VALUE ADDING BY NEW ZEALAND FARMERS.
Case Studies of Farmer Response to Economic Restructuring.

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INTRODUCTION

The New Zealand Labour Government's economic restructuring policy of 1984-87 had an immediate impact on the agricultural sector. By 1984, support to agriculture, both direct and indirect, had reached 3.2% of G.D.P. and approximately one third of total government deficit (Rayner 1990). Not surprisingly therefore, agriculture was a prime target for a dose of economic medicine. The prescription dispensed in the space of 12 months that specifically affected agriculture included: immediately devaluing the NZ dollar by 20% and subsequently floating it; announcing the end of the Supplementary Minimum Prices Scheme (SMP); terminating direct Meat Board control of meat marketing and returning the trade to the private sector; signalling the abolition of the Wheat Board; charging commercial interest rates on Producer Board reserve accounts at the Reserve Bank; announcing the phasing out of the full range of existing agricultural subsidies; introducing partial cost recovery on a number of MAF services; introducing a major new value added tax and making significant changes to existing income tax provisions; commencing the lifting of Rural Bank interest rates to market levels, and so the list of ingredients grew. The full prescription was formidable, the taste bitter, and the side effects significant, but in the main most of the patients have survived, although many have required an extended convalescence.

Since 1984 economists and others interested in the effects of restructuring have focused on the results at the national and industry level. Dobson and Rae (1990) have explored how N.Z. agribusiness firms changed and adjusted, while Reynolds and SriRamaratnam (1990) have reviewed aggregate farmer response. Johnston and Frengley (1991) treated the agricultural sector as a case study of free market readjustment and placed particular emphasis on the well being of N.Z. farms. They concluded that "we can only wait to see if the agriculture sector will bear fruit commensurate with the agonizingly slow adjustment to the new policy environment." Fairweather (1992) viewing the changes through the eyes of a sociologist has concluded that "in general terms, despite rapid exposure to international forces and a more market economy, family farms in New Zealand have adapted and survived successfully. There has not been a demise of family farming and a movement towards corporate farming. If anything, exposure to financial pressure has intensified the family character of farming, In effect, the process of adjustment has illustrated how family farms in New Zealand have responded to their particular historic circumstances within a given international set of forces and evolved to develop into a newer version of the family farm which is well suited to face future pressures for change." Some farmers took their medicine as prescribed and came back re-invigorated and renewed, prepared to turn adversity into opportunity. This paper reports the personal responses and views of four farmers prepared to test their entrepreneurial and management skills in the new environment by developing value adding strategies in their farm businesses.

CONCEPTS INVOLVED

Value added is an established statistical concept in national accounting literature that measures the contribution to GNP by an industry or a sector. In the 1980's in New Zealand it became a "buzz word" used by agribusiness, farmers, and their representative organizations in their search for solutions to the cost price squeeze in agriculture and lower prices for traditional commodities. Bollard and McNaughton (1992) have used the term in a more general way to mean: "transforming a product (or service) into something of higher value by further cultivating it, processing it, marketing it or reorganising its production or transformation." They further point out that adding value can be done in one of three ways: further processing of materials; reducing input costs; or increasing output value. This means that it is possible to create added value 'before the farm gate' just as it is possible to create added value ' beyond the farm gate.' In fact the case study farmers operated on both sides of the farm gate. The conversion of an agricultural commodity into a consumer product normally involves a sequence of steps that can be called the chain of adding value. In this paper one question of interest is how far along specific value adding chains the case study farmers maintained ownership and/or management control. Three other questions of particular interest are: the source of the innovation, the catalyst for change if other than restructuring and the style of the manager.

