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Evaluation of the sustainable grazing on saline lands - WA Producer Network : influence on practice change and decision- making capacity

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Resource Management Technical Report 312

Evaluation of the Sustainable Grazing on Saline Lands WA Producer Network

*Influence on practice change
and decision-making capacity*

Rebecca Heath, Jamie Bowyer and Trevor Lacey

September 2006

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Summary

The Sustainable Grazing on Saline Lands (SGSL) initiative aims to support woolgrowers with land affected by dryland salinity. SGSL is aiming to achieve improved production and profit from grazing saline land, better environmental outcomes from saline land and more pride for producers with saline land on their properties and becoming proactive about applying new management systems.

The Western Australian (WA) Producer Network, a key component of SGSL, supports a process of 'continuous discovery' by a network of grower groups in the agricultural region. Each group is hosting a participatory research and development project for sustainable grazing on saline land. The intent was for groups to:

- identify key issues relating to their use of saline land
- explore options and solutions
- share the information across the network.

This evaluation sought to gain insight into the impact of NRM Program investment. Considering the resources required to implement projects, it is necessary to know what influence they have, particularly on practice change.

Using semi-structured interviews with 25 of the 67 host farmers involved in the SGSL WA Producer Network the evaluation focused on:

- influence of the network on decision-making capacity and practice change among host farmers involved
- host farmer reactions, including the value placed on the project and associated activities
- capacity of host farmers to adopt saltland pasture systems
- level of adoption of saltland pasture systems by host farmers
- how the project and associated activities influenced adoption of saltland pasture systems.

Involvement in the project has generally built capacity of the farmers interviewed. The level of impact depended on the interviewee's level of experience with the saltland pasture system prior to SGSL, with less experienced farmers improving their knowledge, skills and confidence more than experienced farmers who already had greater capacity.

Three elements played a key role in building the capacity of the farmers interviewed:

- the trial site
- support provided through the network, particularly from the SGSL team
- opportunities to interact with others, especially other host farmers.

Elements that appeared to play a lesser role in building capacity of the farmers interviewed were the monitoring, written material provided, and involvement of the host group.

Most farmers interviewed plan to establish, or already have established further areas of saltland pasture. Involvement in the project influenced these decisions as most farmers believed SGSL had some influence on plans for future management of saltland. However, those with more saltland pastures experience were influenced much less than those with less

experience. Broadly, the project has accelerated farmers along an adoption pathway, as participants have been able to quickly build skills, knowledge and confidence, leading to the ability to make decisions regarding adoption. The host farmers interviewed identified factors other than capacity that are influencing decisions to adopt or not adopt. These included time, finances, seasonal conditions and the availability of suitable land.

Overall, the evaluation found that the SGSL WA Producer Network had a positive impact on decision-making capacity and practice change of the host farmers interviewed. Furthermore, anecdotal evidence suggested that the network had some influence on adoption of/interest in saltland pasture systems beyond the host farmers.



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1. Background

1.1 *Sustainable Grazing on Saline Lands WA Producer Network*

The Sustainable Grazing on Saline Lands (SGSL) initiative aims to support woolgrowers with land affected by dryland salinity. The project is an initiative of Australian Wool Innovation Limited and Land and Water Australia. SGSL is aiming to achieve:

- Improved production and profit from grazing saline land;
- Better environmental outcomes from saline land; and
- More pride for producers with saline land on their properties and having them being proactive about applying new management systems.

To achieve these objectives SGSL is applying a three-pronged approach:

- Statewide Producer Networks that provide groups with technical and financial support to undertake their own local investigations and encourage information exchange with others in the networks;
- Products that package the latest information about productive and sustainable saltland pastures;
- Research to better understand productivity, profitability and sustainability of saltland pastures.

Through the WA Producer Network, grower groups (host groups) have been encouraged to identify key issues relating to their use of saline land, explore options and solutions through participatory research sites and share these experiences. The WA Producer Network anticipates improving:

- local knowledge and interest in saltland grazing
- producer skills in saltland management
- producer confidence to establish saltland pastures
- the value of saltland grazing to the whole farm business.

Overall, the project would like producers to see their saline land as a profitable asset.

The network was established in 2001 and is due for completion in December 2006. The project employs full-time staff, with 'in-kind' support from a number of technical specialists and others.

Bennett's Hierarchy (Bennett & Rockwell 2004) was used as the logic model for the project. The model describes the cause and effect chain through the identification of outcomes at different levels from resources to practice change and conditions (see Table 1).

Table 1. WA Producer Network logic

| Change level (Bennett's Hierarchy) | Anticipated outcome | | |
|---|---|--|--|
| 7. Social, economic and/or environmental conditions | Improvements in the production and profit from grazing saline land Better environmental outcomes from saline land More pride for producers who have saline land on their properties | | |
| 6. Practice change | <i>Host farmers</i> | <i>Members of host group</i> | <i>Others</i> |
| | A number of host farmers adopt, on a broader scale, technologies trialled on SGSL sites A number of host farmers actively develop, monitor and manage their SGSL trial sites A number of host farmers actively promote the benefits of saltland pastures | A number of members from host groups adopt, on a broader scale, technologies trialled on SGSL sites A number of members from host groups have input into decisions made on their trial sites A number of members of host groups actively promote the benefits of saltland pastures | |
| 5. Knowledge, Attitudes, Skills, Aspirations, Confidence (KASAC) | A number of host farmers have the knowledge, attitudes, skills, aspirations and confidence to adopt, on a broader scale, technologies trialled on SGSL sites A number of host farmers understand the research process employed on their trial site | A number of members from host groups have the knowledge, attitudes, skills, aspirations and confidence to adopt, on a broader scale, technologies trialled on SGSL sites | A number of growers aware of SGSL project A number of growers aware of production/ grazing opportunities on saline land |
| 4. Reactions | A number of host farmers react positively to training and support activities | A number of host group members react positively to SGSL activities | A number of growers attending SGSL events react positively to them |
| 3. Participants | 60 host farmers will participate in an SGSL trial | A number of host group members will participate in SGSL activities | A number of growers will attend SGSL events |
| 2. Activities | Technical training including trial site management and monitoring provided for all host farmers Host farmers supported in trial site selection/design/establishment, costs, access to technical information, participation at group-level field walks on trial sites, public acknowledgement of their participation Host farmers supported in carrying out monitoring on trial site and access to immediate interpretations of findings Information relevant to host farmers and their trial sites is developed and extended | Technical training provided to interested group members Host groups involved in field walks Host groups supported through access to technical information, public acknowledgement of their participation Information relevant to host groups and their trial sites is developed and extended All host groups updated on the progress of their trial site | Technical training attended by other growers Range of activities focussed on promotion of SGSL through host farmers, media and other local and major events |
| 1. Resources | Full-time staff, 11 support people, technical specialists Support from Department of Agriculture WA, Saltland Pastures Association, SGSL Research, Department of Conservation and Land Management Operating funds, farmer grants Host farmer trial sites Host groups | | |

1.2 *The evaluation*

The Department of Agriculture and Food, Western Australia (DAFWA), a key funder of the SGSL WA Producer Network, requested an evaluation to gain insight into the impact of their investment, particularly in achieving on-ground practice change.

This was an external evaluation conducted by the 'Extension and Communication' project team from the Natural Resource Management Program of DAFWA. The evaluation team included:

Trevor Lacey – Project Manager

Jamie Bowyer – Development Officer

Rebecca Heath – Development Officer.

2. Methodology

2.1 Key evaluation questions

After discussions and a workshop with members of the SGSL WA Producer Network team to clarify the project design, the following key evaluation questions were developed to guide the collection of data. Bennett's Hierarchy (Bennett & Rockwell 2004) was used as the project logic framework:

- What influence has the SGSL WA Producer Network had on decision-making capacity and practice change within the host farmers¹ involved in the network?
 - Sub-question 1: What were the host farmers' reactions, including the value they placed on the project and associated activities? (Level 4 of Bennett's Hierarchy)
 - Sub-question 2: To what extent has participation in the project influenced the host farmers' capacity to adopt saltland pasture systems? (Level 5 of Bennett's Hierarchy)
 - Sub-question 3: To what extent did host farmers adopt/not adopt saltland pasture systems and why? (Level 6 of Bennett's Hierarchy)
 - Sub-question 4: How has the project and associated activities influenced adoption of saltland pasture systems by host farmers?

Additional questions were used to gather information about the impact of the project on farmers from the host group and what host farmers saw as the most significant outcome. Unexpected outcomes were also identified.

