

Introduction

Conservation Farmers Inc (CFI) is an independent grower-based, non-profit organisation involved in the exchange of integrated information on profitable, sustainable farming systems. A principal role is developing strong linkages between farmers, agribusiness and the public sector to improve sustainable economic management in agriculture. The group operates from Dubbo, NSW through to Emerald, Qld.

The focus is on leading edge technologies which build on farmer and industry knowledge and promote excellence in on-farm environmental management and production systems. CFI's current membership is 580. 85 % of memberships are primary producers with the remainder from industry and government. The majority of the CFI board are growers.

1. The availability and adequacy of education and research services in the agriculture sector, including access to vocational training and pathways from vocational education and training to tertiary education and work.

Vocational Education

- The pathway is clearly in place for a school to work transition into agriculture, this is via school based traineeships and entry level traineeship system.
- Many grain farmers are unaware of this pathway or how it may benefit their enterprise. The majority of decision makers in the grain industry are over 45 years old and generally don't understand Vocational Education and Training (VET) due to the difficulty in understanding and navigating the jargon and bureaucracy.
- Statistics are clearly showing agriculture is not viewed by most school leavers as a desirable career, with most universities attracting fewer students into the Agricultural sciences than the year before.
- Of the grain farmer's who have had exposure to the VET sector, they are disconcerted to discover the skill sets provided by TAFE and other RTO's are not what is required to operate effectively in the grain industry.
- There is a top down model of VET training delivery where the agenda and content is driven by training providers not by the end user (the learner or the farmer).
- **SOLUTION: we recommend the introduction of a 'ground up' model of professional development. It is a simple process of; ASK, COLLABORATE, and GENERATE. Farmers set the learning agenda, to what they most require in their enterprise. The extension officers and professional development organisations act in a facilitation role to assist and collaborate with farmers to**

find the knowledge required and no longer sit in the role of the expert.

Innovation and technologies in Vocational Education

How adequately prepared is agriculture and the VET sector for today's new wave, of younger learners?

Younger learners entering agriculture and the VET sector are already technologically very literate. They are NOT the ones our systems (or teachers) were designed and trained to teach! These learners are not just using technology differently today, but are approaching their life and their daily activities differently because of the technology. For today's younger learners much of our VET education is **SO BORING**... "that that it feels like we're putting depressants in their food"... Through everyday technology they have amassed thousands of hours of rapidly analyzing new situations, interacting with a variety of systems & solving problems quickly and independently."

They are the "**ENGAGE ME or ENRAGE ME**" set

Neither Content nor Technology will help students continue to learn throughout their lives, However **ENGAGEMENT** will

They have and use tools such as ...

- Email, SearchP2P, Games to learn, Networking, Speed Enhancers, Mobile Phones, Cameras and Camera phones, GPS, Instant Messaging, Blogs, Wikis, Wikipedia, Podcasting, Polling Devices.

We have found no RTO's that have forward planning strategies in place to deal with these learners who are already enrolled as student. We found no organisation that had prepared engaging or innovative resources for technologically literate learners. They are all using the same old strategies of face-to-face delivery and paper based learning and assessment guides. We found no RTO's currently using Learning Management Systems or Learning Platforms for their rural learners.

SOLUTION: Conservation Farmers Inc is addressing this by trialling 2 Learning Circles with funding assistance from the Grain Research Development Corporation's "Partners in Grain Project". This initiative is aimed at rural and remote women and uses a Learning Circle model which is supported by technologies such as teleconferencing, email and the internet.

For this Learning program the learners participate from their home offices, they are not required to drive long distances as they would be for face-to-face delivery, child care ceases to be an issue for them. Most importantly, the bulk of rural professional development is aimed at men, largely ignoring that women shoulder the business, grain marketing and child care responsibilities, The above

initiative (subject to funding) is being developed to include Nationally Recognised Training and a Learning Management System.

