor West and Maryborough area for 12 years. With an agriculture degree, as well as experience in rural agronomy firms and broad acre farming on her own mixed enterprise property, Merron brings a wealth of local knowledge and expertise to her role as a Community Facilitator for the Timor West FSS Group.

Timor West is a mixed agricultural area, predominantly including cropping and sheep production through dry land farming. The local FSS Group evolved out of the Timor West Landcare Group and includes farmers as well as other community members. With soils in the area forming from a granite sub-base, the soil profile generally includes a shallow, sandy topsoil and heavier clay underneath. Landholders in the Timor West Group struggle with soil fertility and soil structure,

presenting a range of challenges for agricultural productivity and the environment.

Merron explains that in her role as the Community Facilitator, she's the link between her local farming community and the North Central CMA, enabling them to collectively work towards achieving soil health goals:

"I'm engaging with the farming community to facilitate the Project, but more than that, it's actually about being part of that community and being able to have a voice and within the Farming for Sustainable Soils framework to meet those outcomes."

Through the FSS Project, the Timor West Group has indeed achieved positive outcomes for soil health, through undertaking soil testing and assessments, capacity building and knowledge sharing, as well as field trials and demonstrations:

"[...] by doing various soil testing at surface and at depth, it gives [landholders] a greater understanding of the soil."

"[With] the Group being able to choose impartial guest speakers it's really empowered them to have a better understanding of their soil. I've watched them learn and grow in that process - and from that learning we've been able to then do some really interesting trials in terms of ameliorating the soils through species selection and looking at inputs like compost and subsoil manuring. It's been a really good exercise."



Merron's passion for soil health is evident as she reflects on her experience of the FSS Project, helping to strengthen the farming community:

"The most rewarding thing about being a Community Facilitator is actually working with a community on a project that is really important to them and not only the environmental and farming aspects, but also the social impact that such a project has."

Changing the way we think about soil - Craig (Wycheproof and Glenloth East)

"The Farming for Sustainable Soils Project has made me look at the soil in a different way - instead of just hoping for the seed to grow, I've started to understand the chemistry and characteristics of my soil. [...] That's the success of the whole Project - that we actually go out on to people's farms, dig holes and we look first hand at what's there, what the soil characteristics are." (Craig Cossar)

Craig is an ex-farmer and has been a Community Facilitator in the FSS Project since 2013, starting with the Wycheproof Group - which merged into the Glenloth East Group after 2016. Craig lives in Bendigo these days, but still owns his farm up in Wycheproof.



Wycheproof and Glenloth East FSS Community Facilitator, Craig Cossar

The farming community in the area mainly includes "mixed farmers, dry land farmers - there's some irrigation but mostly they're cropping and livestock farmers." Craig explains that there's a diverse range of soil types in the area - from heavy grey or black cracking soils in

the Mallee floodplains, to sandy loam and hard red duplex soils. Supporting farmers to find out what their soil characteristics are, including soil chemistry and soil structure is the crucial first step in the FSS Project:

“We ended up doing 66 soil pits with the program and we evaluated all the soils around the district and from there we identified the problems and the hostile soils. Initially up there we envisaged that the soils were around 800 millimetres to one metre deep, but they’re actually from 400 millimetres to 600 millimetres before we hit the hostile soils.”



Soil monitoring machine - tests for salinity and pH, and maps the soil

Through undertaking soil testing as part of the FSS Project, it was found that the biggest problem in the Wycheproof and Glenloth East areas is “the hard panning effect with the duplex hard red soils”.

“Through soils testing they actually come up pretty well results wise - but for some unknown reason there’s a hard pan that runs through that a lot of the guys have problems with getting the roots to penetrate through the soils.”

The outcomes of this can be immediate, as Craig reflects:

“We had a guy, a local distinguished landholder who has been on council and done a lot for the community. We had a soil scientist on his farm doing a soil pit [and] he said ‘I’ve learned more than I have in the last ten years about my place’.”

After identifying soil constraints and possible solutions, the FSS Group then “facilitates farmers to break into new ground that farmers don’t have the time to do, or don’t have the time or cost to run”. A range of field trials have been undertaken throughout the district, including deep ripping, tillage radish and liquid fertiliser trials.



The outcomes of the Project extend to social benefits too:

"[...] the first two years we ran we had two terrible droughts and getting farmers together to talk was a huge thing, I found I had more members turning up in those dry years and I think a lot of it came back to the social side - knowing that they're not the only ones involved and going through hard times."

Craig believes that the community-driven approach of the FSS Project is "a great strategy for getting farmers to learn about soils [...] the knowledge you can learn from a group is greater than the knowledge you learn as an individual". Some of the Wycheproof landholders now mentor the farmers from Glenloth East.

As a former farmer in the area and from his extensive experience in the FSS Project, Craig reflects on his personal growth:

"At the start of the Project I learned more in three days going around with a soil scientist and learning about the district and its soils than I did from years of farming up there. I was fascinated that this basic bit of information and that other farmers can and should build their knowledge up from that."

From knowledge to practice - Adam (Pyramid Hill)

"[As a Community Facilitator], I've gained the most out of anyone in the Group - I've got the farm and I can take everything I've learned back to it. I've got to hear all the experts, see the pits, be involved in all the trials [...] It's got me changing the way I'm doing things and trying different ideas."
(Adam Twigg)



Pyramid Hill FSS Community Facilitator, Adam Twigg



Farming for Sustainable Soils Project team meeting



Pyramid Hill FSS Group on a field day - paddock walk

For the last three years, Adam has been the Community Facilitator for the Pyramid Hill FSS Group. He's a fifth-generation farmer, working on his family's sheep and cropping farm.

Throughout the Pyramid Hill area, cropping and sheep are the biggest farming enterprises, as well as dairy, piggeries and horticulture. A large part of the district is irrigated, and there's a large hill range that goes right through the area. Soil types are diverse, as Adam explains, "there's lighter sandy loam, red loam, and then you get down on the flats and it varies a bit from red clay loams, down to heavy black cracking clays on the creek lines and river flats". Key challenges with soil health for farmers in the Pyramid Hill Group include salt (sodicity and salinity), and shallow root zones:

"We had soil pits done at the start of the Group and from that we found that most of the area has only got a rooting zone of 30, 60 or 70 centimetres and below that there's a range of either salt or calcium carbonate or gypsum layers, high pH zones that the roots just can't access."

Adam reflects on the way he learned alongside the members of the Group: "I wasn't aware [that the shallow root zone] was such a big issue and affects how much moisture you can hold".

Adam is a believer in the ability to improve soil health and the environment at the same time as increasing agricultural productivity and profitability: "it's about trying to be more productive with what we've got". In working towards this goal through the FSS Project, the Pyramid Hill Group have undertaken a range of activities and trials:

"We've done soil pits and soil testing on everyone's property. That gave us a base of what the issues were and what we could do [...] We've had soil experts, insect experts, a variety of things, a real gamut."

"We've tried different ameliorants - things like gypsum and compost. We've done a subsoil manuring trial, we've done pulse trials - working with the Birchip Cropping Group and they're conducting some replicated trials with pulses for us [...] We also have a summer crop trial."

The Project has led to a range of benefits, both large and small, for the farmers involved in the Pyramid Hill Group - changing ways of thinking about soil, seeing what works in different areas and on different soil types, and sharing those learnings:

"It changes the way you think about and manage your cropping if you're aware of what you've got, so just learning and being aware."

"There's people becoming friends out of it who never used to have a lot to do with each other and sharing ideas - it's a huge thing. Guys are coming together and saying, 'I tried this and that works', and 'well I tried this and it doesn't work'."



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