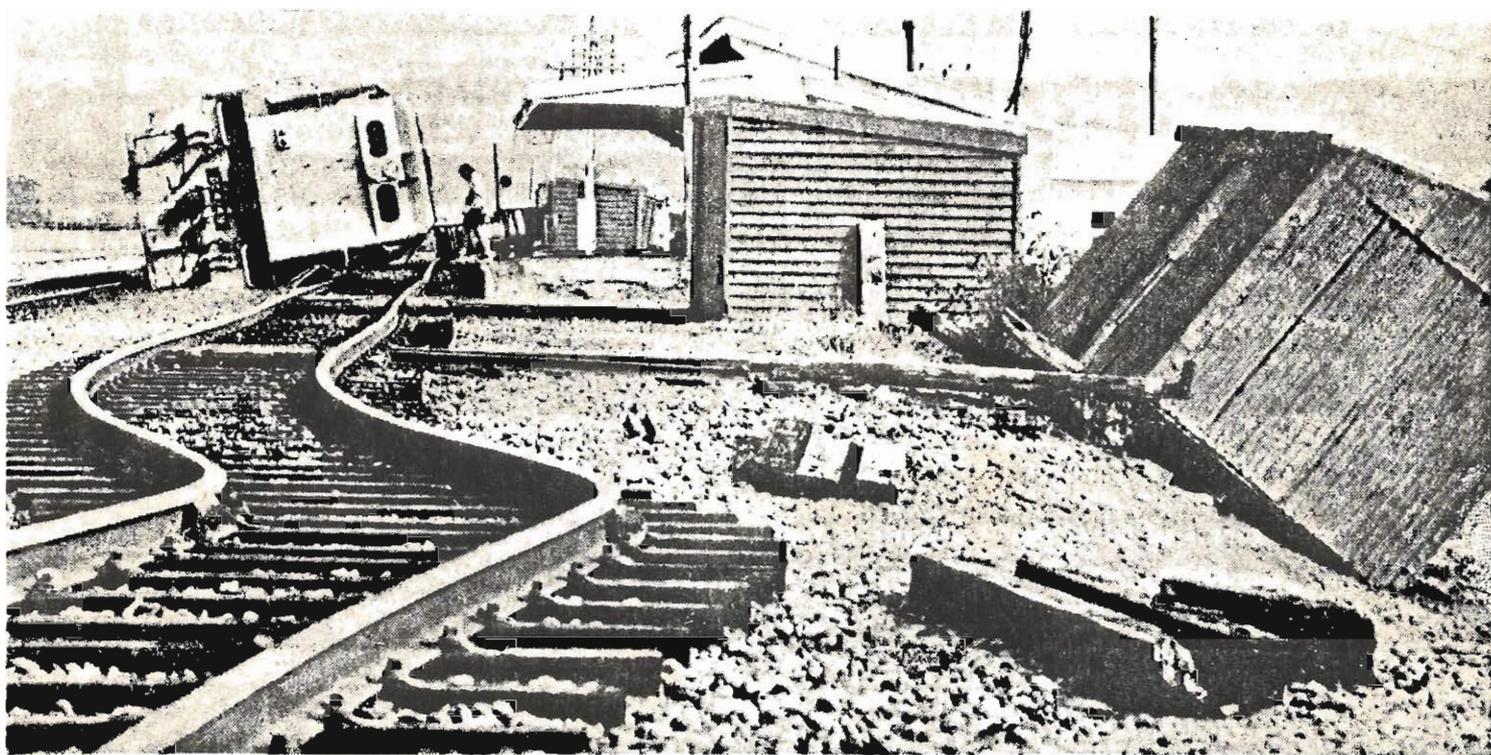


CONTINUING COSTS OF THE

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EDGE CUMBE EARTHQUAKE

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**THE EARTH ALSO** moved underneath Edgecumbe's railway station, with leaning buildings, a toppled engine and a crooked railway line giving some indication of the full force of the quakes.