Not only is the **process of ASK, COLLABORATE, and GENERATE** important to producing relevant learning content, it's also vital to adopt and use the latest technologies in learning. This learning must be fun and engaging, based on sound adult learning principals and strategies that mutually respect's the facilitator and the learner.

2. The skills needs of agricultural industries in Australia, including the expertise and capacity of industries to specify the skills-sets required for training, and the extent to which vocational training meets the needs of rural industries.

Grain farmers are well placed to identify exactly what skill sets are required to operate effectively and efficiently in their enterprise; just don't include education speak and jargon. Grain farmers are rarely consulted about their rural education requirements, almost never collaborated with and are genuinely surprised if it occurs.

Q. How well do TAFE and RTO's know their clients or theirs client needs?

A. They don't, the AQTF system doesn't require they do, and training organisations are not funded to do market research or to be truly collaborative.

- Australia has a well developed VET system that provides accredited training, and with some amendment it could readily meet and exceed the expectations of the Grain Industry
- TAFE and RTO's are bound to operate Quality Assurance system called Australian Quality Training Framework (AQTF) which demands training providers consult with industry. Training providers do this, and effectively meet AQTF requirements. However the reality of the consultation process is; it's a very limited consultation through informal networks of trainers and training consultants. The limited information gathered is rarely implemented, as it's not an AQTF requirement to do so. Quite simply education organisations **don't have the resources to change what is in place, they need to get it right at the start.**
- When programs have been developed or reconfigured in a truly collaborative process with industry, the outcomes will far exceed expectations, as demonstrated with Cotton Australia's "Cotton Basics" program.

SOLUTION: simply Ask farmers, Collaborate on what is needed and then Generate what is required.

3. The provision of extension and advisory services to agricultural industries, including links and coordination between education, research and extension.

- CFI concurs there is an adequate availability of agricultural research services achieving significant scientific developments. These solutions however are often not presented or demonstrated to grain farmers in a useable format. Farmers don't have a history of taking jargon and implementing it into their enterprise; however they will if it is presented to them in a usable format and they can see the positive impact on their bottom line.
- The skills required to provide professional development to farmers are vastly different from that of a research scientist.
- Extension and professional development has traditionally been provided to farmers using a **top down model** (where it has been decided, usually by Govt departments and bureaucrats what farmers need to know) Farmers place little value on information that doesn't directly benefit them. Farmers have had professional development done to them.

Research and communication

The problem:

- There is a low level uptake of research outcome by farmers as a whole. The most obvious reason for this failure is the missing step between the completion of research by the scientific community and the farmer's ability to visualise the uptake process and the associated productivity benefits.
- The results of research may be interesting, but rarely offer direct action that can be taken away and easily implemented. For farmers there is frustration in trying to turn general advice into specific actions for their farm.
- Now scientists locally are also being asked to do extension on their research and many admit privately that they would prefer to be allowed to do what they do best and have someone more specifically skilled in the communication area do the delivery. The concern is that expenditure in communication resource will come at the cost of research funding
- For busy uncertain farmers the "solution in a bottle" is easier despite possible long term problems.

What is supporting research to farm?

Essentially not much!

- Some state departments have extension staff that are seriously overstretched and under resourced. Some have none.
- There are a limited number of private consultants who provide advice but are generally very conscious of their legal liability and need to be careful as to the nature of their advice.

- They prefer to rely on their own field validation or those few farmers that are willing to gamble and try new ideas with good results.
- They will only do this for what ‘they’ perceive as having significant benefit.

