

# The McRae Trust Sustainable Land Management Project: A community-based approach to sustainable hill country farming

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## Summary

An East Coast hill country extension project has been running successfully for 5 years. A community group meets regularly to discuss farm development and farming policies, which may conclude with the manager adopting recommendations. The group includes people from agribusiness who freely give time and technical advice. Funding for extension activities only was available for the first 3 years. The project aims to improve farm production, while attending to environmental issues and to impart the knowledge gained to the wider community. An annual field day is held for the farming community. Significant gains have been made in production levels and soil conservation and other environmental work. It is also considered that the project has been effective in its extension role, although this is difficult to measure. Success of the project to date can be related to the continuing challenges that arise for the group and the property, which is typical of the wider Wairoa area, and the interesting group meetings and field days which draw good numbers of people. Assigning project members to task groups, designed to address specific issues, could give new impetus. Issues, which could be addressed, include the economic options for steeper country and the human factors of farming. The model is repeatable in other areas.

**Keywords:** extension, forestry, hill country, soil conservation, sustainability

## Introduction

Since mid 1994, the McRae Trust Sustainable Land Management project has been focused on a 600-hectare typical East Coast hill country property at Frasertown, near Wairoa.

A Community (discussion) Group of 32 people meets every 6 weeks to assist with the development of farming policies and to discuss the condition of pastures and livestock as well as land management in general.

The Community Group comprises mostly farmers, with a scientist from AgResearch, a local farm accountant, an AgFirst farm consultant, a Wairoa Vet, a

Ravensdown field officer and a Regional Council soil conservator. The group was originally drawn from the wider community, but it was difficult to maintain the interest of non-farmers/agribusiness people.

A public field day is held every autumn with two purposes: firstly to report on the project's achievements and secondly, to provide a forum for invited guest speakers to present topical information.

## Background

The property was bequeathed to the nation in 1975 by Miss May McRae who specified numerous objectives in the Trust Deed. While the trustees take an overview, the community group is focused on those objectives relating specifically to the betterment of hill country farming and to conservation work.

The property had been used for pastoral research and tree trials during the 1980s and has continued to be farmed as a normal, average hill country property.

In the early stages of the Sustainable Land Management Project, a clearer focus on farming objectives emerged.

## The Property

The effective farming area is 492 hectares with 18% as easy to flat land, 37% medium hill country and 45% steep hill country. The sheep:cattle ratio is 48:52 and total stock units are presently 4800.

## What are the project objectives?

The McRae Trust Sustainable Land Management Project focuses on three primary goals:

1. To be financially profitable both in the short and long term
2. To implement best practices to achieve long-term sustainability
3. To impart the knowledge gained of best practice to the community.

The present economics of farming dictate that most farmers, including the McRae Trust, are concerned primarily about short-term profitability. Because of the variety of backgrounds and interests amongst the group

however, the McRae Trust is able to deal with all aspects of sustainable land management. Nevertheless, the project aims to demonstrate to the community what it has achieved and how, rather than develop a recipe for sustainable agriculture.

### Funding

During the first 3 years, an AGMARDT grant of \$30,000 was used to help with field days, guest speakers and other extension-related costs. This was important 'seeding' money, which helped the project to feel its way and make some real progress, at less risk than would have been the case otherwise. At its present level of activity, the project is able to draw extension costs from farm income. Further funding will be needed however, if the project expands (e.g., requiring specialist consultants or scientists).

Throughout the five years of the project, soil conservation work has been funded to a level of 50% via the Hawke's Bay Regional Council's Landcare Scheme. This is available to all local farmers on the same basis.

The management team of five, contribute numerous hours each year toward the project, much of which is not charged against it.

### What are our achievements?

#### Production and monitoring

Despite the project title, more time is spent on this than any other topic.

Table 1 shows the comparison of target production parameters against actual achievements from 1994 to 1999. Two consecutive drought years and a considerable drop in beef prices have impacted greatly on the financial performance of the business. In addition to the immediate effects, stock units have dropped by almost 25% since 1997. Trading and replacement stock have had to be sold early in both of the last 2 years.

Pasture production and quality has been improved over the life of the project to date, through better management and focusing of fertiliser inputs.

Certain farm parameters are monitored regularly

including rainfall, soil temperature, pasture growth on four land types, feed covers, liveweights and pregnancy scanning.

#### Land use

Pasture on the highly fertile river flats has been renewed through the use of feed crops. These were highly successful and included; chickory, Pasja, short rotation ryegrass and prairie grass.

In 1995, a steep north face of 11 ha was planted in *Pinus radiata* for both soil conservation and timber production.

#### Capital Development

##### High fertility area (Beef Unit)

The community group was quick to realise that the property had pockets of land with high production potential. Consequently, an area of 26 ha on mainly easier pumice soils, was developed from poor, drought prone pasture species into a sward of predominantly white clover and ryegrass. This was achieved over 2 years through subdivision and capital dressings of fertiliser (initially 1 t/ha of superphosphate).

An EFS of \$815/ha was achieved during the 1998 year on this area.

#### Infrastructure

One third of the property, including the beef unit, has been serviced with a reticulated water supply. In addition to this, a central main access track has been constructed to reduce labour needs, make livestock work easier and give the manager more opportunity for monitoring livestock and pasture.

