FUTURE*PROFIT* IN QUEENSLAND: THE POSITIVE IMPACT OF AN ADULT EDUCATION PROGRAM ON SUSTAINABLE FARMING

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ABSTRACT

The Property Management Planning (PMP) campaign in Australia is a major government initiative, aimed at improving the financial and resource management sustainability of agriculture, that has been running since 1992. The basis of the campaign since 1995 has been the provision of an integrated, whole-of-system, eight workshop series to groups of five to ten participating families. This paper reports on an evaluation of the outcomes of the program in the state of Queensland, where the program has the generic title of FutureProfit. The evaluation study was based on individual, semi-structured interviews with 46 participants from 23 families in the first four groups to complete the program, in southern and central Queensland. All families and individuals believed they had benefited from the program, through enhanced sensitivity to natural resource management issues, improvements to their business management knowledge, analysis, and planning skills, and through exposure to experts in fields such as accounting , banking, and law. Many also reported social benefits including improved communication within families, and between families within groups. Realisation of commonality of problems was leading to group approaches to solutions, such as shared input-purchase and labour-hire schemes. Success of the program is attributed at least partly to the adult education principles it incorporates. The PMP/FutureProfit program is making a positive contribution to sustainable farming in Queensland, because it is able to address, through its holistic approach, ecological, economic, and social dimensions of sustainability.

INTRODUCTION

The purpose of this paper is to report on evaluation of the Property Management Planning (PMP) program in Queensland. In this section the genesis and salient features of the program are described. The following sections successively outline evaluation methodology, results, and discussion.

The PMP program is a nation-wide initiative with the fundamental objective of improving the adoption and use of property management plans by the farm sector. This objective is based on the premise that application of an effective property management plan is the best way to manage land and water resources over the longer term' (Land Management Task Force Report, 1995, p117). This premise was based

on results of a national survey (Mues et al. 1994) that found that only approximately 26 percent of broadacre producers had some sort of formal farm plan, and only 10 percent had a farm plan, a farm map ,and a documented whole farm budget. Positive correlations were reported between detailed planning and 'approved' management practices such as participation in Landcare, minimum tillage, direct drilling and regular soil testing. Financial benefits associated with detailed planning included larger farm size, lower debt, higher equity ratio, and substantially lower effective interest rates.

The PMP program, a group-oriented, integrated series of strategic management workshops, is the apparent vanguard of government extension activity in the farm business management arena. Its development is interrelated with the emergence of three significant policy trends in Australia: (i); the economic policy paradigm shift – from interventionism to market rationalism; (ii) the sustainability paradigm shift, typified by the emergence of Landcare and other environmental programs; and (iii) the extension paradigm shift, encompassing the evolution in the theory and practice of extension from 'transfer of technology' (TOT) to more interactive, systemic models.

One of the key features of PMP is the synergy that has resulted from the coincidence of these three trends, which have dictated quests for lower-cost, more efficient extension services that are more inclusive of all stakeholders, and that also overtly address deteriorating environmental conditions. The focus in PMP on family teams and small groups of families, rather than principal decision-makers only, provides for balanced treatment of ecological, economic, and social aspects of rural management, the three recognised dimensions of sustainability (Ekins 1995).

This paper reports on selected aspects of an evaluation conducted to discern program impacts within families in four of the earliest groups to complete the program in Queensland.

The PMP program

Its development was described in some detail by Letts (1997) in this forum, so needs only summary description here. The program consists of seven or eight themed workshops, known as the 'integrated workshop series', delivered to groups each of

five to ten family management teams, over a period of 8 to 12 months, and a cash cost of around $350 ($250-400) per family. The workshops are structured around a strategic planning process, starting with goal setting (one workshop) proceeding through situation analysis of the whole business including land, human, financial and production components (four workshops), analysis or testing of options to change (one workshop) and finally, development of the plan for change (one workshop). The four crucial elements identified by Letts (1997) are that PMP is (i) whole-systems in orientation, (ii) PMP operates at whole-farm scale; (iii) PMP employs principles of strategic planning and action learning; and (iv) PMP employs principles of adult or facilitative learning.

PROGRAM EVALUATION: JUSTIFICATION AND METHODOLOGY

This research grew out of the need of PMP program facilitators (staff of the Departments of Natural Resources and Primary Industries in Queensland) for independent information regarding not only results achieved, but also possible refinements needed for future delivery. Financial impact measures were not included, because evaluations were conducted within two months of program completion.

The schema selected for studying program impacts was the seven-levels-of-evidence 'hierarchy' devised by Bennett (1975) for extension program evaluation. The upper four levels deal with (4) participant responses, (5) benefits through changes in knowledge, attitudes, skills and aspirations, (6) changes to practice implemented, and (7) resulting outcomes. Details of the hierarchy, and examples of evidence applicable to each level, are shown in Table 1.