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## INTRODUCTION

(1)

On 2 March 1987 the Bay of Plenty region suffered an earthquake of magnitude 6.3 on the Richterscale, centred at Edgecumbe.

Severe damage to personal and industrial property, land and land drainage systems occurred.

In hindsight, although much of the damage was covered by insurance, loans, public and government contributions, the continuing reconstruction costs have had a tremendous impact financially on individuals and the District as a whole.

By highlighting some of these ongoing costs and suggestions of alternatives other Rural communities may be better prepared to lessen the effect of a natural disaster such as the Edgecumbe Earthquake of 1987.

The Whakatane District Council was one of the organisations fully involved in the recovery phases of the Edgecumbe Earthquake. Responsible for Civil Defence the Mayor and his team of Councillors, Administrators and staff were totally committed to the emergency and recovery.

Buildings and other structures were covered for damage by insurance. Originally the Council applied to Central Government for recovery costs of \$2.7m.

## **Council seeking \$2.7m from Govt**

A total of almost \$2.7 million is being sought from the Government by the Whakatane District Council for earthquake recovery costs.

The preliminary estimate of the damage to water and sewage systems in the district and the cost of the civil defence operation to restore services has been put at \$1,665,000.

Damage to roads and accessways has been assessed at \$443,000.

Repairs to the Whakatane War Memorial Centre could cost \$50,000 and the Edgecumbe War Memorial complex, \$20,000.

In a statement to the Minister of Civil Defence, Dr Tapsell, the Mayor of Whakatane, Mr Bob Byrne, said the council does not have the general reserves to make up the money required to pay for the damage.

The statement points out that the council recently increased rates by 17.3 per cent, including GST, and the local community, already suffering from the earthquake impact, and an economy under stress, cannot afford the costs of the damage.

The state of the civil

defence emergency was to be reviewed at 5pm last night.

But before the meeting the local civil defence controller, Mr Byrne, said he doubted the emergency would be lifted because of the condition of the Edgecumbe water and sewage systems.

To date the cost to the Whakatane District Council for the reconstruction of roads, sewerage, water supply, and footpaths has been assessed at approx \$3.1m.

Funding from Government from various grants and subsidies \$2m. The remaining \$1.1m has been funded by Council from

rates and reserve accounts. On top of a general rate rise of 17.3% an extra 5% was levied specifically for earthquake recovery. The Council had a Harbour Reserve fund, held for harbour development, \$500,000 was allocated from this fund, and \$370,000 from other reserve accounts.

(3)

The District Council has continued with further reinstatement work into the second year after the event and this has been funded from the general rate and used mainly for the redevelopment of the Edgecumbe Town Centre.

In hindsight Council officials outline the extreme difficulty in quickly and accurately assessing the extent of damage and costs in a disaster situation, and therefore a delay in applying for grants to replace facilities.

The appointment of a Co-ordinator in this case, Muir Coup, Regional Manager, MOW, Rotorua to co-ordinate the recovery cost estimates and liaison with Cabinet committees was essential.

Differing grants and subsidies available, e.g. works subsidiaries for road repairs at 60% of cost, Health Department subsidies for sewerage at 80% confuse the avenues available to aid recovery.

The Whakatane District Council has also funded a new Library and Community Centre in the township of Edgecumbe, and is currently rebuilding the Community Hall. There was a major deficit after insurance payments to repair and upgrade the Community Hall. Originally the Council estimated \$20,000 cost to repair. The cost is now expected to be at least \$672,000. The Hall is being funded by insurance payment, and the deficit funded by:

