



ECONOMICS OF SOUTHSHORE DEVELOPMENT

Presentation to Coastal Futures

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BACKGROUND

I looked at buying land on Rocking horse Rd with a view to subdivision and use for affordable housing. Costs averaged around \$110,000 per lot – so cheap.

Hoped to undertake a cooperative development, but could not generate sufficient interest because of perceived risk – even although the land was not in the HFHMZ.

Applied for, and eventually got, subdivision consent – albeit with condition that houses be removed after 0.41m sea level rise. Lot of argument. Wouldn't have won if in HFHMZ

THE RMA

1. Enable people to provide for their economic and social well-being (s 5)
2. Efficient use and development of Natural and Physical Resources .
Economic Definition of Efficiency: Greatest benefit for given cost OR
Least cost for a given benefit.
3. Management of Risks from Natural Hazards (s 6)
4. Trade-offs are implicit. Never pursue one objective regardless of cost

SHORT, MEDIUM AND LONG TERM

1. Discount Rates – preference for now over the future. Concept of NPV
2. Whose Discount Rate?
3. Decisions should consider benefits and costs in every year – not just “in the long run”, or in 100 years. Proceed if NPV is positive. Implicitly, the fact that people want to buy land means that they think the NPV is positive.
4. Precautionary? Neither “Precaution” nor “Precautionary” appears in the Act (Adobe search today)

WHO MAKES DECISIONS ?

1. Original idea of RMA was to allow things that were not excluded.
2. Outcome was that councils everywhere started to exclude heaps of things.
3. General principle of economics – Excuse for Market Intervention:
 1. Ignorance? LIMs?
 2. Externalities (Costs which are imposed on others) - Internalise

EXTERNALITIES ON SOUTHSHORE

- Protective works – should all Ratepayers pay?
- Costs of Relocation – Should all Ratepayers pay ?
especially for those who relocate in future?
- Insurance – Everybody's premiums will rise.

My Response: Internalise these costs.

- Local Rates for Protective works;
- Require people to remove their houses.
- Insurance Markets will differentiate premiums – eventually refuse ins.

PROBLEM ?

Political Realities!

Squeaky Wheels

COST : BENEFIT OF SOUTHSHORE LIVING AND FURTHER DEVELOPMENT

Fantastic Environment, Existing Infrastructure –

Economies of scale for infrastructure – DCs probably overstate actual costs

May be Improved Neighbourhood Amenity at critical mass?

Cheap Land – for those with high discount rate, or who are not risk-averse

Enables Self-Determination. (Political Economy)

Eventually land will be value-less; Costs of moving houses and clearing sections

COST-EFFECTIVENESS - 1

Discount rate (Social Rate of Time Preference): 3% – 5% per annum

Total Loss after 30 - 50 years equivalent to a loss today of 8 – 43 % of current Value

Property Value now \$400,000

Cost or house relocation \$50,000, Value of Land now \$150,000.

Total at risk \$200,000 = 50 %

Loss from abandoning site = 4% - 22% of its 2020 value.

Rational for a homeowner to want to purchase land and build on Rocking Horse Rd, and for it to be an efficient use of resources to allow this.

RMA IMPLICATIONS FOR SOUTHSHORE REPAIR AND ADAPTATION STRATEGY

Enable people to provide for their social and economic well-being in a way that represents an efficient use of natural resources, taking into account the identified natural hazard of flooding both now and in the future.

Decisions should take into account climate change - which is expected to lead to a rise in sea level, which presumably will eventually render Southshore uninhabitable. BUT what about the interim?

Uncertainty of rates of change suggests actions should be tied to outcomes – not timelines

EFFICIENCY - AND WHO SHOULD PAY ?

If the NPV cost of a repair is less than the NPV benefit of the repair, then the repair should proceed.

Who should pay is partly political (socially fair) and partly economic (avoid incentive to distort value of costs and benefits).

COST-EFFECTIVENESS - 2

1. Number of houses (425?)
2. Cost of repairs to levees (\$8.2m – Gary Teear 2017)
3. Period for which this provides protection (50 yrs?)
4. Required Annual Value of protection for breakeven.
5. $\$750/\text{house}/\text{yr} = \$0.32\text{m} / \text{year}$. NPV @ 3 % over 50 years = \$8.2m.

6. For 25 year lifetime, the values become
7. $\$1,110/\text{house} / \text{yr} = \$0.47\text{m} / \text{yr}$. NPV @ 3% over 25 years = \$8.2m
 1. Equivalent to \$19,000 per house if paid today.

COST-EFFECTIVENESS - 3

1. 425 ? properties
2. Value per property - \$400,000 (say)
3. Property at Risk - \$170 m
4. 3 % annual value of saving them = \$5.1 m
5. Value of protecting them for 20 yrs = \$102 m; NPV = \$76m

COST-EFFECTIVENESS - 4



Encourages New Development

Will change the point at which it is still worth undertaking protection

BUT if self-funded, this greater protection will still leave all residents, both existing and new, better off.

CONCLUSION

Markets tend to efficient outcomes in the absence of externalities and imperfect knowledge.

Solution is to remove externalities, and improve knowledge. Council rules manage risk: Minimum floor heights which take into account flooding after 1.0 metres of sea level rise.

Some want to prevent development on Southshore because of climate change and the risk to physical property which this entails.

They oppose development because it exposes people to both financial (loss of property) and physical risk during flood events.

They are concerned that costs to South Shore residents will become costs to the wider Christchurch, or indeed the whole of Canterbury or Aotearoa

CONCLUSION - CONTINUED

Refusing permission to subdivide and build will, in my view, lead to an inefficient use of resources and limit people's ability to provide for their well-being.

Disempowering for citizens to have their options curtailed. Has a high economic, albeit non-financial, cost.

Why should planners and politicians make such far-reaching decisions on behalf of residents about acceptable levels of risk and loss, and about appropriate trade-offs between current versus future well-being.