2.2 Sampling method

A 'purposeful sampling' technique (Patton 1990) was used to select 25² participants. Two criteria were used in an effort to gather a rich and varied cross-section of responses.

The site 'audit score' recorded by the SGSL team during May 2005 (see Appendix 1) was used to categorise host farmers into two sub-groups. Sites with a score equal to or above 26 were allocated to sub-group 1 and those with a score equal to or below 25 to sub-group 2. The use of 25/26 as the 'cut-off' ensured that about half of the 67 host farmers were classed into each sub-group. It was anticipated that the audit score might reflect variation in the host farmers' level of interest in the project and/or degree of interaction with the SGSL team.

Host farms were then grouped according to geographical location and allocated to the three evaluators. The participants were selected randomly from each sub-group across these geographic groupings to ensure capture of any variation due to location. A total of 25 farmers were interviewed across the State, 15 from sub-group 1 and 10 from sub-group 2 (see Figure 1). Some farmers contacted were unable to participate for various reasons.

¹ Host farmers are those hosting an SGSL WA Producer Network participatory research site on their property.

² It was decided to interview 25 out of the 67 host farmers given the resources available to the evaluation team.

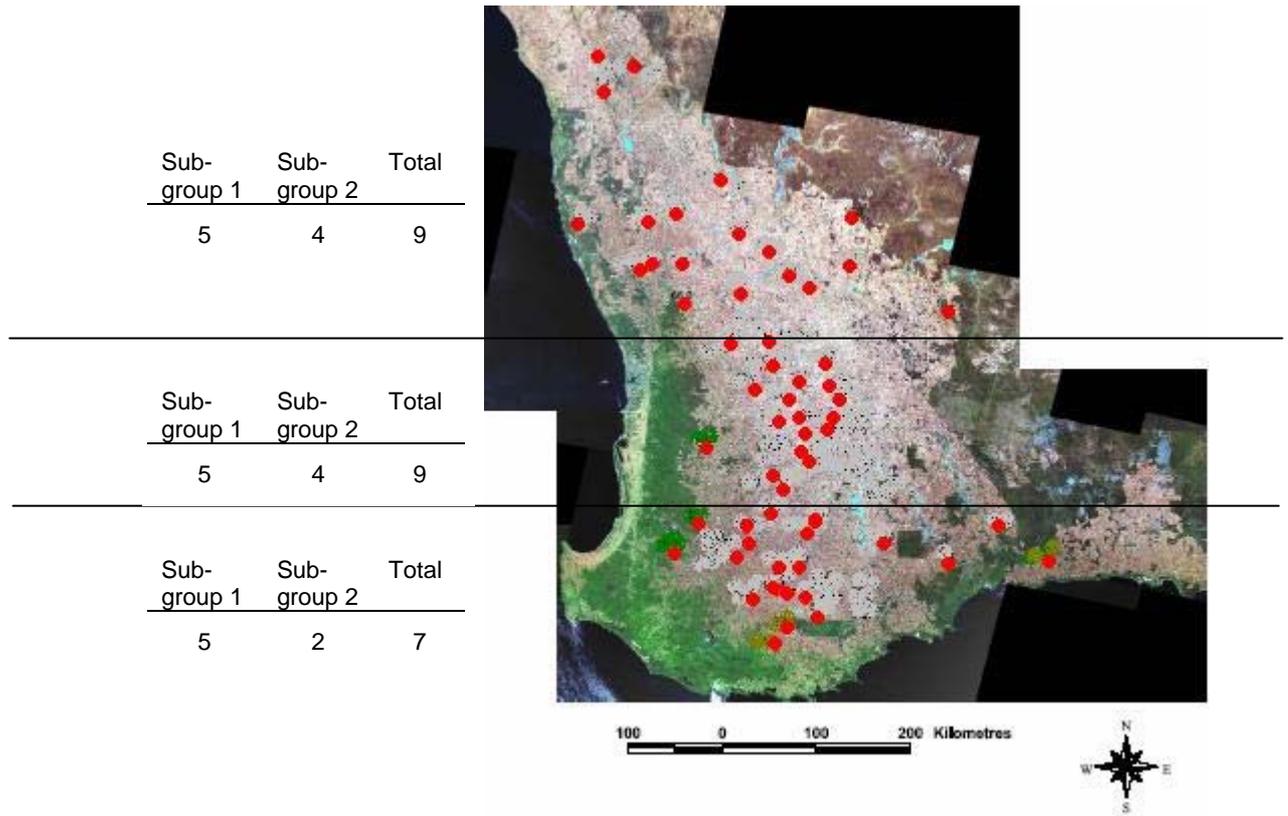


Figure 1: Map of South-west of Western Australia showing participatory research sites (red dots) and numbers of interviewees

2.3 Data collection

Face-to-face semi-structured interviews (SSIs) were conducted with 25 of the 67 host farmers (Fowler & Mangione 1990). An interview guide, which listed the questions to be explored during the course of each interview, was used to ensure the same format and topics were covered with each one (Appendix 2). Pilot interviews were conducted with three host farmers during November 2005 to standardise the technique between the three interviewers and to refine the questions. The remaining SSIs were conducted throughout February 2006. All interviews were recorded via tape and handwritten notes.

2.4 Analysis

All interviews were transcribed and independently read then re-read by the three members of the evaluation team in order to help limit data interpretation bias. The team then identified key themes and issues from the initial aim and from the interview transcripts. Transcripts were then imported into NVivo 7, a qualitative analysis software program (QSR International 2006), and coded according to the key themes and issues. The data were summarised and interpreted by the team and associations between themes explored.

2.5 Limitations

It must be recognised that there will always be limitations in evaluation, and potential limitations included:

- Some data relied on participants' early memories of the project which began in 2001 – five years before this evaluation (may be a source of inaccuracy)
- Attribution of impacts to the SGSL WA Producer Network
- Host farmers were at different stages, with one farmer yet to establish his site and others three to four years into the project
- Some host farmers had other saltland management trials and may have generalised over several sites when responding to questions.

3. Findings

From this evaluation, the SGSL WA Producer Network appeared to have built the internal capacity (knowledge, attitude, skills, aspirations and confidence – KASAC) of the host farmers interviewed to a point where decisions to adopt/not adopt saltland pasture systems could be made (see Table 2). Although the host farmers' level of experience with saltland pastures prior to SGSL influenced the impact the project had on them, it nonetheless appeared to have 'primed' them for further saltland work, and the participatory approach used was valuable in achieving this.

[See Appendix 3 for details.](#)

3.1 Impact on capacity

In general, involvement in the project had a positive influence on the internal capacity of the host farmers interviewed. However, the host farmers' level of experience with saltland pastures prior to SGSL did affect its impact – less experienced farmers showed greater development in capacity, while farmers with more experience in saltland pastures felt the SGSL WA Producer Network did not have a great influence on their decisions and/or improved their capacity.

The elements that appeared to be central in building the capacity of the farmers interviewed were:

- 'learning by doing' through hosting a participatory trial site
- support provided throughout the life of each trial site ('hands-on' support, technical support, general help/guidance)
- opportunities to interact with others to exchange information and experiences.

Without the grants given to host farmers to establish trial sites, much of the advances in KASAC would not have occurred. The grant played an important role in facilitating capacity building by drawing farmers into the network. For the less experienced farmers, the grant provided the opportunity to begin saltland pasture work that they had been planning, or motivated them to do something that they had been thinking about but hadn't got around to. The grant also reduced the risk and costs involved in trialling technologies.

"It made it a cheap enough way to find out whether it was going to work."

Some more experienced farmers used the opportunity to help finance the next paddock of saltland pastures, whilst others used the funding to discover ways to improve on what they had been doing. Without the grant, half of the host farmers interviewed would not have been involved in the project, lessening the likelihood of them developing the levels of capacity achieved in the timeframe of the SGSL WA Producer Network.

3.1.1 Key elements that impacted on capacity

3.1.1.1 Trial sites

The trial sites established and managed by the host farmers played a central role in building knowledge, skills and confidence, with farmers believing the sites were the most important aspects of the project in building their confidence. They were able to learn first-hand what worked and what didn't work on their own farms, and this knowledge, with the skills learnt by

“getting their hands dirty”, helped to develop confidence in the pasture systems trialled and the management of salt-affected areas in general.