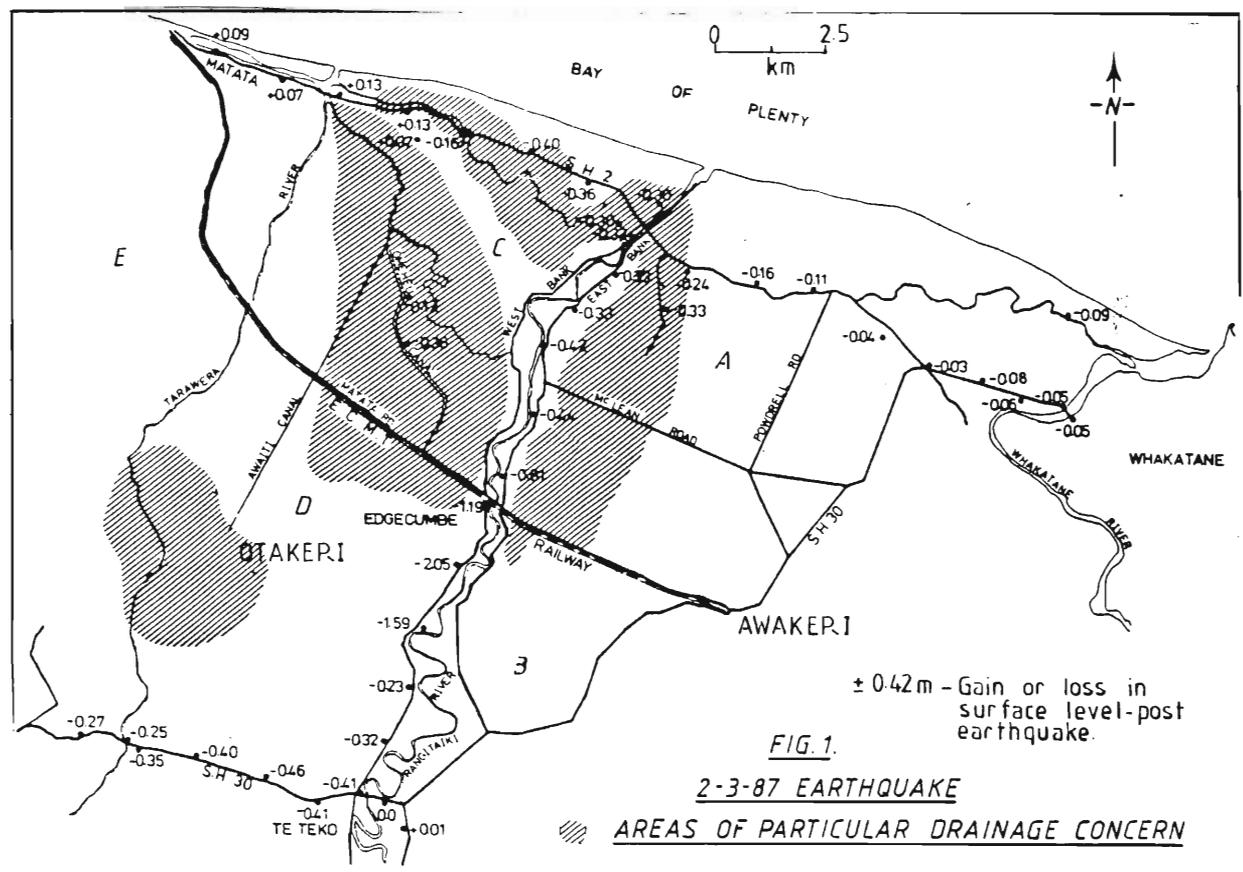
(4)

Whakatane District Council contribution	\$ 61,000
Lions International	\$ 57,000
Mayoral Earthquake Relief Trust	\$148,500
Lottery Board	\$ 50,000
Local donations and fundraising	\$ 60,000

The effect of increased rates and a reduction in Council Reserve funds has added a further burden to a community suffering an economic downturn, and individuals coping personally with a natural disaster.

Damage to the land drainage system was one of the major effects of the earthquake, not only to landusers but to the entire community. Two rivers, the Rangitaiki and Tarawera flow through and drain the Rangitaiki Plains in the area that sustained the most damage.

River Control, in the form of "one hundred year" stopbanks had been completed in 1986. Damage to these stopbanks in the form of rifts, cracks and slumping posed a dangerous threat to the productivity and lives of those residents in certain areas of the Plains.