In his discussion of entrepreneurship Drucker (1985) identifies seven sources of innovation opportunity, four internal and three external to the industry as it pertains to a firm in an industrial setting. The application of the concept in a rural setting is however still in its relative infancy. Renborg and Fock (1977) define entrepreneurship as "the ability to control and analyze the organization of the firm, discovering its strengths and weaknesses. It is the early discovery of development trends and change in the environment, and the reaction to and exploitation of these. "The concept has been further discussed by other researchers (Insulander et al.,1986; Olsson,1988; Gimenez,1991; Fairweather and Keating,1990), especially in Sweden to develop a typologies of management styles, of which the entrepreneurial farmer is but one. Although the various authors use different names; entrepreneur, flexible strategist, prospector, they all identify some key characteristics in common. Namely that the entrepreneur is a person who thinks of himself as more than just an agricultural producer; who thinks in strategic terms; who has clearly formulated business objectives; who devotes considerable time to planning; who has a wide network of contacts; and whose actions are characterized by careful deliberation, not by impulse. The question posed in this paper is how well individual farmers fit the entrepreneur typologies?

CASE STUDIES - RESEARCH APPROACH

The farmers used as case studies were selected because they had survived the downturn and the economic restructuring, and had succeeded in adding value to their output. All had been following traditional farming systems and conventional management patterns as husband and wife partnerships, but as the result of exogenous shock had demonstrated the capacity to innovate and act as entrepreneurs. The inductive research method employed was the qualitative one of Grounded Theory. i.e. tape recorded interviews following similar guidelines were conducted by a team of two or three people, the transcripts checked with the participants and the material then analyzed. Because of the holistic, dynamic, unique, individualistic and uneven nature of the entrepreneurial process it was felt that a qualitative approach would yield a greater harvest of useful information than a more quantitative approach. The objective of the pilot study was to identify what the participants thought and felt, to provide them with the opportunity to be the experts on their experiences and not to be reacting to an external set of assumptions imposed by the researchers.

PERSONAL BACKGROUND

The four case study farmers were an interesting mix of personal characteristics, biography and circumstances. Their ages ranged from 25 years(A) to 50 years(B), from minimum levels of secondary education (G & N) to tertiary qualifications in agriculture (C & S). Two (C & N) were well established on conventional sized units whilst the other two were still establishing themselves on smaller units made viable by leasing additional land (S) or contracting (G). Prior to 1984/85 they were all financially viable but feeling some level of pressure, and therefore sensitive to any change in the economic climate.

Three (C,G,S) were cropping farmers whilst (N) was a dairyfarmer operating a subsidiary cropping enterprise. Although SMP's made minimal contribution to their revenue the other parts of Government support to agriculture were very important to their viability. (eg Wheat Board, concessional interest rates etc.)

OPPORTUNITIES AND CATALYSTS

Since all had been at least contemplating, if not tentatively pursuing new opportunities before 1985 they were to some degree mentally and emotionally prepared for change. They all identified and exploited different opportunities or niches, were catalyzed by different factors and demonstrated an individuality of approach that some might label unconventional. They defy easy classification but exemplify a number of the attributes identified in the literature. In varying degrees they all added value by a combination of diversification,innovation and vertical integration - the difference between individuals being in the weighting. Table 1 attempts to highlight the combination of opportunities individual farmers embraced and the factors that catalyzed them to exploit those opportunities. It should be noted that whilst the most important source of value adding is highlighted for each farmer, it was not necessarily the only one. The development of new ideas saw the progressive implementation of several added value options on all the individual farms.

Table 1

Apart from the general economic climate and pressure for change all the farmers identified a specific unexpected problem or opportunity that catalyzed making a change. Farmer C had to find a solution to a technical problem (de-awning) or lose the market to an innovative competitor. Farmer N had to find processing facilities for his product when a local company closed. Farmer G faced a similar situation when his processor/buyer left the district. An unexpected telephone call seeking help from a contact in the industry introduced farmer S to a new opportunity. In a similar vein all the farmers used some outside research and development assistance or expert advice to bring their innovations to fruition.

Perhaps the most interesting differentiation shown in Table 1 is that whilst C & N have both retained ownership of their product to final export destination and essentially do their own wholesaling and distribution with all the attendant risks, G & S have remained firmly on-shore and have not exploited ownership further down the value added chain. It is not that the are timid, just that the Japanese market is difficult to access directly.

