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THE GULARGAMBONE RURAL ADVISORY SERVICE

**A SELF-FUNDING SELF-INTEREST TECHNOLOGY TRANSFER MODEL
FOR COMMUNITY BASED FAMILY FARMS**

Graham Peart

Introduction

The diverse views in terms of technology transfer in a developed country are represented by the two ends of the spectrum one of which says that there are libraries full of brilliant agricultural research and the farmers are too stupid to adopt the results of this research and the other end of the spectrum says that the agricultural researchers are so out of touch with the reality of farm practices and the reality of farm economics that they continue to do ivory tower type research which has no relevance either to practice or the capital and cashflow requirements necessary for adoption. The truth lies somewhere in between but it is certainly true that the levels of adoption of research appear to be very low and the funders of research, both agricultural levies and government assistance, are coming under closer scrutiny for their poor level of success over many years.

The Australian Scene:

In Australia the original research done as the country was opened up for western agriculture was based on the major problems of animal and plant diseases that were so obvious and often so devastating. This tended to leave our research with something of a death and disease mentality and certainly left it with a quick fix mentality which in many cases had been dramatically successful. Vaccines for the curing of diseases, myxomatosis for killing the rabbits, cactablastus for removing the prickly pear are but a few examples of dramatic early research breakthroughs. More recent research requirements necessitating small breakthroughs and integrated whole farm packages have been less spectacular, less relevant and much less adopted.

Because of the geography of Australia, the Commonwealth Government set up in the 1920's a national research organisation (CSIRO) which has a charter covering all disciplines from mining to agriculture but agriculture has always been about 50% of the budget. Levying the sale of produce from most sectors of the agricultural industry has always paid a very large part of the bill for agricultural research. The CSIRO was designed to be a world class research organisation and was funded well enough through much of its history to attract world class researchers in all of its disciplines and certainly in agriculture. To stop offending State Departments of Agriculture the charter of CSIRO forbade any extension work to farmers thereby effectively completely isolating the researchers away from their clients. In its original setting up many of CSIRO's research sections were placed within University campuses and were part of a minor teaching but major University contact chain. CSIRO had its own buildings within the Universities and were part of the staff and student life. With years of development and expansion at the Universities, CSIRO largely withdrew from this role and their size allowed them to become an independent, isolated, insulated and inward looking organisation. They were supposed to do research on agriculture but had no contact with young revolutionary brains in the student population, no stimulus from University staff and no contact with their ultimate customers who sometimes ask embarrassing questions.

The State Departments of Agriculture originally were left with a minor research role, were poorly funded; carried the total extension burden with very few tools to carry out the job. The Department of Agriculture to give enterprise efficiency concentrated all its extension efforts into narrow specialist fields of sheep, pastures, crops, beef cattle, bees and horticulture etc. This model continues to this day with little contact between researchers and extension officers and farmers and a constant filtering by extension people on what will or wont work largely on a technical analysis only. CSIRO's role continues to be that of high powered upper class research which tends to remain in the "upper house". In the history of our agricultural research there have been some notable breakthroughs through brilliant extension officers who stayed for a great length of time in a single district, learnt the district's problems and the farmer's problems and in many cases set up their own research trials of an extension nature and were able to come to grips and solve many of the problems but in some cases to gain an understanding sufficient to pass the major problems onto research stations for much more intensive work. The other outstanding examples are of researchers who, through the very nature of their work, gained a large following and interest from practising farmers and ended up doing their own extension work from their own research and continued to get stimulation and new ideas from their clients and continued to build on their original breakthroughs. Some major (research breakthroughs) were the direct result of farmer innovation and the mules operation in sheep to control blowfly strike is one of these. Many of the spectacular early plant introductions such as that of subterranean clover were originally made by farmers who saw them giving impressive results on their own country and introduced them. In the case of subterranean clover research has dramatically developed the first germ of a plant and idea into a huge industry giving major benefits to the Australian pastoral scene and in overseas exports.

Under the pressures of the constant cost price squeeze on free enterprise agriculture the necessity to increase productivity per hectare grows greater each year and for each technical breakthrough that occurs then less labour is required to produce the given output from a given area of land. Major breakthroughs of four wheel drive tractors, motorbikes, aeroplanes, electric fencing, supplies of water from underground sources, the provision of massive above ground water storages, the pasture improvement revolution, weed control techniques to control scrub invasion, cheap techniques to remove the eucalyptus trees (that covered much of the better land in Australia), major improvements in communications and marketing with roads, telephones and currently more sophisticated links through computers and computerised marketing systems have all allowed major productivity breakthroughs. This has constantly reduced the number of people required to physically work in agriculture, has increased the size of the agricultural service sector and constantly increases the size of an "economic agricultural unit". All this requires increasing capital to develop the new technology, increasing capital to service the increased land area, increased education to deal with the constant changes and sophistication of the production system and a ever higher level of managerial capability to manage not only the technology, the whole farm integration, the major long term farm management decisions, the preservation of the land and the maintenance of sustainable agriculture, the understanding of the long term degradation that is taking place on the farms and, most importantly of all, the financial knowledge to manage the increasing levels of debt incurred by increasing the land holding and the adoption of the new technologies involved.