**Fig 1:** Rangitaiki Plains - level changes following March 2nd 1987 earthquake

Immediate remedial work after the event in 1987 was funded from the Works Rate and Shingle Royalty Reserve Account.

After thorough investigation and survey two stages of reconstruction were planned. Stage 1 involved quick "patching up" to restore the "twenty five year" protection required. Topping up and repairing shattered stopbanks at a cost of \$1.54m was funded by Government grant. Stage 2, to restore the River Control System to where it was before the disaster is to cost \$2.1m and work completed over a three year period.

Government subsidy is 70% of the cost, ratepayer input is \$600,000. It is intended this share is to be funded by rates over a four year period. Ratepayer contribution:

1986 - 87	\$ 20,000	(carry over from previous year)
1987 - 88	\$ 182,000	
1988 - 89	\$ 300,000	
1989 - 1990	\$ 150,000	

**RANGITAIKI/TARAWERA RIVER SCHEME CATCHMENT RATES  
FOR THE PERIOD  
1 APRIL 1989 to 31 MARCH 1989**

A consolidated rate on all properties as directed by the Bay of Plenty Catchment Board, classed as follows:

		Special Works Post Earthquake Rates	Special Loans Rates	Maintenance Rates	Special Works Earthquake Rates	Consolidated Rate
82	Class A	0.31467	0.06165	0.05696	0.03595	0.46923
83	B	0.16782	0.03288	0.03038	0.01917	0.25025
84	C	0.09440	0.01849	0.01709	0.01078	0.14076
85	D	0.08391	0.01644	0.01519	0.00959	0.12513
86	E	0.04196	0.00822	0.00759	0.00479	0.06256
87	F	0.02517	0.00493	0.00456	0.00288	0.03754
96	U1	0.25173	0.04932	0.04557	0.02876	0.37538
97	U2	0.11538	0.02260	0.02089	0.01318	0.17205
98	U3	0.01678	0.00329	0.00304	0.00192	0.02503

The foregoing rates and charges are made for the year 1 April, 1989 to 31 March, 1990, and include provision for Council's obligation to pay Goods and Services Tax.

This levy of rates follows an extended period of rating to fund the establishment of the river control schemes. If it is apparent

the rate burden is unable to be sustained a loan will be obtained to extend the period of funding but this will increase the long term cost.

In this Government's climate of "user-pay", Catchment Commission officials had to campaign vigorously to obtain a 70% subsidy. If they had not obtained a satisfactory grant it was questionable that ratepayers would be able to have funded the repairs to the river control systems, and remedial work may not have proceeded.

The Local Authority, Rangitaiki Drainage Board is responsible for internal drainage. Similar rating costs to the above have occurred in localised areas to repair and install pump stations and drainage systems to ensure adequate drainage to maintain productive land use.

Staff of the Catchment Commission again stress the difficulty in quickly and accurately assessing the extent of damage. Government sympathy is shortlived. Where damage occurs as the result of a natural disaster Government should be prepared to reinstate what was in place before the event.

The Rangitaiki Plains is one of New Zealand's most productive land use areas, with a multiplicity of land uses ranging from maize and vegetable growing, orchards and dairy farming. The effort and commitment of those involved in restoring and ensuring it retains its productivity has been a dynamic contribution to the region.

On individual properties much of the damage caused by the Edgecumbe Earthquake occurred to structures not normally insured, e.g. kiwifruit structures, land drainage systems, land damage, cowshed yards and irrigation bores.

Immediately after the event, the extent of the damage was roughly estimated by M.A.F. and others, and a committee formed to apply for and administer funds for the restoration of enterprises back to their economic integrity. Original estimates were approximately \$20m uninsured damage.

# \$20m damage on Eastern Bay farms

"Beacon"  
6-3-87

By Cyndy Bowater

**Uninsured earthquake damage worth an estimated \$20 million has been reported on Rangitaiki Plains' farms and horticultural blocks.**

The extent of the damages, which are not covered by insurance claims or the Earthquakes and War Damages Commission, was decided at a meeting on Friday.