OTHER DIMENSIONS

Time

In their role as entrepreneur all the farmers had to adapt to increased demands on themselves as individuals. At interview three (C,G,N) highlighted an increasing personal time constraint and an unresolved problem of delegation. All three identified individual priority areas but none had implemented successful delegation strategies. This indecision seems likely to constrain future development and expansion.

Level of Risk

On the basis of the common classification of risk attitude- risk seeker, risk neutral and risk averse - two farmers (G,S) saw themselves as risk seekers, one (C) as risk neutral and one (N) as risk averse.While force of circumstance was initially a factor for G & S all four demonstrated that they were not afraid of risk, could realistically assess it and devoted considerable time and effort to planning in order to modify its potential impact. They met an important dimension of Olsson's definition of an entrepreneur, namely the ability and competence to handle significant risks.

Farmer G was clearly the most consistent risk seeker. When asked how long an " opportunity window" had to be open before he snapped at it, he replied "not long, you know you have no second chance - tomorrow it's gone." He also added however "the best thing is to look at it for a couple of days, sound it out,but then in two weeks time it's a whole new picture isn't it. It's not just quite the same as it was when it looked good a while ago".

Management Style

To the question of how they would characterize themselves after being involved in the entrepreneurial process, three regarded themselves as farmers, albeit farmers with a difference. C described himself as a producer/processor, G as a farmer of people but not as a marketer, while N saw himself as a" farmer with a vested interest in the end buyer of what was now my product." S saw himself as a farmer when working on his farm tourism business but a town commuter when working off the farm.

Certainly S is now the one most removed from production agriculture, while at the same time being the one who has progressed the least along the value added chain.

Personal Payoffs

In addition to better financial returns all four farmers identified at least one other major source of satisfaction. For C it was to be a price maker rather than a price taker; for G it was being able to give people a job and to watch them enjoy it; for N it was meeting the challenge - "to try something different, something new and beat it"; and for S it was lifestyle and the contact with a variety of people, both individually and in groups.

Space does not permit a more detailed analysis of each case study but we will use C as an example of the range of changes of system and philosophy that have taken place.

Case Study C

Farmer C started farming in partnership with his brother in 1972, and then in 1976 leased 245 ha of the family farm and commenced farming on his own account. In 1988 he bought the land from the family which he now farms in partnership with his wife. It is an all dryland arable farm specialising in seed production on medium soils, averaging 800mm of rainfall per year and subject to wind risk. The lack of irrigation increases yield uncertainty in dry years and requires a high standard of crop management to ensure acceptable yields.

The low commodity prices and high debt servicing costs of the mid 1980's led C to rethink his farming strategy and to move away from producing solely traditional crops. He decided to put major emphasis in three areas: growing specialist crops; further processing; and marketing the resulting products in an efficient co-ordinated manner. Growing specialist crops was not seen as an end in itself, but rather as a base on which to build further added value. As Figure 1 illustrates, C sees product marketing as the hub around which his production and processing revolve. His clear aim for a decade has been to break free from being a price taker to being a price maker.

Figure 1

Figure 2 illustrates the degree to which C has been able to differentiate his individual crop products and so command a premium price for them.The 100% line is the farm gate price to farmers selling through traditional channels. The key points to note in Figure 2 are: no two product marketing packages are the same; the level of further processing varies between products; the unique de-awning process is specific to prairie grass and grazing brome; the linseed returns while looking spectacular are a very specific out of season contract; and finally and most importantly the premiums are the result of a decade of intense effort and planning.

