



Comments on Tararua District Council District Plan Review – Land Rezoning

A Report prepared for Tararua District
Council

Phil Journeaux
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1.0 BACKGROUND

The Tararua District Council (TDC) is undertaking a Planning Review as part of their Urban Growth Strategy and have requested comments on their proposed rezoning of land in and around Dannevirke, Woodville, Pahiatua, and Eketahuna.

The comments required cover:

- The level of disaggregation of the land blocks and the ability to reaggregate these
- The economic viability of the land blocks with reference to the National Policy Statement – Highly Productive Soils (NPS-HPL) Section 3 (10)
- The impact on productivity with regard to rezoning land from rural to lifestyle
- The economic utility value of housing
- Issues relating to land use change, for example from pastoral farming to horticulture

2.0 NATIONAL POLICY STATEMENT- HIGHLY PRODUCTIVE LAND

The National Policy Statement-Highly Productive Soils (2022) was an attempt to: *enhance protection for our most productive land, providing security for both our domestic food supply and primary exports, and protect highly productive land from “inappropriate subdivision”*.

There are several significant issues with this intent, as discussed briefly below.

2.1 Amount of Highly Productive Land

A review of the LUCAS database shows that the national area in HPL, as defined by the NPS as including LUC 1, 2, and 3 land¹. The area of each is:

- 165,000 ha LUC 1
- 1.1 million ha LUC 2
- 2.2 million ha LUC 3

Giving a total area of 3.5 million hectares. These areas are those defined as “Grassland” + “Arable”, and exclude HPL already under horticulture, urban use, or forestry.

The current government is proposing to remove LUC 3 land from the definition, leaving 1.3 million hectares of HPL.

These figures, even if LUC 3 land is removed, do not indicate there is a shortage.

Similarly, it is understood that of the 436,221 hectares making up Tararua District, 78,265 hectares (18%) are classified as HPL. Again, hardly a shortage.

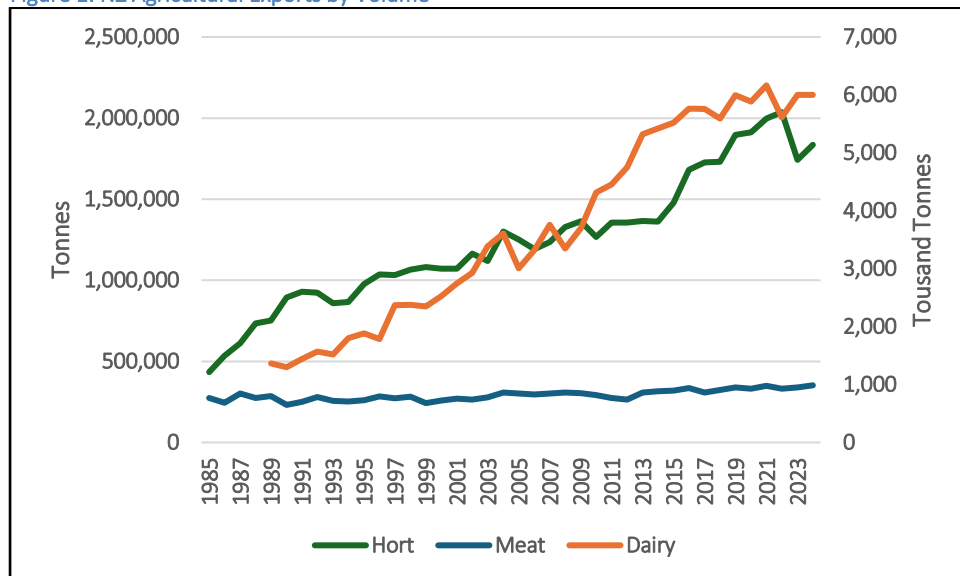
2.2 Food Security

New Zealand does not face a food security issue, producing 8 times more food than consumed domestically – circa 90% of the food we produce is exported. Over the last 40 years, agricultural production, as measured by the volume of our exports, have increased by a factor of 4.4 (dairy), 4.2 (horticulture), and remained static for meat production despite a 60% reduction in stock numbers. These increases are due to improvements in technology and systems – nothing to do with the quality of the land.

¹ LUC = Land Use Capability

While New Zealand imports quite a lot of food, mainly due to either (a) it can't be produced in New Zealand, and/or (b) it is far more economic to import it, and this situation is not going to alter, regardless of the status of our HPL soils.

Figure 1: NZ Agricultural Exports by Volume



Source: Stats NZ. Hort volumes RHS, Meat & Dairy LHS

The agricultural sector has also been feeding a rapidly increasing domestic population, which has grown from 3.5 million in 1991 to 5.3 million in 2024. As such, it is very difficult to claim that small/lifestyle blocks are having any material impact on agricultural production.