Mr Scottie McLeod, Federated Farmers' Whakatane branch chairman, said Ministry of Agriculture and Fisheries, Bay Milk Products, New Zealand Dairy Board, the federation, and fruitgrowers' officials had arrived at the \$20 million estimate of on-farm damages.

These and other submissions were going to be discussed by the Government yesterday.

The farmers' groups have asked the Government for the formation of an Adverse Events Restoration Scheme to cover a lot of damage not covered by the usual channels.

Mr McLeod said Rangitaiki Plains landowners were not covered by insurance for severed underground power cables, water supplies, fences, drainage,

and even the great fault rift running through their farm lands. There were also farm races and accessways which needed fixing.

The plains drainage systems were now in a "chaotic state", he said. Drainage was going to be the farmers' biggest headache.

The delicately balanced drainage systems which were working perfectly before the earthquakes had altered dramatically with water flowing the wrong way in some cases.

Artesian springs which have sprung up on farms scattered throughout the plains were another problem. Other farmers had the opposite problem with bores having dried up after the quakes.

These and other problems were affecting the rural people's morale and on-farm viability, he said.

Maize growers stood to lose their equipment at harvest time because the ground stability was now an

unknown quantity. Some areas were under water and other crops had crevasses through them.

Kiwifruit vine supports throughout the district were also badly hit by the upheaval. Mr McLeod said there was not much growers could do about this until after the kiwifruit was harvested in May.

Speaking on behalf of rural people, Mr McLeod was full of praise for the many hours of work staff from the Whakatane District Council and the Bay of Plenty Electric Power Board had put into the area during the past week to bring the Braemar water and electricity supplies back.

Federated Farmers' representatives will be on hand at the Edgecumbe civil defence headquarters for at least today and tomorrow if rural people want to contact them for assistance.

Volunteers were being sent out to help farmers rectify their problems and get back into operation again.

On 18 March 1987 Government allocated \$5.2m to the Bay of Plenty Earthquake Restoration Committee and this was totally used towards restoring the productivity of the region.

35% of the funds were distributed to individual claims for the repairs to kiwifruit structures, cowshed yards, land damage, repairs to fences, and drainage systems. Loss of production was not included. The first \$1,000 cost was paid by the claimant. 65% was allocated to be used to assist in repairing the land drainage system for multiple benefits, e.g. repairs to joint pumping schemes, repairs to stopbanks and tide gates.

The fund was administered by a committee of M.A.F, Drainage Board Engineers, local Horticulturalists and farmers to provide local knowledge. It was chaired by Brian Gunning and Pat Kilgarrieff of M.A.F.

After two years when the Adverse Events Committee had completed its function, Peter Tapsell MP and Minister of Lands, who had been actively involved in the restoration of the district, commented on how productively the funds allocated by Government had been used.

In hindsight, after a disaster such as an earthquake:

1. Government and public sympathy is shortlived, and requests to Government for restoration funds need to be actioned quickly.
2. It is difficult to quickly and accurately estimate the extent of damage.
3. Long term effects take time to evaluate.
4. Government should allow time for such estimates to be evaluated and allow further allocation of funds if required, especially when those funds are used solely to restore the productivity of a region.

5. The \$1,000 cost to the claimant was a burden to some individuals already suffering personal loss and damage. Originally Government set the figure at \$2,000 but submissions by the committee to reduce it to \$500 saw it reduced to \$1,000.

Through the wise use of the funds allocated to it the Adverse Events Committee has had a major effect in allowing a quick return to productivity of many individuals and the region as a whole.

The major farming activity of the region, dairy farming, was severely affected by the earthquake.

Bay Milks' processing facility at Edgecumbe was almost completely demolished.

After thorough investigation a rebuilding programme to process all of the Company's milk has been undertaken, and by August 1989 almost two and a half years after the event, the processing facility to handle 25 millions kgs of milkfat is fully functional.

During the reconstruction up to two thirds of the region's milk was transported to the Waikato for processing.