“(SGSL) has improved our confidence in a positive way. You know, we are prepared to have a go now and probably not scared to fail - but we will try and take most of the risk out of it now because we do understand a little bit of what we are doing instead of just throwing it all to the wind and hope something works. So we will go for best bet options now.”

“I feel quite confident that the next job we do we can do 10 times better – and you’d never say you’re going to have better success because it will come back and kick you in the butt, but I have a lot more confidence now that we had that experience.”

Improved knowledge, skills and confidence in the ongoing management of sites was less evident. Six host farmers had only just completed the ‘establishment’ stage and commented that they would have to see what happens regarding grazing and management of the sites. The farmers implied that they needed to experience ‘ongoing management and grazing’ before they would feel confident in this aspect of saltland pastures. The value of actually ‘doing’, in terms of building the capacity of participants, was highlighted and should be an important consideration for projects that focus on practice change.

Harry is a wheat and sheep farmer with about 4000 ha. Sixty per cent of the farm is cropped and 40 per cent runs sheep for wool and meat. Approximately 100 ha of Harry’s farm is affected by salinity and he has managed some of this land with different options including trees, banks and more recently a small amount of saltbush.

Harry was looking to do something on a particular site when he heard about SGSL and the grant associated with the project. His successful application motivated him to find out what might be planted on the site. He approached the local Department of Agriculture and collected enough information to make a decision on what species to use.

Harry’s site has been very successful and the hands-on experience has increased confidence to plan further plantings on the remainder of his saltland.

(Fictitious name used)

The evaluation identified some risks associated with using farmer trial sites as extension tools. Poor results or failures resulted in a lack of confidence in that component and farmers were often quoted as saying that they *“wouldn’t be trying it again.”* Three host farmers were not sure why failures occurred, and 10 felt there had been little feedback through the project on interpreting what was happening on their sites. A comment was made by one farmer about the variability of success at trying the same thing (such as direct seeding of saltbush) *“some people swore it was the way to go and some people, like me, swore that they’d never try it again.”*

Without feedback to farmers it is possible that premature rejection of the saltland pasture systems could occur in both individual farmers and the broader extension network, as trial sites of other host farmers were also important in building the knowledge and confidence of those interviewed.

Table 2. Summary of results against Bennett’s Hierarchy (Bennett & Rockwell 2004)

| Change level | Outcome | |
|--|--|--|
| 7. Social, economic and/or environmental conditions | It is probable that effects of the SGSL WA Producer Network will contribute to adoption of saltland pasture systems and overall management of saline land in Western Australia, which may contribute to improved social, economic and environmental conditions. | |
| 6b. Practice change beyond the host farmer | Anecdotal evidence suggests that interest in saltland pasture systems has increased over the last 3-5 years, and 80% of host farmers interviewed suggested adoption/interest outside of the host farmer group. However, it is difficult to attribute this increase primarily to SGSL. Nevertheless, a number of host farmers were striving to influence others to consider these types of management options. | |
| 6a. Practice change within host farmer group | 56% of host farmers interviewed have or anticipated adopting some/all components of their trial site in the future. 24% were unsure, as they were still assessing their trials. Many farmers indicated that, if new areas of salinity appeared on their land, saltland pastures would be their management choice. | |
| 5. Knowledge, attitudes, skills, aspirations, confidence | <p>Although the host farmers varied in experiences with saltland pastures and salinity management prior to SGSL, the majority gained a greater understanding through participation in the project. Areas in which it directly increased the capacity of host farmers included:</p> <ul style="list-style-type: none"> • Awareness and integration of options for salt-affected land • Establishment and management of saltland pasture systems • Confidence to tackle salt-affected land • Attitudes toward saltland – change from wasteland to potential • Desire to improve salt-affected areas and show others that it can be profitable | |
| 4. Host farmer reactions to the project and associated activities | <p>92% of host farmers felt the SGSL WA Producer Network project was valuable. Positive comments were made about:</p> <ul style="list-style-type: none"> • The scientific and technical expertise of the SGSL team • The hands-on, practical approach • Opportunities to listen to and interact with other farmers • Opportunities to source and receive information from the SGSL network • The enthusiasm of and encouragement from the SGSL team • The grant | |
| 3. Host farmers | 67 host farmers participated in the project, 25 were interviewed | |
| 2. Activities | Participatory trial site including monitoring and host group involvement SGSL network Written material | Support including funding for trial site, technical and other support Field days, forums & seminars |
| 1. Resources | <p>3 full-time staff, 11 support people, technical specialists</p> <p>Support from Department of Agriculture & Food WA, Saltland Pastures Association, SGSL Research, Department of Environment and Conservation</p> <p>Operating funds Farmer grants Host farmer trial sites Host groups</p> | |

3.1.1.2 Support

The support provided to farmers throughout the life of projects was valuable in building knowledge, skills and confidence. Most host farmers interviewed found it helpful to have the expertise of the SGSL team and others to draw upon. The SGSL team in particular played an important role in delivering 'on-ground' information that increased awareness and knowledge among the host farmers as well as aiding the development of new skills and building host farmer confidence.

"They have got a good core group of guys that oversee the project who are keen on what they are doing, and know what they are talking about, and actually do physically get out in the paddock and make sure they are out there to see the sites. So that makes a hell of a difference when you have got that."

However, half of the farmers interviewed suggested they received little or no support, or were assisted in only some aspects. For example, 10 farmers regularly received support with monitoring the sites, while seven suggested no support was obtained in this area. Although certain aspects of support were highly valued, other aspects were not valued due to lack of feedback, timeliness of the support, being unsure as to who to contact and/or because expectations were not met. Nevertheless, the support received was highly valued and often mentioned as one of the key aspects of the project, especially where the level of support received was unexpected.

It is clear that strong relationships have developed between members of the SGSL team and most host farmers interviewed. Often farmers commented on the encouragement and enthusiasm shown by the SGSL team and this personal praise was highly regarded. Furthermore, one farmer who claimed to have very little one-on-one support felt he missed out on becoming "*part of the SGSL family*".

3.1.1.3 Interaction

The concept of the 'SGSL family' was a recurring theme throughout the interviews, demonstrated by the enjoyment host farmers got out of being able to interact and exchange experiences with others from the network and "*throw ideas around*" as a group. These opportunities to interact with others involved in saltland management were highly valued by those interviewed and have played an important role in building capacity. It is interesting to note that, to the interviewees, the major forums for technical information exchange (such as field days, seminars and events) were as much about interacting with other farmers in similar situations and technical experts as they were about accessing technical information.

"(SGSL has been) valuable in the contact that I have had with different people being in the network. Just getting more information about what we are doing, seeing what is and isn't working – I suppose they are the key things."

The farmers have clearly enjoyed the interaction and were able to gather useful information. The host farmers interviewed placed a greater value on information received from or about other host farmers. This again highlights the value of farmer-managed sites as an extension tool, but also comments on the perceived credibility of information sources.

"Mainly I prefer a lot of the time to speak to farmers because they are in the same business that I am in, and sometimes they will throw in a different question that you haven't thought of, come at it from a different angle. So that is quite good... blokes that are living the problem."

3.1.2 Other elements

3.1.2.1 Written material

The written material produced through SGSL did not seem to be highly influential in development of capacity; however it was of some value to half those interviewed. Information about other sites, rather than technical information, was considered the most valuable as host farmers found it interesting to read what was happening at other trial sites and get other host farmer perspectives. An interesting point to note is that two farmers who weren't able to get to any field days or forums found the written material about the other trial sites one of the most valuable aspects of the project, further demonstrating the value farmers place on information from other farmers.

3.1.2.2 Monitoring

Another element that seemed to have little impact on internal capacity was site monitoring. According to the host farmers interviewed, there were large variations in the level of monitoring carried out at each site – three sites were not being monitored at all; 12 were regularly monitored by the farmer and/or SGSL; and minimal monitoring, or preliminary monitoring only, occurred on nine sites. Monitoring can be a useful tool in learning but further thought is required when including it in future projects. Twelve host farmers did not have a positive reaction to this activity but thought that it could have been a valuable exercise. In general, host farmers felt that the proposed monitoring was too much and too complex for host farmers and SGSL to achieve in the time available to them. Discussion with farmers to identify key information they need beforehand would be useful; as would discussions to clearly define what (if anything) the landholder would be expected to contribute.

"I think we know barley grass is worthless and I think we know that better coverage of whatever – a legume or other grasses – every farmer knows that it is much better feed value and he will know in his mind 'that's x amount per hectare compared to that'. He's immediately made an assessment of what he thinks – we don't normally have to get down on our hands and knees and cut them off and weigh them."