2.3 Productivity

The Section 32 analysis of the NPS-HPL states that *“The NPS-HPL provides strong policy direction that rural lifestyle development (either through rezoning land or through resource consent applications) should generally be avoided on HPL as this land-use change reduces the availability and potential of HPL to be used for productive purposes”*.

There is no research to back this up. A review of 17 research papers on the productivity of small/lifestyle blocks showed that the vast majority of these blocks were as productive, if not more so, than the larger block from whence they came. To quote a couple:

- (i) *Grazing was the predominant land use but there was evidence of an increasing amount of land devoted to horticulture. In general terms, smallholders were, on average, farming their properties as intensively as the rest of the county. There was an indication, at least for this sample, that productivity (measured by stocking rate) was greater on smallholdings than on larger pastoral units in the county. The claim that land is wastefully used by smallholders for residential purposes cannot be supported. (Arthur-Worsop et al., 1981).*
- (ii) *In general, smallholders were found to take an active part in the community and to make use of local services such as contractors, shopping facilities, public services etc. In terms of land use, it was found that the average level of production is higher than that achieved on similar types of land in larger holdings. On top of this,*

smallholders have brought a greater variety of enterprises and activities into the rural area.

The results therefore reflect a situation where the development of smallholdings has led to more people living in the rural area. People who contribute to local community life, boost local services, introduce social diversity, while on average increasing total production of the land. (Meister and Knighton, 1984)

Overall, therefore, in aggregate, there is no evidence that subdivision of rural land results in a reduction in production or the productivity potential of the land.

It is also important to note that the productivity of the land, whether commercial farm, orchard, or lifestyle block, is very predominantly driven by the skill and expertise of the owner. While the quality of the land is important, it is more a driver of what is produced rather than the quantity, or the economic viability thereof.

2.4 Housing

The other key issue with subdivision of high quality land is of course, housing. In many respects the NPS-HPL significantly restricts housing development on high quality land, especially as housing is “non-productive”. This is outlined in Section 3 (10) (3a) of the NPS - *Any evaluation under subclause (2) of reasonably practicable options: must not take into account the potential economic benefit of using the highly productive land for purposes other than land-based primary production*

This definition is of course very narrowly focused on agricultural production – usually it is defined as *producing or able to produce large amounts of goods, crops or other commodities*. But it can also be defined as *something that produces a positive result*.

A major issue around not building houses on high quality land is that the majority of towns and cities in New Zealand are surrounded by high quality land, which is why they were settled there in the first place.

Housing has an economic utility value well in excess of any agricultural production system. Which is a key driver of developments looking to subdivide land for housing purposes – the economic returns of the subdivision are much greater than leaving the land in its current use.

As noted by Treasury in their comment on the NPS-HPL, the differential in economic value between housing and agricultural production is in the order of \$1.5 - \$2.3 million per hectare. The opportunity cost of the NPS-HPL, therefore, to housing and the nation, is (a) very real, and (b) substantive.

2.5 Economic Viability

Section 3.10 of the NPS-HPL states:

- (1) *Territorial authorities may only allow highly productive land to be subdivided, used, or developed for activities not otherwise enabled under clauses 3.7, 3.8, or 3.9 if satisfied that:*

- (a) *There are permanent or long-term constraints on the land that mean the use of the highly productive land for land-based primary production is not able to be **economically viable** for at least 30 years.*

The issue with this is that the term “economic viability” was not defined – at the time of the release of the NPS-HPL the government noted that they couldn’t define it.

A definition of “economic viability” has now been promulgated, by me, in a 2024 paper to the New Zealand Agricultural and Resource Economics Society, which is appended to this report.

Many consultants use Economic Farm Surplus (EFS) as a means of differentiating the profitability of farms/blocks. But EFS is a measure of profitability – it is not a measure of economic viability.

As outlined in the paper, the formula for determining economic viability is:

- EFS less living allowance less the opportunity cost of operating capital

To give an example:

The 5-year average (2019/20 – 2023/24) EFS for an East Coast (Class 5) sheep & beef finishing farm (which incorporates Tararua District) is \$603.85/ha. Allowing for an opportunity cost of 5% against operating capital reduces this to \$526.39/ha.

Assuming a minimum living allowance (as discussed in the appended paper) of \$43,052, this means such a farm needs to be greater than 82 hectares to be economically viable. In other words, any sheep & beef farm in the district under 82 ha could be subdivided as it is already not economically viable. In other words, the large block is productive but not economically viable. Subdividing this into smaller blocks does not change this equation.