#### Environmental

An active programme of planting trees for soil conservation, has resulted in the following works being carried out since 1994:

- Over 2000 poplar and willow poles planted for gully, soils slip control and to stabilise farm roads and dam catchments

**Table 1** Performance Targets.

	----- 1994 -----		----- 1995 -----		----- 1996 -----		----- 1997 -----		----- 1998 -----	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual	Target	Actual
Lambing%	94	94	99	100	105	107	105	124	115	120
Sheep losses%	4	4	4	4	4	4	4	4.7	4	2.8
Wool weight kg/ewe	4.3	5.3	4.4	3.9	4.6	5.1	4.8	5.8	5.0	3.7
Calving%	90	96	90	90	92	90.2	94	88	96	92
Cattle losses%	1.4	0.1	1.4	1.0	1.4	0.4	1.4	0.9	1.4	0.2
Yearling wt. on 1 October										
Female min.	225	-	230	215	230	-	230	260	230	250
Male average	246	246	280	324	300	336	330	379	360	(sold)

- 9000 *Pinus radiata* and 2000 Eucalyptus seedlings planted
- 250 m of stream channel fenced off for riparian protection using a single electric wire. Water quality is monitored monthly, with comprehensive laboratory analysis 3-monthly
- 10 ha of native bush fenced off using permanent materials.

An AgResearch scientist has spent time with the group explaining the effects of and prevention of compaction on intensively grazed areas.

#### *Extension*

Information transfer is the major tool by which the project works toward its goal of improving farming methods on the east coast. This is achieved through annual field days, 6-weekly discussion group meetings, published news articles and the one-to-one discussions that subsequently take place between farmers throughout the district.

The degree of extension success is difficult to measure, but six public field days have been very well attended and the community group have continued to support meetings throughout the year.

#### Where and how do we do it?

Community Group meetings are held on the property and are facilitated by a Regional Council officer (coordinator). This position is one of coordination and organisation for both the community group and a smaller management team.

Community Group representation can range from 12 to 20 on any meeting day. This range is suitable for free discussion to take place and results in issues being fully aired.

The manager and farm supervisor use information gained from these discussions to help make their farming policy decisions, although a local farm management consultant carries out any analysis necessary. The consultant also prepares a farm management report for the 6-weekly community group meeting.

#### What are the difficult issues?

Some of the most difficult discussions revolve around controversial subjects, which can polarise the group. Conversion of land from pasture into forestry is an example.

Time, is as important as anything to help the group to draw its views together. However, it is also important to take the lead on occasions and demonstrate to the whole group, what can be achieved how it will look and how a major change (such as forestry) can be successfully managed on a primarily pastoral farm.

#### What is of interest to others?

Of interest to other groups who wish to operate a 'monitor' farm such as this, is the length of time that it has been successfully operating. There has been some attrition after the first 4 years, however the awareness and interest level amongst the farming community was so great that it was very easy to replace lost members.

In addition to its 5 successful years, the project has dealt with farm production and conservation issues side by side without the intensive support of outside agencies. There has been however, a continued involvement of agribusinesses since the start of the project. These people take an active role and freely give technical advice to the group.

#### Why is the project successful?

There are several reasons why the project has continued to impact positively on the property and to attract group members to meetings and farmers to field days.

Firstly, group members see that there are still many challenges to address. Production targets can still be extended, the land use issue (pines vs pasture) debate is still in its infancy and environmental issues are constantly arising. In addition, there are opportunities in the area of marketing and product quality assurance, which are very likely to develop in the near future. Secondly, the property is a typical Wairoa hill country farm, which most people can relate to as a family size unit. They also see the progress being made in a realistic manner, by a farmer who is similar to them. Thirdly, an effort is made to highlight community group meetings and field days with a topical guest speaker. The subject is always farming related, but can range from technical or marketing and financial, to information technology.

#### What are the possible improvements?

1. A technique that has already been used in this project is to assign group members to smaller task groups, each one focussed upon a particular farming issue. Previously, this was divided between the three main land types found on the property, but the method could be extended to address a wider range of more specific issues such as animal genetics, pasture management, hill country development, forestry, conservation, etc.
2. Options for profitable use of medium to steeper hill country have yet to be investigated. The community group has been focused on the easier country as a better return on investment, however, the wider community wants to know more about their hill country.
3. The human factor of farming is often forgotten and should attract some attention. Personal goals, farming goals, decision making (particularly when

managing climatic disaster), motivation, the value of professional advice and services, are all valid discussion topics.

What are our aims for the future?

When asked during 1998, how long they would like the project to run, the community group was strongly of the opinion that it should continue indefinitely. The reason given was that 'there is still much more to be achieved'.

The project is likely to continue on its present course, taking up the opportunities outlined above. There are many land- and livestock-related challenges let alone, the strategies needed to cater for the rapidly changing needs and requirements of processors.

## **Conclusions**

The McRae Trust Sustainable Land Management Project is achieving production gains on the property itself and has continued as a successful extension project for 5 years. While it is clear that the project is a very successful extension tool, actual technology transfer and the resultant application of techniques on other farms in the district is less certain. Assumptions are that there is a positive impact, which may be subtle and long term in some cases.

There is possibly less prestige in a longer-term project such as this compared to some other high input, shorter-term projects, which are focused on top performance. However, it is believed that the present approach will be able to continue for some years yet.

The model is repeatable in other areas.