3.1.2.3 Group involvement

Although each trial site was submitted through a grower group (host group) in order to broaden the network and further support host farmers, group involvement was variable. It ranged from strong involvement throughout the life of projects to involvement only through attendance at field days and/or input into development of the site, to no involvement at all. It was also apparent that 18 host farmers used the name of any group for their application, with no real intent of working with that group.

For these reasons, it is difficult to assess what impact groups had on the capacity of the host farmers interviewed. From the host farmers' perspective, where groups have been active they added to the overall support for the site. One farmer commented that his group provided motivation and reassurance. This type of support may improve host farmer knowledge, skills and confidence by guaranteeing progress.

3.1.3 Attitudes and aspirations

All of the farmers interviewed had a positive attitude to saline land – that is, they saw potential in salt-affected areas and viewed it as an asset rather than wasteland. However, the influence of the project on this attitude was mixed. Many farmers involved already had a positive attitude to saline land, and still held this view.

For farmers with less knowledge and experience, participation in SGSL has changed their view. Elements of the project that improved knowledge and skills in management of salt-affected land also built confidence in the options trialled – farmers now knew that they had real, productive options that, to them, were clearly an improvement on bare scald or barley grass country, which has changed how they perceive salt-affected areas. The attitude of these farmers has changed from seeing saltland as wasteland to viewing it as having real production potential.

In order for decisions to adopt/not adopt to be made, there is an underlying need for farmers to want to make the change. Although interviewees were not directly asked about their aspirations, their overarching desire was to successfully manage salt-affected areas. It is likely that the SGSL WA Producer Network was seen as an avenue to help them reach their goals – that is, this desire was present prior to involvement in the project. However, the confidence many of the host farmers interviewed gained from elements of the project such as the trial site and support, may also have led to more positive attitudes and clearer aspirations.

Tom is a wheat and sheep farmer with approximately 2000 hectares. Two-thirds of the farm is cropped and the rest runs sheep. About 300 ha are salt-affected to varying degrees and he believes there is potential for another 200-300 ha to be affected in the future. Tom has fenced-off extensive areas of saline land, which occasionally gets grazed late in summer but is essentially considered lost land.

Although Tom had dabbled with tall wheatgrass and puccinellia before, he did not have much experience with saltland pastures. The local Land Conservation District Committee selected a site on his farm for a trial to evaluate potential species to improve production on saline land. Through the trial Tom has learnt a lot about establishing and managing saltland pastures, and the success has enabled some good grazing from the area.

Tom now considers his 'lost' saline land to have value and he can see potential to get a return from that land. There is a further 200-300 ha of saline land that Tom is now planning to establish a similar saltland pasture system on in the near future.

(Fictitious name used)

3.2 Practice change

Host farmers were asked if they had adopted, or planned to adopt saltland pastures systems and what influence participation in the SGSL WA Producer Network had on those decisions. In order for the host farmers to make a decision whether to adopt or not, they must first have the appropriate capacity (knowledge, attitudes, skills, aspirations and confidence) required to make the practice change (see Figure 2). It is clear that the SGSL WA Producer Network was instrumental in developing the capacity of the host farmers interviewed to where these decisions could be made. However, being able to make a decision about adoption of saltland pasture systems does not necessarily mean that adoption has, or will, occur.

A number of factors, other than capacity, that influenced adoption of saltland pasture systems were identified through the interviews. These included finances, time available to implement the change, availability of saline land and seasonal conditions (Figure 2). These factors should be taken into consideration when developing projects that have 'on-ground practice change' as an objective. A project may adequately address capacity issues but find little on-ground practice change due to participants' lack of finances or time (for example).

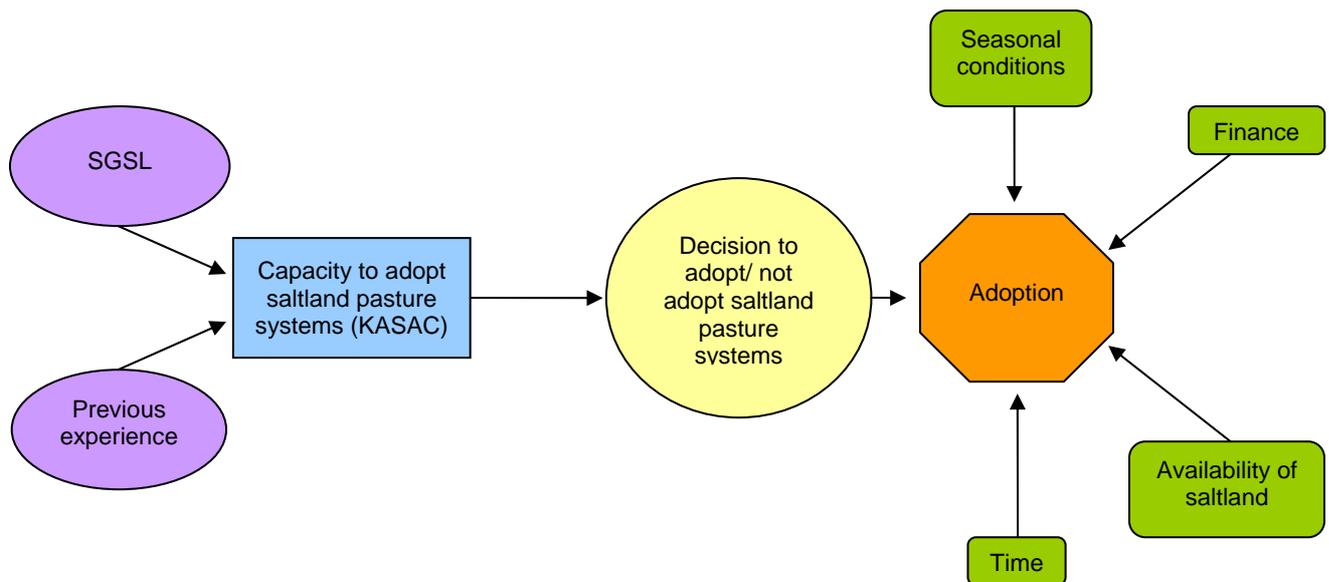


Figure 2. Factors influencing decisions to adopt or not adopt saltland pasture systems

A number of participating host farmers had adopted technologies trialled through SGSL, and anecdotal evidence suggested that this has extended beyond them in some instances. Fourteen of the 25 interviewed had already adopted or anticipated adopting all/some of the components of the systems trialled on their properties. Of the remaining 11, six were unsure, as their projects were not yet complete or further assessment was needed. For four, results did not alter the way in which saltland pastures were to be implemented – rather, the trial reinforced prior learnings. The final interviewee would not be putting the technology being trialled into practice.

The following ‘stages of adoption’ were established, based on interviewee responses, with regard to the adoption of the SGSL technologies trialled:

- Have adopted some/all components of trial site and will continue if possible* – 16%
- Plan to adopt some/all components of trial site in the future if possible* – 40%
- Will not adopt technology trialled – 4%
- Trial had no influence on future plans/reinforcement of prior learnings only – 16%
- Unsure – trial not complete/still assessing trial – 24%.

* includes further ‘trailing’ of technologies and may depend on factors such as time, finances etc.

From a slightly different perspective, 24 of the 25 host farmers interviewed had adopted or anticipated adopting saltland pasture systems (may or may not include technologies being trialled on their own farm). Of these, 10 had no saltland pasture systems on their properties prior to being involved in SGSL. Furthermore, one farmer was looking to purchase salt-affected land in order to apply the practices learnt through SGSL.

3.2.1 Influence of SGSL on adoption

The level of influence that the SGSL WA Producer Network had on adoption differed between farmers interviewed, mainly due to their experience level. Farmers who were more experienced in saltland pastures prior to involvement in SGSL were not greatly influenced, and this is important to consider when planning extension projects.

Three farmers suggested that the SGSL WA Producer Network was the greatest influence on current/future plans for saltland pasture systems. Their first-hand experiences with trial sites gave them ideas for future plantings (what to plant, where etc) as well as demonstrating the benefits. A further 21 farmers believed SGSL had some influence on their decisions. However, SGSL cannot be solely credited for improving the internal capacity (leading to the ability to make decisions) of all. Sixty-eight per cent of the farmers interviewed were involved in other groups or organisations that are likely to have influenced one or more aspects of their 'capacity' and many were actively seeking management options for their saline land prior to SGSL. Nevertheless, the project has generally accelerated farmers along an adoption pathway, as participants have been able to quickly build skills, knowledge and confidence, leading to the ability to make decisions regarding adoption, in a shorter timeframe than they would have otherwise committed to.