Figure 2

Two crops - lentils and prairie grass - have been particularly important in the development of C's programme. Lentils were the first excursion into a new, specialist crop from which C selected and obtained plant breeders rights for two new varieties which he then marketed under his own brand name. It was this crop that led C to establish a close relationship with the national agronomy research network and confirmed to C the benefits of using professional expertise to help solve problems. The de-awning process for Prairie Grass was developed as a joint venture with the NZ Agricultural Engineering Institute (NZAEI) from C's original idea. The NZAEI contributed expertise and some development capital in return for a royalty return. The process quickly proved its commercial worth and allowed C to become a major marketer of prairie grass as a branded cultivar at a time of peak demand. In 1992 C was contracted by the owners and marketers of a new cultivar - Gala Grazing Brome - to de-awn their entire production on a continuing basis.

The experiences with lentils and prairie grass were not only important in building expertise and confidence in managing new ventures, but they quickly became significant contributors to cash flow. Table 2 shows the contribution of these two crops over a five year period to the farm business. The table also shows the latest new product to come on-stream - yarrow seed. While yarrow is not a new crop C's fresh approach has been : to identify the husbandry package necessary to increase yields significantly and consistently; to identify the end use; and to establish direct marketing links with the end users. In this way what was merely a commodity has been converted into a product, a perfect example of C's strategy.

Table 2

Other points of significance in Table 2 are: firstly, the increasing absolute and percentage contribution of new products & processes in the total business - even though better marketing of traditional products has increased their returns as well; and secondly, the progressive introduction of additional products has compensated for fluctuating returns for the earlier ones. Farmer C is quite sensitive to the risk not only of fluctuations in demand but also short product life and restricted windows of opportunity. The financial results for 1991/92 although not finalised show a continuation of the trends already established in the preceeding 5 years.

Table 3 summarizes the results of those latest 5 years and shows not only significant increases in total revenue but also in cash surplus, interest surplus and return on farm capital.

Table 3

In the space of 8 years C has transformed himself from being a quite traditional intensive arable farmer selling through conventional channels into an innovative producer/processor marketing a diversified range of products. He responded to the changed environment following economic restructuring in a very positive way; developed a new strategy; identified, created and exploited a number of new opportunities and has successfully captured the rewards of value adding. His individual strategy of adding value has been demanding in time and management commitment but financial rewarding and personally satisfying.

CONCLUSION

Farmer C clearly fits the management style typology variously called: entrepreneur, flexible strategist, or prospector as in their own way do G, N and S. All four farmers responded positively to the exogenous shocks caused by economic restructuring in various ways, while at the same time demonstrating sufficient common characteristics to be defined as entrepreneurs. These case study farmers are not unique in New Zealand agriculture, neither are they universal, but their achievements have demonstrated that individual farmers can, and do, find ways to overcome the impacts of significant exogenous shock. To date, the impact of restructuring has not led to as many exits from farming as was initially predicted, but the process has not been painless. These case study farmers are essentially the standard bearers for an increasingly positive response from a growing number of farmers. The knowledge gained from these case studies has convinced the authors of the power of the Grounded Theory approach to elicit meaningful qualitative data to flesh out the more conventional quantitative measures. Further work in this area is planned to deepen the understanding of farmer decision making in an environment of substantial exogenous change.

REFERENCES

Bollard, A.E. and McNaughton, J. (1992). Adding Value in New Zealand - The Role of Technology. New Zealand Ministry of Research, Science and Technology, Report No. 14.

Dobson, W. and Rae, A.N.(1990). How Agribusiness Responded. In: R. Sandrey & R. Reynolds (eds). Farming Without Subsidies - New Zealand's Recent Experience. MAF, Wellington,N.Z.

Drucker, P.F. (1985). Innovation and Entrepreneurship Practices and Principles. William Heinemann Ltd, London.

Fairweather, John R. (1992). Agrarian Restructuring in New Zealand. Agribusiness & Economics Research Unit Research Report No. 213, Lincoln University, Canterbury, N.Z.

Fairweather, John R. and Keating, N.C. (1990). Management Styles of Canterbury Farmers: a study of goals and success from the farmers' point of view. Agribusiness & Economics Research Unit Research Report No.205, Lincoln University, Canterbury, N.Z.