Areas causing communication gaps

- Communication staffs recruited from education and extension areas quickly learn that “marketing” is not an acceptable term in government service sectors as no one wants to be seen as “commercial”. They usually produce brochures, CDs, websites, education manuals and write articles. Most farmers work long physical days and have little enough time for reading long technical articles or assimilate comprehensive CDs and manuals. Essentially it means much of the extension information being produced is not being read or implemented on the ground.
- Older male farmers spend little time on computers and hardly ever browse a website unless they absolutely have to. Recommending them to large complex websites rarely meets their needs. They rely a great deal on their spouse to source electronic material.
- Farmers mostly avoid classroom formats, preferring to learn by doing or seeing in a field context. Yet ‘power point’ seminars are still the preferred way for researchers to communicate with farmers.
- What farmers say they want is someone they can talk to, help them interpret the information overload; someone who understand the holistic nature of their operation. Yet they are told time and again that “one on one” extension is no longer an option.

Result

- They have simply stopped listening and have adopted to keep on doing what they already know.
- They use consultants as sparingly as they can afford, read some material as it comes past them, communicate with farmer groups and each other.
- The majority of farmers have mostly disengaged from research outcomes and focused on commercial solutions.

Solutions

Change will only come from real engagement and providing relevant material that has steps for change.

SOLUTION: Farmers must see the need for themselves and not have it pushed on them. There must be a person contact that understands the area and can demonstrate the economic benefits of any research with farm validated examples. All the practical steps and costs must be in place.

SOLUTION: The role of farm women in the business must be given high priority as they are the more computer literate, financial controller and long term strategic partner of the business.

SOLUTION: Directions as to the relevance of research must come from the bottom up. Pretend consultation is not a solution.

SOLUTION: Better use of farmer groups who have technical experts that speaks on behalf of farmers. They also understand the broader economics of farming. They should be funded separately as communicators and participants in the research process, in which case they should have no vested interest in research funding.

- **Real innovation requires some risk.** You cannot ask for innovation with all its uncertainties and have absolute fiscal responsibility at the same time. R&D funding organisation place fiscal responsibility first and therefore are limited to mostly funding other large well known bureaucracies. Innovative opportunities from small private sector areas are mostly lost because of a perceived risk factor. They should review all potential stakeholders that can contribute and consider them equally.

4. The role of the Australian government in supporting education, research and advisory programs to support the viability and sustainability of Australian agriculture.

Recommended Structural Solution

The current system has developed certain structural anomalies and conflict of interest areas that need addressing. The present consultation, development and delivery areas have been reduced to deliver more investment in the research and education process. This has come about in a gradual way as the major stakeholders (State departments and Universities) have propped up investment cutbacks in what they perceive to be most important. The result has been research outcomes that either; does not address client needs or does not deliver the benefit in a useful manner. The assessment of the relevance of research and education in delivering outcomes has also been placed in the ‘too hard’ basket.

To address this anomaly a gradual readjustment in investment priorities is required. The consultation process for relevant research and education products needs to be a little more involved than “tick a box” surveys or simple panels. It needs to determine the underlying needs, a true market research process. This expenditure needs to be expanded to reflect the magnitude of the total resource input.

Similarly the “field development” and delivery process have gradually been forgotten to favour investment needs of research and education structure. “Development” in “Research & Development” should be reiterated to mean “field testing to see if the research will actually work in practice based on the economic structure of the client”. Extension should be revived to deliver to client relevance. All research projects should have an accompanying “development and delivery” component in their budget. We recommend that at least 25% of project funding should go in development and delivery. Preferably this should be outsource to capable organisations. They must have true delivery capacity and need to have some assessment process that it has done so.

The circular “deliver-feedback-research-develop-deliver” system needs to lose some bottle-neck areas. A product that cannot be delivered or is not relevant has no value. Farmers including farm women and farm youths have demonstrated a willingness and capacity to be more involved in their destiny if they are given the structural support to do so. Rural families are the client and can make a significant contribution to their own viability and sustainability. They are in fact the most motivated to do so but must be given the option to make changes to the current structure.

To avoid areas of conflicts of interest it is clearly important that the funding process and prioritisation be managed by an organisation with no affiliation or vested interest in doing the research. They need to have experience in handling finance and facilitating the criteria evaluation process. Options would include accounting firms or rural banks who could hire independent technical support.