Dick has a farm of about 1500 hectares, mainly a stock enterprise. Only a small amount of his property is saline but he was actively looking for ways to manage it, as he was positive he would find a way to get grazing from these areas.

Although Dick had little experience with saltland pastures, he was already beginning to implement a plan on his property. When he heard about SGSL he put in an application, which was successful, and was able to set up a site with a range of different species to see which ones were most suited to his soils and rainfall.

Dick believes his knowledge and skills have increased through setting up the site, interaction with DAFWA technical people and visiting other sites. He now has a better idea of what to do and is confident to continue establishing perennial pastures on other parts of the farm. He believes that because of SGSL he is several years ahead of where he would be if he were doing it on his own.

(Fictitious name used)

Two farmers indicated that involvement in the network had no influence on decisions to manage saline land. Both had extensive experience. However, there is evidence that these farmers have learnt through the project and will apply this knowledge in the future.

SGSL played an important role in building a network of farmers with experience and knowledge of saltland pasture systems, and it is possible that adoption of, or interest in, saltland pastures may flow-on from this network to other landholders. Although each trial was submitted through a grower group in order to broaden the network, further support host farmers and possibly increase adoption, host group involvement was varied. Nevertheless, there was some anecdotal evidence from 20 interviewees that others outside of the network have adopted or are *"keeping a close eye on"* the saltland systems being trialled, and the SGSL WA Producer Network was an important contributor to this. This evaluation did not gather any evidence directly from 'other' farmers to support these comments.

3.3 Most significant outcome

A diverse range of responses was obtained from the host farmers interviewed as the most significant outcome from participation in the SGSL WA Producer Network (presented in [Appendix 4](#)).

4. Discussion

Participatory research is often regarded as an important extension model for addressing many issues, including complex natural resource management problems. A key reason is because participatory research allows issues to be understood and recommendations to be implemented at a local level (Frost 1998 (unpublished PhD thesis), cited in Marsh 1998).

“SGSL has been good because it has covered such a wide area and, even though they are little projects, at least they are localised rather than doing one in the central, one in the south and one up north and trying to apply it to the whole area, because every bit of salt seems to be different.”

The approach employed enabled host farmers to see first-hand what worked (and what didn't work) in their own situations, therefore building the participants' capacity to a level where decisions regarding the adoption of saltland pasture systems could be made.

It is often assumed that uptake of practices developed by NRM projects leads to improved outcomes for the environment. However, apparent 'success' in adoption may not denote that the intended environmental outcomes will be reached (Coutts 2005). It is more important for host farmers to develop a better understanding of the saltland pasture systems being trialled in order to make a decision on the applicability of the technology to their situation. That is, the ability to make decisions about adoption does not necessarily mean that adoption will occur. Nevertheless, the evaluation found that a number of participating host farmers had adopted the technologies trialled through SGSL, and anecdotal evidence suggested that this has extended beyond them in some instances.

A number of learnings have come from this evaluation which could be considered for future projects of this nature. It is believed that integration of the learnings from SGSL into future projects will increase success with regard to ensuring investment in natural resource management leads to improved environmental outcomes.

The experience level of participants will influence the impact a project has on their capacity and decisions to adopt or not – consider the target audience in relation to project objectives to make the biggest impact. For example, if the objective of the project is to impact on KASAC, leading to adoption of a new technology, then targeting less experienced farmers would see a greater impact. More experienced farmers would be valuable information sources.

There is great value in 'learning by doing' to build the capacity of participants – on-farm trials should be a key component of projects if building the capacity of participants in order to effect adoption is an objective.

Farmers value support – support throughout the life of projects is important, particularly support with technical information and options.

Interaction with other farmers with common goals and 'professionals' is highly valued – inclusion of opportunities for interaction in future projects should contribute to the success of the project. Farmers placed a high value on information from other farmers and this might be considered when developing projects.

There are a number of factors influencing adoption, and all will need consideration for adoption to occur – 'other' factors that may impact upon adoption should be identified in order to anticipate what impact future projects are likely to have.

Unexplained failures can deter farmers from options – it is important to provide feedback to participants on why components failed to enhance understanding of the technology and address the issue of possible unjustified rejection of technologies. In addition, farmers

related to and took particular notice of other farmers' experiences. Incorrect interpretation of factors affecting a site through lack of feedback has the potential to impact on wider adoption.

Funded sites may be disregarded by other farmers – this is not such an issue if the objective is to build the skills and knowledge of the farmers receiving the funding, but does become more important if these sites are to be used as extension tools to provide information to influence others.

Exceeding participant expectations leads to high praise; unmet expectations lead to criticism – clearly express what is expected of participants/what participants can expect from the project, and ensure that resources are available for the life of the project in order to meet or exceed participant expectations.

Funding lessens the risk involved in trialling new technologies – inclusion of funding in future projects will draw in participants whose aspirations are aligned to the projects goals.

Not all activities are of value to participants – for future projects, determine what activities are best to meet objectives and best value for money, and have clear reasoning for inclusion of activities. Ensure resources are available to carry-out activities and provide feedback to/seek input from farmers.

The timeframe of project has not allowed farmers to fully learn all they want to know regarding sustainable grazing – for complete learning to occur, projects should continue until trials have yielded results (e.g. grazing data). However, it is uncertain as to what impact this would have on future adoption, as the majority of host farmers interviewed at the 'establishment' phase planned to adopt saltland pastures in the future.

5. Conclusions

Overall, the SGSL WA Producer Network has had a positive impact upon practice change and/or the decision-making capacity of the host farmers interviewed, and anecdotal evidence suggested that this has extended beyond the host farmers. It must be noted that the host farmers' level of experience with saltland pastures prior to SGSL did influence the impact of the project. Nevertheless, involvement appeared to have 'primed' the host farmers for further saltland work, and the participatory approach used was valuable in achieving this.

The suite of elements that made up the SGSL WA Producer Network has generally worked well in building host farmers' capacity to adopt the technology trialled. The key elements appeared to be:

- 1) 'learning by doing' through hosting a participatory trial site
- 2) support provided throughout the life of each trial site
- 3) opportunities to exchange experiences related to individual sites.

The trial sites established by host farmers played a central role in building capacity to make decisions. The sites have been critical in improving knowledge, skills and confidence to the point where farmers can make sound decisions on further use of saltland pastures.

While the hands-on experience gained through the trial sites was important, the opportunities to interact with other host farmers and 'experts' appeared to be the aspect most valued by host farmers. In addition, the SGSL team played an important role in supporting host farmers and was highly valued by most interviewed.

Whilst the interviewees believed they had the internal capacity to adopt, and most are planning to adopt or already have adopted technologies trialled, other factors including finances, time, availability of saline land and seasonal conditions have prevented farmers from immediately establishing further saltland pasture systems. These factors need to be considered if adoption of technologies is seen to be an integral aim of future work.

5.1 Next steps

A follow-up survey may be useful to quantify the themes generated through the interviews. Whilst the qualitative evaluation findings have provided a significant amount of information and understanding, they may not be representative of the views of all SGSL WA Producer Network host farmers. Additional surveys could be utilised to gather information from farmers outside of the host farmer network.

6. References

- Bennett C, Rockwell K (2004) Targeting Outcomes of Programs (TOP). University of Nebraska, Lincoln. Retrieved 6 June 2006 from <http://citnews.unl.edu/TOP/index.html>
- Coutts J (2005) Evaluating success in achieving adoption of new technologies. Presented at NSW DPI and Beef CRC Conference, *Moving from Research to Adoption*, Quality Nautilus Resort, Coffs Harbour, NSW, 3-5 May 2005. Retrieved 4 July 2006, from www.couttsjr.com.au/attachments/uploads/230405Coutts%20Beef%20CRC%20Paper.doc
- Fowler FJ, Mangione TW (1990) Standardised Survey Interviewing. Sage Publications: Newbury Park, California.
- Marsh SP (1998) What can agricultural researchers do to encourage the adoption of sustainable farming systems? Paper presented at the CLIMA/ASSSI (WA Branch) Forum, *Sustainability of Farming Systems with a Focus on Future Management of Water and Nutrients*, CSIRO, Perth, Western Australia, 13-14 August 1998. www.general.uwa.edu.au/u/dpannell/dpap987f.htm
- Patton M (1990) Qualitative evaluation and research methods. Sage Publications: Newbury Park, California.
- QSR International Pty Ltd (2006) NVivo qualitative data analysis program. Version 7, 2006.