Gimenez, F.(1991). Small Firms Strategic Behaviour and Styles of Creativity. Paper submitted to the RENT V Research in Entrepreneurship 5th workshop, Telborg Castle, Vaxjo University, Vaxjo, Sweden.

Insulander, M. et al.(1986). Rapport 264, Inst for ekonomi och statistik, Sveriges lantbruksuniversitet, Uppsala.

Johnston, Warren E. and Frengley, Gerald A.G. (1991). The Deregulation of New Zealand Agriculture: Market Intervention (1964-84) and Free Market Readjustment (1984-90). Western Journal of Agricultural Economics, 16(1): 132-143.

Olsson, Rolf.(1988). Management for success in modern agriculture. European Review of Agricultural Economics, 15: 239-259

Rayner, A.C. (1990). The Seeds of Change. In: R.Sandrey & R.Reynolds (eds). Farming Without Subsidies - New Zealand's Recent Experience. MAF, Wellington, New Zealand.

Renborg, U. and Fock, J. (1977). Styrningb och kontroll vid sma foretag. Summering av metodutveckling for lantbruksforstag 1965-75. Uppsala:Sveriges lantbruksuniversitet.

Reynolds, Russell & SriRamaratnam, S. (1990). How Farmers Responded. In: R. Sandrey & R.Reynolds (eds). Farming Without Subsidies - New Zealand's Recent Experience. MAF, Wellington, N.Z.

Table 1: VALUE ADDED MECHANISMS AND CATALYSTS

CASE FARMER	C Branded product	G Squash packing	N Export herbs	S On-farm Tourism
MECHANISM				
New product/process	#		#	
New service		#		#
New marketing approach	#		#	#
Ownership retained to	Foreign retail	NZ exporter	Foreign retail	NZ tour operator
New business structure	#	#	#	
Vertical integration	#	#	#	#
Diversification	#	#	#	#
CHANGE CATALYST				
Income collapse		#		#
Cost inflation	#		#	
Process need	#	#	#	
Unexpected opportunity	#	#		#
Challenge			#	

Table 2: CASE STUDY C - VALUE OF NEW PRODUCTS & PROCESSES

New Product & Processes	86/87 $	87/88 $	88/89 $	89/90 $	90/91 $
Lentil sales	32308	70319	65805	63985	45682
Prairie grass sales	45086	16764	110654	88375	83048
Yarrow sales				10500	67006
Linseed sales				35001	1943
Sub-total	77394	87083	176459	197861	107679
Royalties & Seed dressing	31820	44528	48673	15888	51469
Total	**109214**	**131611**	**225132**	**213749**	**249148**
Farm cash revenue	298837	339136	410411	456989	484507
Total : FCR ratio	**0.37**	**0.39**	**0.55**	**0.47**	**0.51**

Table 3: CASE STUDY C - FINANCIAL RESULTS

	86/87 $	87/88 $	88/89 $	89/90 $	90/91 $
New product & process sales	109214	131611	225132	213749	249148
Pasture seed sales	143890	123088	112336	107622	101602
Cereal & pulse sales	42259	45610	53679	96004	69279
Other revenue	3474	38827	19264	39614	64478
FARM CASH REVENUE	**298837**	**339136**	**410411**	**456989**	**484507**
Farm cash expenses (adj)	242792	219340	229435	256021	298443
FARM CASH SURPLUS	**56045**	**119796**	**180976**	**200968**	**186064**
INTEREST SURPLUS	**42132**	**101216**	**121904**	**178101**	**173124**
RETURN ON FARM CAPITAL	**5.49%**	**13.36%**	**12.55%**	**16.90%**	**17.15%**

Note: **Farm Cash Surplus:** cash available for debt servicing, development, living & tax.

Interest Surplus: income available after operating expenses (including dep'n & wages of mgmt) but excluding debt servicing.

Figure 1.