This table illustrates the dilemma of researching program impacts. The *quantitative* evidence (centre column) of most value for program administrators, seeking to justify continued expenditures, is potentially invasive of privacy, difficult to measure with precision, and probably impossible to attribute between the program and the myriad other influences on individual and business performance. The *qualitative* evidence (right column) is based more on memory and perceptions of participants, and the capacity of the researcher to elicit and document these, and is therefore more subjective.

The method employed was predominantly qualitative, because a major focus of this study was the structure and essence of individuals' experience of the particular phenomenon of the PMP program. Accordingly, an individual case study approach, involving semi-structured interviews with 46 individuals in 25 family management teams. A combination of interview and a small number of self-completed questionnaires of the psychometric type allowed for a combination of qualitative and quantitative data collection, or mixing methods (Brannen 1992). Statistical analysis was designed to provide results that would complement impressionistic, qualitative findings. Several principles suggested by Patton (1990) were employed in questioning respondents, in order to ensure responses were not limited by question wording or form.

Table 1. Examples of quantitative and qualitative evidence pertinent to USDA levels-of-evidence (Bennett's hierarchy) model of program evaluation

Level of evidence	Examples of evidence	
	Quantitative data	**Qualitative data**
7. End results/outcome change	Trends in profitability	Perceptions of change in quality of life, profitability
6. Practice change	Direct observation of use of recommended management practices over a series of years	Retrospective reports by farmers of their use of recommended practices
5. Changes in KASA (knowledge, attitudes, skills, aspirations)	Changes in scores on validated measures of KASA	Participants' opinions of extent of change in KASA
4. Reactions (of participants to demonstration)	ease of distraction no simple measure for PMP	Participants' opinion Assessment by external observer
3. People involvement	Use of social participation schema for recording attendance, participation, social interaction etc	Observation of participation
2. Activities	Pre-structured observation of activities and social processes through participant observation, use of video, audio tapes etc	Staff or participant recall of how activities were conducted and the extent to which they were completed
1. Inputs	Observation and recording of staff time expenditure, time and motion studies	Staff subjective report on time allocation, workshops undertaken etc

Source: Adapted from Bennett (1975, 1977) and Cary (1995).

The subjects of the evaluation were the first four groups in central and southern Queensland to complete the workshop series Interviews were conducted on-farm with all family management team members who had attended part or all of the workshop series. In all, 23 families and 46 individuals were interviewed. The main

thrust of the interview was documenting changes perceived by participants to be partly or fully attributable to PMP. To augment semi-structured interviews, respondents were asked to complete two questionnaire instruments designed to capture perceptions of changes to management objectives and management constructs.

The **Management Objectives Change questionnaire** was made up of 60 objectives statements regarding the full spectrum of management responsibilities that could be located within the four domains of the management span (production, personnel, finance, marketing) of Giles and Stanfield (1990). Sources of objectives statements listings included Kadlec (1985), Keith (1986), Reeve and Black (1993), and McGregor et al. (1995). Participants were asked to rate these sixty possible objectives twice, for before and after completing the PMP program, on a scale ranging from -1 (opposed to my beliefs), through 0 (unimportant), to 7 (of supreme importance).

The **Management Constructs Change** rating instrument was developed with the intention of providing a possible semi-quantitative way to capture program impact in terms of changes in participants' beliefs about 'good' management. Its development followed a two-phase process, in a method based on Personal Construct Psychology (Kelly, 1955), and adapted by Ilbery and Hornby (1983) and Briggs (1985).

In the first stage, participants were asked to think about the questions, *'What makes a good manager? What is it that good managers do, that makes them better or more successful than other managers?'* This technique elicited a total of 82 management statements, from which 25 different constructs were distilled. These were grouped into four categories: attributes good managers have; what good managers do; attitudes good managers have; and cognitive skills good managers demonstrate. In the second stage, these 25 constructs were listed in a questionnaire where each could be rated for its importance to management, on a Likert scale from 1 (unimportant) to 7 (extremely important).

Respondents were given a questionnaire with two columns, and asked to rate each construct for importance twice: 'now' (at the end of the program), and 'before the

program commenced'. This allowed demonstration of two attributes of their attitudes towards management: (i) the relative rating, at the end of the program, of the importance of each construct, and (ii) the possible impact of the PMP program, through perceived changes in relative rankings of constructs.

RESULTS

The impacts of PMP on participants are presented below. Perceived changes, elicited through case-study interviews, have been collated and presented according to the Bennett levels of evidence schema, in Table 2. The frequency of these changes is summarised in Table 3. The changes in relative rankings of the 10 highest rated management constructs, and the 15 highest rated management objectives are presented in Tables 4 and 5 respectively (in the interests of brevity, full details of the 60 objectives and 25 constructs are not shown). In Tables 4 and 5, shaded constructs/objectives in the left hand, pre-PMP column, are those which became less important and dropped down the list post-PMP. Shaded entries in the right-hand, post-PMP column, are those which increased in importance and entered the top 10 or 15, post-PMP.