7. Appendices

7.1 *Appendix 1: SGSL site audit score*

Each SGSL WA Producer Network participatory research site was scored on the following criteria:

- Broader extension/network value of the project
- Farmer ownership of the project
- Accessibility (e.g. project situated near a road)
- Credibility of the host farmer as a public speaker
- Routine monitoring occurring
- Innovation
- Progress with implementation
- Gaining livestock data.

For each criterion, a score of up to 5 was given.

Sites with an audit score equal to or above 26 (maximum possible being 40) were allocated to sub-group 1 and those with a score equal to or below 25 to sub-group 2. The use of 25/26 as the audit score 'cut-off' ensured that approximately 50% of the 67 host farmer sites were classed into each sub-group. It must be noted that the use of 25/26 as the audit score 'cut-off' number may not be applicable in other areas. It is of greater importance to have two evenly split sub-groups in order to capture the range of farmer experiences.

7.2 Appendix 2: Interview guide

7.2.1 Background

This guide was designed to gather qualitative information on four key areas in order to generate a rich picture of host farmer experiences with the SGSL WA Producer Network. The key areas of focus were:

1. Host farmer reactions, including the value placed on the project and associated activities

What sort of experience have the host farmers had with the SGSL project? Did they have a positive and enjoyable experience or was it a less positive experience? Which activities have been the most valuable and why? Which of the activities did host farmers find valuable?

2. The capacity (knowledge, attitudes, skills, aspirations, confidence – KASAC) of host farmers to adopt saltland pasture systems

What impact has project activities and the project overall had on host farmer's knowledge, attitudes, skills and confidence with regards to saltland pastures and salinity, as well as aspirations to improve the salinity situation? It will be critical to discover if project activities have improved host farmers' KASAC and if this then led to increased adoption of saltland pasture systems.

3. The level of adoption of saltland pasture systems by host farmers

Has the host farmer's involvement in the SGSL WA Producer Network influenced on-ground or planned on-ground management of saline land? What is the level of adoption of saltland pasture systems by host farmers? How has involvement in SGSL influenced this?

4. The link between project activities and practice change by host farmers

How has the SGSL WA Producer Network influenced adoption of saltland pastures? What activities were most effective at increasing the host farmers KASAC, and thus their decisions to adopt/not adopt saltland pasture systems?

Background farm information was also collected. This was not critical to the evaluation, but provided supporting information to characterise farmers.

Other information was gathered on:

1. The impact of the project on farmers from the host group
2. Unexpected outcomes of the project
3. What host farmers saw as the most significant outcome resulting from the project.

It must be remembered that this is a guide only. Semi-structured interviews are loosely structured, and, as such, the exact wording and ordering of questions is not of great importance (Fowler & Mangione 1990). The key evaluation questions (KEQs) provide a guide to ensure that the main topics are covered. These can be followed-up with additional questions generated from interview discussions.

7.2.2 Interview format

General background information on farm and enterprise

- Total farm hectares (owned/leased)
- What is your enterprise mix?
- Rainfall
- How many hectares of saline land do you have?
 - Bare salt scald (LYSA)
 - Barley grass (MYSA)
 - Yield reduction (HYSA)

Are these areas stable or increasing?

Prompt:

LYSA – Low Yield Saline Area (0--25% of potential yield)

MYSA - Marginal Yield Saline Area (~40% of potential yield)

HYSA - High Yield Saline Area (~85% of potential yield)

What influence has the SGSL WA Producer Network had on decision-making capacity and practice change among host farmers involved in the network?

KEQ 1: What were the host farmer reactions, including the value they placed on the project and associated activities?

What were the host farmer's reactions and how did they value the project?

- Why did you get involved as a host farmer for an SGSL project?
- What were your expectations from the SGSL project?
- Is there anything you would change about the project to improve it?
- How valuable has the project overall been to you and why?
- What were the benefits of being involved in the project?

What were the host farmer's reactions and how do they value the project activities?

- Which SGSL activities have you been involved in?
- What did you think about the activities?
- Which of these activities has been the most valuable and why?
- Which was the least valuable and why?
- What monitoring activities are occurring on the site? By whom? How were they recorded? How/who does interpretation from monitoring?
- How has the monitoring impacted on adoption?
- What level of involvement has the host group had with the site?

- Do you think that the trial site had some influence on others within the group? How so?
- Would you have been involved if there had not been a grant to help establish your demonstration site? Why?
- What support did you receive to develop the trial and from who?
- How valuable has the technical support been?

SGSL Host Farmer Activities - Prompts

Risk sharing

- \$10,000 to establish site (average figure - some higher, some lower)

Support

- Support to prepare proposal
- Technical support to plan demonstration site
- Technical support to establish site
- Further specialist technical advice e.g. Robyn Dynes CSIRO
- Technical support for site monitoring and management
- Site characterisation
- Training in site monitoring
- Host group
- Public recognition of host farmers – media articles, field days and walks and forums

Information exchange

- Provided with technical information – specifically *Saltland Pastures in Australia*, *LWA Insights* and *Saltland Pastures Association Newsletter*; received documented information on characterisation of their site (EM maps etc); verbal advice from SGSL Team and other support people
- Field days, field walks, bus tours
- Forums 2003 Perth; 2004 regional; 2005 Perth (not all host farmers attended each of these or in some cases none at all)
- Host group
- Database
- Site characterisation
- Sign for site
- Training in site monitoring
- Site monitoring
- Saltland pastures training – Kondinin Group. All given information about courses – none happened
- Saltland pastures monitoring training (developed and promoted by Nadene Schiller) - primarily training support people and SGSL team; host farmers invited and about four came along
- Economic assessments conducted with host farmers – a couple presented back to HF (Allan Herbert)
- Media including Agmemo, radio, rural press etc
- Other technical specialists – Ed Barrett-Lennard, Ash Lewis, Neil Ballard, Derk Bakker etc
- LWA *Grass Roots* communication campaign (journalist scans rural media each week; also instigated own articles (would interview host farmer and then run story); SGSL did much the same
- Photo competition - all host farmers sent information.

KEQ 2: To what extent has participation in the project influenced the host farmers' capacity to adopt saltland pasture systems (SPS)?

- What capacity (knowledge, attitudes, skills, aspirations & confidence) do host farmers have to adopt saltland pasture systems?
- Do you believe you have the knowledge and skills to establish and manage SPS?
- Do you have the confidence to establish and manage SPS?
- Do you have confidence in SPS as a salinity management option?
- How do you view your saline land?
- How do you view saltland pastures?
- Do you plan to make management changes? Why?

To what extent has participation in the project changed the host farmer's capacity?

- How has the project improved your knowledge and skills?
- How has the project impacted on your confidence?
- Has your view of saline land/saltland pastures changed since your involvement in SGSL project?

KEQ 3: The level of adoption of saltland pasture systems by host farmers

- Which host farmers have adopted (or not) or plan to adopt (or not) what saltland pasture systems?
- How was your saline land managed before SGSL (prompt for management on different classes of saltland)?
- How have you changed (or plan to change) your management of saltland since being involved with SGSL? If so how and why?
- If there are areas where you don't plan to change management, why not?
- What was the area of SPS on your land before and after the project?
- Do you think the trial site has had any influence on adoption by others?

What factors have led to the host farmer's decision?

- What influence has your involvement with the SGSL project had on your decision to adopt/not adopt?
- What would have been done in the absence of SGSL?
- What other reasons influence the adoption of SPS?
- Are you involved with, or a member of other groups that may have influenced your decisions to adopt/not adopt?

To what extent has the project and associated activities influenced adoption of saltland pasture systems by host farmers?

- How has your involvement with the SGSL project influenced your decisions?
- How has the SGSL project influenced adoption by others?

Other questions

What do you see as the most significant change resulting from SGSL?

- What was the situation in the beginning?
- What happened?
- Impact (on farmer, group, environment or other)
- (Remember the most significant change could be something negative)

Is there anything else you would like to add?

Note: No direct questions were asked regarding 'unexpected outcomes' – these were gathered indirectly through the interview process, although interviewees were encouraged to provide further details.