History of the Gulargambone Rural Advisory Service

In 1967 a group of 25 farmers surrounding a village of 200 people formed a farm advisory club the beginnings of which were stimulated by one member's son who had been away to agricultural college and felt that there was great need within the region for more technical help as the district began to change from extensive Merino sheep grazing into more intensive cropping with the development of tractors powerful enough to cultivate heavy black soils and the added ability this gave to pasture improve land for greater sheep productivity. The group searched for an adviser for some two years and ultimately I took the advertised job because it was within 15 kilometres of my family farm and allowed me to do a job while having a minor involvement with my family property. Some 22 years later the structure of the group continues with some changes but a resident committee meet four times a year to work out general policy and have a major input into farmer needs within the group and problems that are arising and ways that these can be solved. In the 22 years there have been only four advisers and the continuity has been a most important part of the success.

After 20 years the group has grown large enough to now employ two full time consultants and has diversified into a range of other services to the farmer group. The basic service offered to the farmers is two full days on farm per year during which the major farm programme for the next one to five years is reviewed both in terms of technology per enterprise plus financial budgets and annual bank reviews to ensure finance for the continual working of the total farm investment. The first day of the year is predominantly financial and budget work and the second day of the year is predominantly technical audit and enterprise review. The service provides unlimited access on the telephone as an element of firefighting is essential where quick inspections are needed to check on problems and research solutions.

Two field days are held per year to look at successes and problems on a range of farms within the group. Trips are organised to look at special research or farmer innovations outside the district and these have ranged from flights to Victoria to look at landcare systems and then develop a landcare group within the region, to a review of new technology in the sheep industry on studs in South Australia, to a three week trip to the USA to look at new cropping techniques and cattle fattening techniques.

The other major part of the annual service is the comparative analysis of all technical and financial performance on a group of 40 farms each year. The group now has 20 years of data which becomes increasingly more sophisticated as the computers are able to cope with more data. This unique set of information is used for on farm advice throughout the district and prediction of major trends, analysis of sensitivity within various stratus of agricultural enterprise size and property size and debt level. The data is also widely used for the analysis of key performance ratios and key technical factors leading to high financial performance. This has reached a high level of sophistication in the Merino sheep enterprise and has led to major innovation firstly within sheep, and more lately within cropping enterprises. A major element of this is to pull out the top 20% of farms and the bottom 20% of farms and analyse their performance in depth to look at the major levels of performance being achieved in very large samples and then doing a technical analysis within the key areas identified. From the comparative analysis and the lessons being drawn from it plus the assistance being given by researchers arising from field days and major annual reviews with guest speakers, some major breakthroughs have come. The largest breakthrough has been in genetic improvement within the sheep enterprise. An analysis of group breeding schemes within Western Australia from their founder, Jim Shepherd, and in New Zealand from their founder, Tony Parker, led to the setting up of a company called Grass Merinos which has 40,000 Merino ewes under selection under a very conservative ownership but the very latest in genetic sophistication and it is now showing something like a 30% increase in lambing percentage, a 17% increase in clean wool production and a 1.0 micron drop in average fineness. The original foundation shares in the company cost \$700 each and a share was sold last

year after 17 years of operation for \$25,000 and annual dividends have been paid in each of the last 5 years. The Group now breeds 800 rams per year and sells about 400 to both members and non-members on a completely commercial basis. Having set up a public auction system for 40 top rams the Group was able to achieve an average of \$1,000 per head and therefore set a level of expectation which could be asked for flock rams. The group constantly accesses leading researchers within the Departments of Agriculture and CSIRO for improvements and innovations which can be made to the economic selection index or sophistications within AI/embryo transplant or removal of the coarse edge problem.

Innovations in maximum economic yield groups formed for analysis of crop enterprise performance and general improvement in the profitability of the cropping enterprise have been very successful and a whole range of groups for various crops have now been formed for both short and long term review and research. Outside the Gulargambone group sheep production groups have been formed to innovate technology and management changes within the sheep enterprise.

With pressure on farm size some sharing of machinery such as a seed cleaning company, a joint wood-shed shared very successfully over 12 years by five farmers, the pooling of three major farms into a single management unit to crop 5,000 acres per year have all succeeded and continue to work. Marketing innovations have been constantly researched and are ongoing particularly with new crops. With statutory marketing authorities governing many agricultural products in Australia, marketing innovation is largely stultified.

The success of the group has been assisted by the expansion into amalgamation with other rural advisory clubs such that within the region some fourteen consultants now work for a single firm which includes the two consultants of the Gulargambone Rural Advisory Service. These fourteen include three accountants who do financial management through a central bureau and full tax lodgement through a central office. Within the fourteen there are now sheep specialist, cotton specialist, irrigation/cropping technologists as well as general farm management consultants with excellent combinations of on farm technology, financial skills and, of course, computing skills. Much of the software has been written in-house and the computer specialist within the group are able to maintain and constantly improve the software and this has been a major breakthrough.

Within Australia and particularly Western Australia, many new single man rural consultancies have sprung up in the recent years. This new wave of one man farm consultancies have an important role to fill as governments withdraw from extension services and it should be an encouragement to them that from "small acorns oaks do grow". With agricultures increasing sophistication, an in depth service to IMPROVE FARM MANAGEMENT IS ESSENTIAL.

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