Table 2. Program outcomes for participants in terms of the three highest levels of Bennett's Hierarchy

Level 5	**Changes in Knowledge**
	Improved knowledge and understanding of: 1. aspects of financial management (cost-consciousness, the importance of securing a reasonable return to capital); 2. lender requirements; 3. industry bench-marking figures; 4. how to approach solicitors and accountants for advice on property transmission and wills; 5. relationship between soils, pastures, and production; 6. interrelationships between physical and financial aspects of management; 7. formal steps in the planning processes; 8. techniques of analysis of new ventures;
Level 5	**Changes in Attitudes**
	Greater confidence to: 1. prepare a case and approach lenders; 2. address management issues such as analysis of diversification proposals; 3. address interpersonal conflict situations; 4. lease/hire contractors rather than buy capital equipment; 5. handle family succession issues; 6. be open-minded to different possibilities. More inclined to: 7. restructure business affairs for purposes other than tax minimisation; 8. consider new perspectives on family succession planning; 9. adopt use of a computer for farm purposes; 10. discuss new ideas about improvements to the farm with family members; 11. put new ideas about improvements into a plan; 12. discuss new ideas about improvements with lender;

	13. consider 'big picture' issues beyond increasing production and decreasing costs; 14. attend learning opportunities e.g. conferences; 15. now have a more professional approach overall to the business.
Level 5	**Changes in Skills**
	New or improved skills in: 1. preparing a loan application in line with lenders' requirements; 2. calculating equity and return to equity; 3. making financial decisions; 4. prioritising and managing time; 5. 'scenario' thinking; 6. interpreting feedback data e.g. from soil analysis.
Level 5	**Changes in Aspirations**
	1. Commitment to working on-farm or off-farm. 2. Commitment towards taking over the business eventually. 3. Diversification of business. 4. Reliance on farm income compared to off-farm income. 5. Long-term farm infrastructure layout more sympathetic to resource constraints. 6. Diversification in harmony with optimal use of resources. 7. Continued association with farmer discussion group(s). 8. Exploiting group potential for production efficiencies (through group input and resource purchase/hire activities).
Level 6	**Changes to practice**
	1. Renegotiation of farm loan details, for significant improvement in cash flow situation 2. Adoption of new time management practices (making and prioritising lists of tasks), with non-quantified improvements to management 3. Changed, more effective approach to thinking about problems and making decisions 4. Increased intra-family communication and decision making 5. Use of farm aerial photo and map overlay in planning new developments. 6. Relocation of infrastructure in better sympathy with natural resource constraints. 7. changes in production type and final output.
Level 7	**Changes in outcome**
	1. Immediate improvement in monthly cashflow situation following negotiation and restructuring of loan facility. 2. Attendance at industry conferences, business and social networking enhancements. 3. Constructive discussion and actions regarding family farm transfer facilitated in several families.

Table 3. Individual and family outcomes from Future*Profit*: number of changes in each Bennett category

Group	Level 5 changes				Level 6 changes	Level 7 changes	Total changes
	knowledge	attitudes	skills	aspirations	Practice change	Outcome change	
1	24	19	23	12	17	7	102
2	10	6	9	8	17	1	51
3	10	14	7	8	13	0	52
4	26	33	23	3	38	0	123
Grand Total	70	72	62	31	85	8	328

Table 4. Highest rating management constructs, pre- and post-PMP

Top 10 management constructs, pre-PMP	Mean rating	Top 10 management constructs, post-PMP	Mean rating
manage for the future	6.24	manage for the future	6.60
look after the family	6.08	willing to listen, learn and change	6.58
willing to listen, learn and change	6.04	professional approach to farming	6.54
make decisions quickly	5.96	look after the family	6.38
accept change as a challenge	5.88	think and plan[b]	6.31
professional approach to farming	5.85	aware of major constraints	6.31
keep up to date with management practices[a]	5.77	accept change as a challenge	6.31
keep in touch with industry issues	5.69	make decisions quickly	6.19
innovative[a]	5.69	use professional advice & services[b]	6.12
aware of major constraints	5.62	keep in touch with industry issues	6.12

[a] Shaded constructs displaced from top 10, post-PMP
[b] Shaded constructs moved into top 10, post-PMP