7.3 Appendix 3: Results

| 1. Host farmer reactions | No | Reasons for responses |
|---|-----------|--|
| Overall experience with SGSL | 24 | |
| Positive | 22 | The support provided, in particular from the SGSL team The focus on productivity rather than 'landcare' Lots of sites spread over the State made it applicable to a lot more people, and meant that more people were involved on the ground Opportunities to interact with other farmers through the network |
| Negative | 2 | 1 respondent felt he had not been involved long enough to comment 1 thought that SGSL had overextended itself and, in doing so, the quality and support was missing |
| The site | 22 | |
| Positive | 20 | Improved their knowledge, skills and confidence 4 farmers believed the site was critical in their learning |
| Less positive | 2 | 1 had extensive knowledge and experience regarding saltland pastures prior to the project 1 had yet to establish his site |
| Forums, seminars, field days | 25 | |
| Positive | 16 | The opportunity to interact with other farmers with similar problems Enjoyment in seeing what others are doing on their sites Opportunity to ask questions and 'throw ideas around' as a group Being able to learn from successes and mistakes Opportunity to listen to experts and be motivated by them Receiving feedback from the SGSL team The reinforcement of prior learnings |
| Improvements | | Inclusion of sub-tropical 'experts' – <i>"there were plenty of saltbush people, and, if you were into saltbush, you had everyone there at your fingertips – the best in Australia. I tried to ask people about sub-tropicals, but no one knew."</i> Ensure all host farmers feel part of the forums – a void between host farmers in the northern and southern wheatbelt was alluded to; others felt they had nothing to discuss due to the lack of results on their sites Ensure that host farmers are willing to present, and make sure that the presentations are ready to go Include new information, not just the <i>"same old, same old."</i> Assist groups to set up field days on the site Would like more opportunity to talk as a group |
| Non-attendance | 16 | Perth is too far away (1) Timing (on/off-farm commitments/ too busy) (12) Perception that they weren't applicable (i.e. all saltbush, not much on sub-tropicals) (1) Didn't feel like part of the 'SGSL family' – division between northern and southern? (1) Family commitments (1) |
| Support | 25 | |
| Support was given, and valued (Note: this may refer to one or more aspects of 'support') | 20 | Support staff highly professional and committed Level of support was unexpected, leading to greater appreciation of project Did not dictate to farmers what to do – went along with what the host farmer wanted, but gave valuable advice that, in some cases, led to |

| 1. Host farmer reactions | No | Reasons for responses |
|--|-----------|--|
| | | farmers trialling options they had not previously been aware of |
| Support was given, but seen as less valuable (Note: this may refer to one or more aspects of 'support') | | Lack of feedback and interpretation on site characterisation, monitoring and/or establishment failures Expectations of the level of support to be received were not met Not enough guidance/feedback on initial proposal Turnover of staff. Some farmers were unsure who to contact The concentration of staff in the southern region and lack of staff (SGSL team) – limit the number of sites to those that can be adequately supported with the level of resources available Timeliness of support (e.g. attempting to establish perennials in November) |
| Little or no support given | 5 | |
| Grant | 25 | |
| Valuable | 23 | Allowed site to be established in one year rather than 2-4 years, which may be more normal farm practice Allowed greater depth to a project with more experimentation and access to technical input, making the effort involved in these types of trials worthwhile Allowed farmers to buy 'production' related items Allowed saltland pastures to be trialled in areas where they had not been established before Motivated them to do something that they had been thinking about for a while but hadn't got around to |
| Less value | 2 | Money was not an issue |
| Would <u>not</u> have been involved without the grant | 12 | Although 8 of these indicated something would have happened on the site irrespective of SGSL |
| Would have been involved without the grant | 6 | The technical expertise received made the project worthwhile The grant was not a lot of money Happy to use their own funds |
| Improvements | | Concern that farmers got involved just because of the money Unexpected blowouts in budgets did not seem to be taken into account Perception that a lot of money was spent on small sites rather than farms with greater percentages of saline land Perception that funded sites may be disregarded by other farmers evaluating saltland pastures |
| Written material | 20 | |
| Value (written material relating to SGSL trials) | 13 | Interesting to read what was happening at other trial sites – get perspective from other farmers, results, compare with own site and get ideas Considered valuable as hadn't been able to attend other network activities such as forums, field days and seminars |
| Less valuable | 2 | Information presented not applicable Lack of confidence in the figures presented |
| Did not receive written material | 1 | |
| Group involvement | 25 | |
| Host group involved in the site | 6 | |
| Group involved in site, but host farmer not involved in group | 1 | |
| Host group involved only through field days/updates | 5 | Just a name on a form... |

| 1. Host farmer reactions | No | Reasons for responses |
|--|-----------|---|
| Host group minimally involved | 4 | Just a name on a form... |
| Host group not involved | 9 | Just a name on a form... |
| Value in host group | | Raises awareness and possible leads to adoption; helps those with a greater interest Greater range of ideas and a higher level of input Got help with setting up and maintaining the sites Gave motivation and reassurance Got further publicity for the site |
| Monitoring | 25 | |
| No monitoring | 3 | |
| Regular monitoring by farmer and/or SGSL | 12 | |
| Minimal monitoring/preliminary monitoring only | 9 | |
| Value | 12 | Good to have real figures Found the EM38 (in particular) interesting – both the technical data and advances in technology Useful for learning new skills that can be applied to other parts of the farm Interaction with the SGSL team Find out if the treatment was economic |
| Less value | | Did not show before and after effects Farmer perception that monitoring points were in the wrong place Feedback and interpretation of results were not provided to all farmers Some farmers monitor visually and consider this adequate |

| 2. Host farmer capacity | No | Reasons for responses |
|-----------------------------------|-----------|---|
| Knowledge and skills | 24 | |
| Improved | 20 | Practical, hands-on experience associated with the site Access to technical information through experts, and written material Access to like-minded farmers and visiting other sites On-ground support such as scoring sheep |
| No improvement | 4 | Already had good knowledge through previous experience Stage of trial has not allowed practical, hands-on experience No new information presented "...same old, same old..." |
| Confidence | 25 | |
| Improved | 23 | Areas of improved confidence: establishment and management of saltland pastures, saltland pastures (and other technologies trialed) as salinity management options, management of salt-affected areas Reasons: trial site (first-hand experiences), trial sites of others increased confidence in own site, network, discussions at forums |
| No improvement | 2 | Already confident prior to SGSL Trial yet to yield results |
| No improvement in certain aspects | 6 | Areas not confident in: establishment and management of saltland pastures, adoption and profitability of saltland pastures Reasons: trial not at stage to address aspects, negative results (e.g. failures) reduced confidence |
| Attitude | 23 | |
| Changed attitude from | 10 | Now aware of options for saltland |

| 2. Host farmer capacity | No | Reasons for responses |
|---|-----------|--|
| seeing saltland as 'wasteland' to seeing potential | | Can see benefit in spending money on saltland See saltland as an asset |
| No change | 13 | Already saw saltland as having potential |
| Aspirations | 17 | |
| Desire to manage saltland | 17 | Look after the environment Improve the cosmetic appearance of the farm Provide for future generations Develop new/profitable options for saltland |
| 3. Practice change | No | Reasons for response |
| Adoption | 25 | |
| Have adopted some/all components of trial | 4 | |
| Plan to adopt some/all components of trial | 10 | |
| Will not adopt technology trialled | 1 | |
| Trial had no influence on plans | 4 | Trial did not alter the way in which saltland pastures were to be implemented Reinforced prior learnings |
| Unsure | 6 | Trial not complete Still assessing trial |
| Have/anticipate adopting saltland pastures (may/may not be technologies trialled) | 24 | 10 of these had no saltland pastures prior to SGSL |
| Factors influencing | 24 | |
| SGSL greatest influence on decisions | 3 | First-hand experiences with the trial site |
| SGSL had some influence on decisions | 21 | |
| Involvement in other groups etc | 17 | This figure is out of a total of 20 interviewees |

7.4 Appendix 4: Most significant outcome

Interviewees were asked what they saw as the most significant outcome resulting from the SGSL WA Producer Network. The question was designed to pick up aspects of the project that stood out to the farmers. Additionally, it provided opportunity to capture issues or thoughts that might otherwise have been missed, or reinforce particular consequences of the project. The following comments are what the interviewees saw as the 'most significant outcome' resulting from the SGSL WA Producer Network project. To appreciate the diverseness and capture the subtle nuances, the responses below are direct quotes.

Awareness

"(SGSL) has made me more aware of what is being done, and what can be done, and I guess it will spur me on to do something about the rest of the land that has been degraded. I will no longer be content to just leave it."