Costs for business interruption were fully covered by insurance for eighteen months but this time span has proved insufficient to rebuild the dairy factory.

Bay Milk's claim to rebuild its processing facility of \$153,000,000 has proved to be one of the largest insurance claims in New Zealand's history, and has been subject to High Court and Court of Appeal litigation to hasten its settlement.

The cost of reconstruction to date is approximately \$142,000,000. Payments from Earthquake & War Damage Commission and Insurers is \$54,000,000. The \$100,000,000 outstanding insurance claim is being funded by Bay Milk Company and its shareholders until the claim is settled.

Milkfat payout to suppliers, compared with the average New Zealand Dairy Company was restricted by:

1988 - 1989 Season	9 - 10 cents per kg milkfat
1989 - 1990 Season	75 - 80 cents per kg milkfat



Mr Bull

The chairman of Baymilk Products, Mr Doug Bull, says the company is very aware of the pressure put on farmers by its having the lowest payout in the country.

But this season's figure was being reviewed monthly, and he was sure an increase on the \$3.85 announced earlier would be forthcoming.

"There was a lot of optimism in autumn after what the industry had been through," he said.

"Farmers increased

their on-farm investment by lifting cow numbers and spending more on repairs.

"Because of the declining milk flow the company had had over the past couple of years we were very happy with that, but then there was the crash in last season's production and a winter which was very much more difficult than you would expect in the Bay of Plenty."

Feedback from banks was that farmers were

tighter for cash than they would normally be.

Mr Bull said Baymilk had not been able to lift the payout once the Dairy Board had paid \$5.30 to companies, because it had already budgeted for more than \$5.

"The shareholders have had to bear the cost of the insurance claim in interest and legal expenses," he said.

While there were discussions under way between the company, its insurers and the commis-

sion he could not say when a settlement might be reached.

"We were comprehensively insured and we have moved forward in the reconstruction of our assets completely within the terms of our insurance policy."

Of the company's original \$153 million claim, \$54 million was received in June 1988 as a progress payment, but in order to rebuild the plant to the stage it is now \$142 million had to be spent.

To the average supplier of Bay Milk the loss of income equates to a cost of \$24,000.

Many of Bay Milk's shareholders are in the region severely affected by the earthquake and had already suffered considerable re-establishment costs on farm without a loss of income as well.

In hindsight, business interruption insurance of eighteen months is insufficient to rebuild a processing facility and most dairy companies now carry a minimum of two years.

With centralised processing plant being larger and more hi tech the entire dairy industry must be prepared to co-ordinate disaster contingency strategies.

It has been suggested by Bay Milk that with the demise of the Earthquake and War Damage Commission insurance cover should be with one reputable lead insurer to eliminate cross claims of levels of responsibility.

The Dairy Board, in conjunction with dairy companies, because of the size and nature of the Industry, should consider co-ordinating insurance for all the Industry to ensure comprehensive cover and cost effectiveness.

The Dairy Industry must act in unison at times of disaster to ensure customers are retained in a competitive world market place.

I contend that the Government, because the Earthquake & War Damage Commission is an agency of Government, has a responsibility to the region to resolve the settlement of the insurance claim in a quick and fair manner.

Bay Milk has made the right decision to rebuild and will have one of the most hi tech dairy processing facilities in the world. It is a credit to the directors and staff. With a satisfactory and fair insurance settlement sustainable debt can be carried by the Company and payouts to suppliers should return to being comparable with others in the industry.