To evaluate a return on investment there needs to be an independent audit process to review if adoption and change has taken place. This can be on how farmers have been able to use the results in becoming more viable. They would verify that the project outcome has achieved its aim as supplied to the funding body.

For a diagrammatic review of the present system see figure 1, and for an alternative solution system that is focused on customer service see figure2.

“Probably the greatest impact of farm groups has been to focus the efforts of researchers, industry and farmers in one direction, which has led to exchange of ideas, co-operation in solving problems and effective dissemination of new information and innovations.” Ian McClelland farmer and chairman of Birchip Cropping Group – The Power of the farm group, 4th International Crop Science Congress.

Figure 1. Current situation analysis

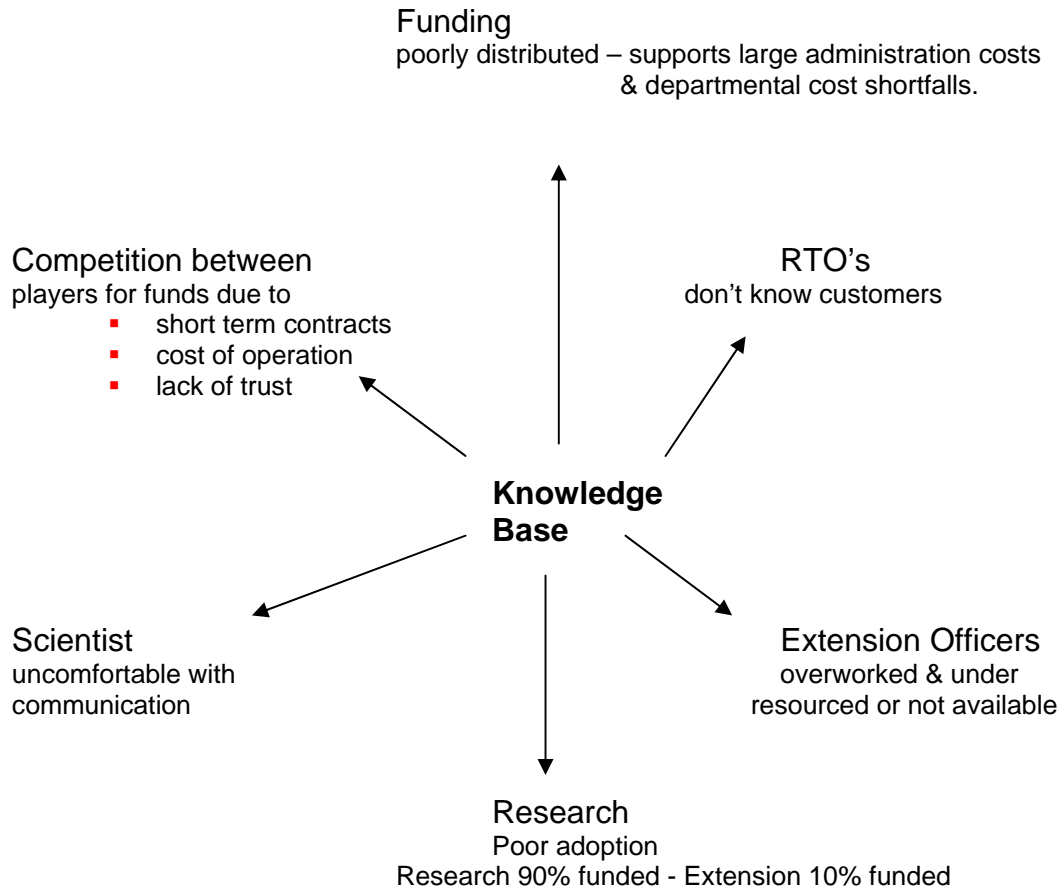


Figure 2 Alternative customer focused plan (ground up)