"Probably just an awareness of other farmers and other groups and other issues, salt issues. I did have a rough idea of what was going on beforehand, but I probably assumed that everybody else had the same problems as I had. So SGSL gave more of an awareness of different problems and different issues and different techniques. I'd hope that anybody involved, or looking to get involved in saltland pastures, would be able to read the material and start with some real knowledge. We started with no knowledge at all, just trying to grow some seeds and trying to grow some plants and it took us years to work it out. And I guess other farmers would have been exactly the same, and now there is a lot of knowledge that people can tap into."

"I think a general raised awareness of saltland grazing, use of saltland instead of just forgetting about it, which should lead to increased productivity of that land, drought proofing."

"In general, probably more of an awareness with SGSL. We probably still don't have enough farmers involved. I really don't know what you do to get more farmers involved. Too many farmers I think are just hoping for a silver bullet and it is not going to happen, and my involvement, I suppose, it is just keeping us keen. There are still people out there that are like-minded, that want to push the boundaries and see what we can achieve."

Network

"I can answer some of that straight away – you're not the only person out there and there is a lot of others who are not better advantaged than you, and they've got the heart to keep going. Most farmers tend to do their own thing – we're all individuals and you just tend to do your own thing. Whereas SGSL actually broadens your knowledge because you can speak to other people who have tried various other methods, done it in other systems or other ways, and this has worked for them or that varieties the best or whatever. So you actually call on other peoples experiences while you talk to them."

"I would say the significant change would be a lot more people involved (in saltland pastures) than what would have been involved if it hadn't been around. Eventually, because of the numbers, instead of doing a really good job on a few places, they've done three quarters of the job on a lot of places and, I'm not sure which would have the bigger impact, but the more people that are involved – and that's why they were hoping the groups were going to be involved, and I don't think that's happened – but the more people that are involved by putting it on the ground themselves and seeing that it is doing a good job on their bare salt scalds, they will continue it on their bare salt scald. The people over the fence will look over and

that's usually what gets them active as well – when they can see when something good's happened.”

“One thing that made an impression on me was the bus trip. It was a really good opportunity to say where we are coming from and to hear other people's points of view because they are so different. And the result from that discussion was that we will have to come back and have another look and see whether what we think is actually going to work or what we think would be a better way of doing it. So the discussion and the debate it stimulated.”

“I guess me talking to people about (saltland pastures). Before, I had been doing it all by myself. I sort of had been poking around within the direct area I am working, but I didn't have any community interest. I was by myself, as there is the 'deep drain crew' and we are surrounded by the 'deep drain factor' here. And, in that, there was a bit of local flak on it. But I think (SGSL) has definitely given myself some credibility – before, I had little gibes made about it, whereas now I know the gibers have stopped gibing, so obviously people are starting to look at it and wonder if it is not such a bad thing. So bringing it out in the public has made it more credible to others. To me, it has made me happier to go out and learn about it, and given me contacts outside of the district where there is none and no one here trying anything different.”

(Husband) “You've just about stumped me on that one.” (Wife) “(The SGSL team) are very enthusiastic in it at the moment. We are such very small players in SGSL I feel. Going to the conference, spending a whole day just listening, the enthusiasm and good that it must be doing, I think is, like it's a good thing it started. It's not before time, and possibly with more help and federal help... We really need to look after our land, that's all, and these people are doing it the best way they know. There are lots of different ideas in there, mind you, they are not all conforming to one pattern, but everyone had their own story to tell. I've never really stopped to think about it because I thought we were a tiny little part of the whole thing, but probably we would never have done that little experiment without there being SGSL.”

Productivity

“Makes unproductive land productive again and useful. I mostly said that before but I mean that's basically what (SGSL) is all about.”

“The appreciation of, that's probably not quite the right word, but assessing the value of saltbush in a controlled environment I suppose, because that highlighted what can be done with saltbush.”

“I think the significant thing is that (salt-affected) country can be productive. That is a pretty broad result but (SGSL) proved that that country is productive. There are some options that can be looked at if you want to push production a bit further - they are ones that we are still looking at. The things that are still persisting (on our SGSL site) and appear to be quite good, we want to see for a bit longer before we go and commit to a huge area. And X wants to weigh-up the raised bed option. The potential of (salt-affected) country is possibly the most valuable, if you do it right.”

“That is a hard one to quantify to a single thing. The best thing has probably been the benefit (of saltland pastures) to the entire viability of my farm – the fact that the land has been shown...well, that wasn't profitable, but it has been shown to be useful. Don't lock it up and forget it. You can actually use it and benefit your whole farm on a holistic basis where everything is connected.”

Attitudes

“Farmers’ attitudes to saltland. Saltland was just something that was there and it wasn’t economically viable to do anything with it. Until it’s actually demonstrated to farmers that it is worth doing, it will never happen, and SGSL has stepped in this direction. So long as farmers have funding then they will go on doing saltland treatment, whether it is SGSL or planting trees or saltbush or whatever.”

“I just think, don’t be scared of salt. Even the old salt scald will still grow something with a little TLC - as long as it is not hundreds of acres or something. As I said, that is mainly why we bought this other property – because it was a lot cheaper and we could see, with not much input, we could really value add to the place.”

Confidence

“Well I don’t know what to say there ... I guess you For myself, (SGSL) gave us encouragement to try things on the farm in different sites. I think that is the main benefit out of that. It gave us the confidence so we could go out and...OK the next site was a bit of a disaster, but we have worked out why that was and we are going to try something different on another site. But we are confident the stuff will grow there. When I was driving, especially out in the bush, you see saltbush growing in salt pans and things like that, and it is probably a world apart from where we are but we know that old man and river and wavy leaf and bluebush will grow in those sorts of conditions, and most of it grows very vigorously too.”

“Improved confidence.”

Adoption

“One thousand hectares of raised beds north of the Great Eastern Highway.”

“The fact that we might not be able to do what we were hoping to do. We might just have to face the fact that that we are very limited with what we can do with our saltland.”

Learning

“I know at the Perth workshop we were at, something that stood out for me was how different some various people’s success was at trying the same thing – like with direct seeding of saltbush and that. Some people swore that that was the way to go. Some people like me swore that they’d never try it again – so the results of similar treatments were really variable. So that’s one thing that really stood out for me. Like I said, for our site on its own, the most successful thing for me was getting the establishment of the sub-tropicals right. But like I say, this Perth workshop that we were at, I said we sort of ripped it up and we sowed it with our disc machine and it worked really well, and then someone else said ‘well, we found out the less we disturbed the soil, the better it worked’. So that seemed fairly variable. But then again, I should have asked him what he’d actually done because maybe he direct seeded with a full cut and sowed to 3 cm deep, whereas we’ve cut first then sowed with a fairly precise instrument almost on ground level, and if he direct seeded with a full cut, there is no way you’d get that sort of seed placement. So, I suppose to find out that... I mean, you tend to think when you try something that you’re not the first, that everyone else knows, but with a lot of things (to do with saltland pastures) – establishing, grazing, herbicides – people don’t know it. So that’s sort of what stood out for me after going to the Perth workshop – even though we know a lot, there is a lot we don’t know.”

“Profitability – looking at the costs and profits. Enthusiasm. Real life data. Yes, lack of risk.”

“A better organised approach to dealing with a very complicated problem – it’s like a jigsaw, there’s a part there for everyone to contribute in. Like our daughter’s organised for people to come up from Perth for the weekend and plant trees. You all sit down and work out what’s happening – who’s going to do what and who’s going to do something else.”

“This site has one problem, and that has been the bull rushes. That has put a bit of a problem on the spraying and has slowed us down. Bull rushes aren’t an option, but trying to take care of those has meant an extra spraying and we probably will need to keep spraying to get rid of them.”

Unexpected outcomes

“Probably opening up new areas (to saltland pastures), and just knowing that the likes of X or X have expressed interest in becoming (saltland pasture) contractors. I also know that if you’ve got a 25 year-old who is just getting around the district, or to five or six shires, just getting a bit of work, just doing a bit of seed collecting, you’d be surprised at what someone like that can do in 20 years. That’s probably the biggest thing that has come out of (SGSL) for me personally, contractors and new people coming through. A lot of the younger CLCs have thought ‘oh yeah, this is pretty good’. There have been a few of the younger ones in the Ag Department, there have been a few of them that have come through. I know X was involved there for a while, but has moved on. But I think that is the main important thing, just bridging that gap from the people like Clive Malcolm, Michael Lloyd, and Ian Walsh to the younger people. SGSL was a good education.”