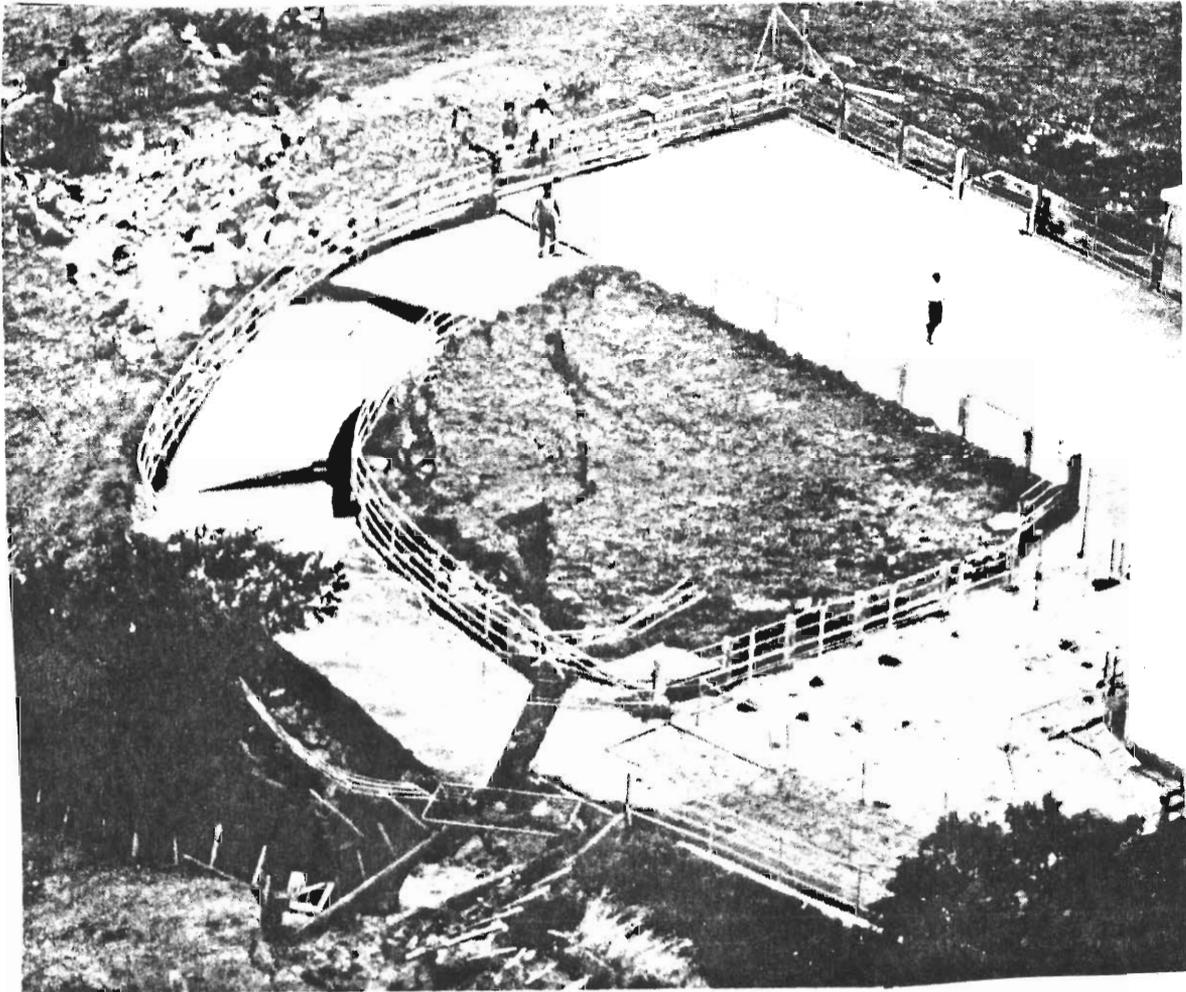
The affect of the disaster on individual properties varied from little to major physical damage. Damage to kiwifruit structures, yards, rifts in fences and drainage was restored by Adverse Events funds, apart from the first \$1,000 of cost.

Most buildings were insured against damage but in most cases to indemnity value only.

In the case of dairy farmers, Bill and Glenys McCracken, buildings which were considered adequate before the earthquake became a major cost to them when having to be replaced. Earthquake damage repairs were required to their residence and replacement of personal effects. An adequate haybarn insured at \$2,000 cost \$10,000 to replace, their cowshed an additional \$64,000 above its insured valued. The McCrackens purchased their farm two years previous and are now funding an additional \$55,000 with annual repayments of \$12,700. This debt servicing, plus their original farm purchase loan, in conjunction with funding extra land and drainage rates, lower milkfat payments, typifies the ongoing costs to individuals and the district of the Edgecumbe disaster.