Table 5. Highest rating management objectives, pre- and post- PMP

Top 15 objectives, pre-PMP	Mean rating (max = 7)	Top 15 objectives, post-PMP	Mean rating (max = 7)
improve the productivity of the farm	5.91	improve the productivity of the farm	6.47
leave the land as good as I found it	5.68	leave the land as good as I found it	6.26
maximise profit	5.44	develop a long term plan for the farm[b]	6.12
maximise efficient use of all resources (human, physical, capital)	5.12	maximise profit	6.09
have recreation time with family	4.97	maximise efficient use of all resources (human, physical, capital)	6.00
maintain improvements	4.97	achieve development plans already set[b]	5.58
provide good education for children	4.95	utilise resources sustainably[b]	5.56
prevent pollution	4.85	improve family communication[b]	5.31
have a comfortable living	4.85	prevent pollution	5.29
achieve or exceed production/price targets I set myself	4.85	have recreation time with family	5.26
minimise tax paid	4.71	provide good education for children	5.26
improve quality of life[a]	4.65	have a comfortable living	5.26
involvement in non-business interest group[a]	4.60	minimise tax paid	5.26
minimise risk[a]	4.59	achieve or exceed production/price targets I set myself	5.24
adopt modern varieties, techniques & equipment[a]	4.59	maintain improvements	5.21

[a] shaded objectives displaced from top 15, post-PMP
[b] shaded objectives moved into top 15, post-PMP

DISCUSSION

The qualitative aspect of this study provided considerable evidence that the PMP farm business management program had made a noticeable impact in each of the groups, and on most individuals, in the survey sample. The quantitative data presented above provided confirmatory evidence. In a number of self-report instruments, participants consistently indicated perceptions of wide-reaching

changes, in management constructs, management objectives, attitudes, knowledge, skills, aspirations, and practices stemming from the program.

Management constructs change

The management constructs results (Table 4) demonstrate change in beliefs about the critical management issues, with the construct 'think and plan' showing the greatest increase in mean rating (1.0). Of the four constructs showing the next greatest increase, two are to do with community issues and working with others, one is to do with taking a professional rather than lifestyle approach to farming, and one is to do with identifying limitations, which requires intimate knowledge of the whole system. As outlined in the introduction, the major concern motivating the nation-wide emphasis on PMP by government agencies was perceived inadequacy of planning by farm managers. These results suggest that a deepened understanding of the importance of planning in good management has been engendered.

Management objectives changes

Five of the 60 objectives statements had mean rating increases of at least 1.0. These statements showing the greatest change represented issues that emerged commonly in interviews. The two management objectives showing the greatest increase in mean rating were both related to planning.The next highest increase, for 'maximise any legislative entitlements' reflects heightened awareness by many participants of the availability of government funding for approved activities, such as selected training or Landcare initiatives. The fourth greatest rating change, for 'become involved in a farm business management group', probably reflected not only the business benefits, but also the social benefits that participants had readily identified in interviews. The fifth highest change, for 'utilise resources sustainably', reflects a theme emerging from interviews of both confidence and resolve to manage the natural resource base more sensitively and responsibly.

Four objectives statements moved out of the top fifteen, and were replaced by four others (Table 5). These changes appear to represent a moderate change in management orientation, in that long-term planning, sustainable resource use, and family communication are replacing more peripheral issues including 'quality of life', 'involvement in non-business group', and 'adopt modern varieties, techniques and equipment'. The stability of eleven of the top fifteen, however, corroborates the

conclusion from the management constructs results in the previous section, that a real change has occurred in participants' attitudes towards planning and related issues, as a way to achieve consistently important objectives such as 'improve the productivity of the farm', leave the land as good as I found it', 'maximise profit', 'maximise efficient use of resources', and so on.

In addition to the strong evidence for a real change in management culture towards more planning, that is more holistic in nature, three other significant themes emerged from case studies that indicate community-building potential of PMP. The first is the real improvement in family communications, reported by numerous families, that was contributing to improved management. The second is a heightened interest in further focused training activities. The third is strong interest in continuation of group activities, for a variety of purposes including further training and/or commercial advantage such as group input purchase or product marketing schemes.

These results have been substantially confirmed by a recent national evaluation involving over 900 stakeholders including participants, facilitators, administrators, and other interested parties (van Beek et al. 1998). Of the 206 farmer-participants surveyed, 92% had gained skills and knowledge, and 79% had changed one or more aspects of their management with immediate or long-term economic, ecological or social benefits.

CONCLUSION

The Property Management Planning program that has been running in Australia for most of this decade has contributed to creating a more holistic, longer-term, and better-documented planning culture amongst Australian farmers. It is making them more confident to confront change, and improving their skills in both proactive and reactive phases of management. It is stimulating their capacity to engage in and benefit from training, and it is contributing to community-building through positive impacts on families and small groups. It is making a significant contribution towards improved agricultural sustainability through simultaneously impacting on economic, ecological, and social dimensions of sustainability.

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