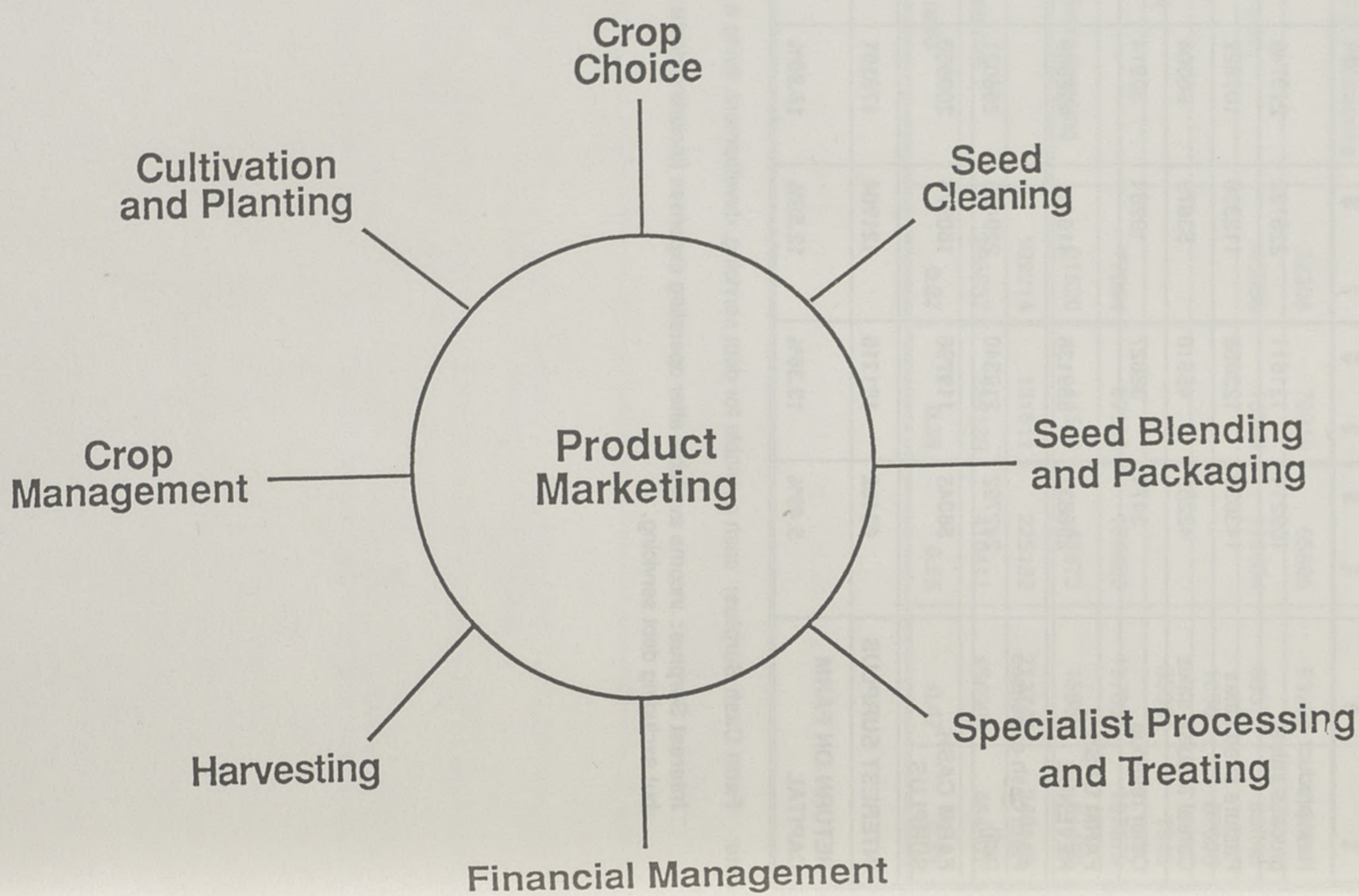
Crop Choice
Seed Cleaning
Cultivation and Planting
Product Marketing
Crop Management
Seed Blending and Packaging
Harvesting
Specialist Processing and Treating
Financial Management

Figure 2. Crops Produced 1991/92