This example with multiple variations can be duplicated throughout the affected area.

Another ongoing cost is the accelerated depreciation of buildings cracked and moderately damaged at the time.



Edgecumbe farmers were among those hard hit by the events of this week. Above, a farmer and his family check out damage to the cattle yards where concrete has been uplifted and broken by the tremor. "Beacon" 5-3-87

In hindsight, major essential buildings, i.e. residences and cowsheds, should be insured for replacement value. Insurance Assessors should be critically questioned and second opinions can be obtained to seek fair settlement of claims. Insurance requirements should be reassessed annually.

Many individuals severely disadvantaged by a natural disaster are not able to afford their contribution towards restoration. In the case of the Adverse Events Fund \$1,000 was required. Government originally stated \$2,000 contribution, the committee advocated \$500 but settled at \$1,000.

Government, through its agencies, should fund loans interest free for a three year period to enable individuals to restore productivity and get back on their feet.

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Other effects of the Edgcumbe Earthquake:

Damage to Tasman Pulp & Paper Company Ltd	\$ 80,000,000
Damage to Caxton Paper Company Ltd	
Repairs by BOP Electric Power Board	\$ 400,000
Repairs by Electrocorp to Matahina Hydro Dam	\$ 10,000,000
Edgcumbe Primary School Repair and Remodel	\$ 1,000,000
Edgcumbe High School	
Replacement of Edgcumbe Hotel	
Replacement of Riverslea Shopping Mall	\$ 5,000,000
Household repairs and personal loss	est \$120,000,000

The theme of my project has been to highlight the ongoing costs to individuals and District of a natural disaster. This can apply to other natural disasters other than earthquake, e.g. flood, drought, fire.

Individual contributions can be lessor or greater depending on damage and circumstances.

Lessons can be learned to reduce the financial effects of disaster on individuals and the community, i.e. correct insurance cover, more accurate assessment of damage, Government's commitment to restore a community.



## PM pledges Govt help

The Prime Minister, Mr Lange, has pledged Government financial help to meet the cost of this week's emergency in the Eastern Bay of Plenty.

Speaking after a briefing session at the Whakatane civil defence headquarters on Tuesday, Mr Lange said the Government was committed to meeting the

immediate costs of the emergency.

He said he would be opening a fund to assist the citizens of the district who have lost personal possessions.

Mr Lange commended the local Civil Defence people saying he was impressed with their speed in organising emergency services.

**LEFT — THE Prime Minister, Mr Lange, receives a briefing on the earthquake emergency from the Whakatane Civil Defence Officer, Mr Paul Burrell. With them is the Minister of Civil Defence, Dr Peter**

*Baker. 9-3-87 Tapsell.*

Although appreciative of the assistance offered by Central Government towards the Edgecymbe Disaster Recovery, I contend that Government can take a stronger lead in restoring a District's productive base. When I note that the Department of Social Welfare wrongly paid out \$55m in

a twelve month period, or a debt write off to Railways of \$360m, Government assistance in the form of grants or loans interest free for the first three years to restore the productive integrity of a region would equate a substantial return on investment.

The impact of disaster could be lessened.

## CONCLUSION

(19)

Edgecumbe is fortunate, no lives were lost in the natural disaster of 2 March 1987.

Edgecumbe people have shown amazing resilience in the face of adversity and have put the disaster behind them.

Leadership to restore the land and its people has been apparent in many forms.

Although nearly three years on the District is still reaping the financial havoc of the earthquake, its people march on, stronger and as resolute as before.

STUART McHARDY

New Zealand Rural Leadership Programme 1989

ACKNOWLEDGEMENTS

(20)

My thanks to those who contributed information to this project:

Staff of Whakatane District Council  
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M.A.F.

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