The key issue that arises is that the vast majority of small blocks are not economically viable and therefore further subdivision, under Section 3 (10) of the NPS-HPL, is entirely permissible. This would directly apply to the areas being considered by TDC for rezoning, given that virtually all the blocks of land within the proposed rezoning areas are too small to be considered economically viable (see Section 2.6 below).

In noting this, it is important to differentiate between economic viability and economic sustainability. While most small/lifestyle blocks are not economically viable, they are economically sustainable due to the off-farm income brought into the property by the owners.

2.6 Disaggregation/Reaggregation

A key question which often arises is whether areas of small/lifestyle blocks can be reaggregated back up to a size which would be economically viable.

The short answer is no.

The key issue is the capital cost of any reaggregation. Almost inevitably the blocks in question are over capitalised in an agricultural productivity sense in that they have a house and garage, as well as (often) a utility shed and other improvements.

A review of lifestyle blocks currently for sale around each of the 4 towns showed:

Table 1: Lifestyle Block Values

	Average Sale price (\$/ha)
Dannevirke	\$219,000
Woodville	\$464,000
Pahiatua	\$325,000
Eketahuna	\$119,000

Note: (a) This is not based on a statistically valid survey, (b) Values varied widely depending on the property
Source: various Real Estate agencies.

The key point of the values shown in Table 1 is that the capital cost of amalgamating small blocks up to an economically viable unit becomes prohibitive. If the hypothetical example used in Section 2.5 is used, an 82 hectare property would cost just under \$10 million if the Eketahuna values is used, up to \$38 million if the Woodville value is used.

As illustrated in Table 2 (next section), or as a perusal of the GIS mapping for each town shows, the areas proposed for further subdivision around each of the towns are currently heavily disaggregated, to the point where reaggregation is high improbable. Inasmuch as these blocks are well past the point of reaggregation, TDC is not facing the loss of further productive land productive land.

3.0 TDC PROPOSED RE-ZONING

The proposal by TDC is to rezone land in and around the 4 townships, covering 2 aspects:

- (i) Re-zoning (essentially) rural lifestyle areas into residential, and
- (ii) Re-zoning rural land into rural lifestyle areas (not withstanding that much of the “rural” land is already in small/lifestyle blocks).

Analysis of these areas, relative to each of the townships show:

Table 2: Breakdown of proposed re-zoning areas

Rural to Residential (Green)					
	No. Blocks	Total Area (ha)	Av size (ha)	Median (ha)	Range (ha)
Dannevirke	86	63.1	0.7	0.4	0.1-5.0
Woodville	83	47.3	0.7	0.3	0.1-6.5
Pahiatua	39	43.4	1.1	0.9	0.03-6.8
Eketahuna	162	73.3	0.5	0.4	0.05-8.8
Rural to Lifestyle (Blue)					
	No. Blocks	Total Area (ha)	Av size (ha)	Median (ha)	Range (ha)
Dannevirke	51	98.1	1.9	1.2	0.2-9.6
Woodville	69	168.8	3.7	0.9	0.04-30.5
Pahiatua	30	65.5	2.2	0.5	0.01-22.8
Eketahuna	12	10.4	0.9	1.0	0.3-1.3

Source: Taranaki District Council

3.1 Land Use Capability

A review of the land use capability (LUC) maps in the TDC Urban Growth Strategy report (page 57) shows – notwithstanding they are relatively broad indications:

- Dannevirke. The proposed rezonings are largely west/north-west of the town, with the vast bulk of this classified as LUC 3 – presumably soon to be outside of the NPS-HPL.
- Woodville. The proposed rezonings are to the east and north of the town, where the land is mostly LUC 2 and 3.
- Pahiatua. Most of the “rural to residential” rezoning is northeast of the town, on LUC 2 land, whereas the “rural to lifestyle” rezoning is east of the town, on LUC 4 land, which is outside of the NPS-HPL
- Eketahuna. The rezonings are in various parts of the town - some north & west, with the majority southwest. Across these there is a real mix of LUC’s – 2/3/4.

3.2 Comments by Township

3.2.1 *Dannevirke*

As shown in Table 2, the average and median sizes of the blocks within both the rural to residential (Green) & rural to lifestyle (Blue) zones are quite small, with the largest blocks being 5.0 and 9.6 hectares respectively. Meaning that the vast majority, if not all, would not be economically viable, and are disaggregated to the point where the possibility of reaggregation would be exceedingly remote.

3.2.2 *Woodville*

Again Table 2 shows that the average and median sizes of the blocks are quite small, meaning that again they are not economically viable, or likely to be able to be reaggregated. In noting this, within the “blue” zone there are 6 blocks which are greater than 15 hectares. Assuming these blocks are suitable for permanent horticulture, they could then have the potential to be economically viable.

3.2.3 *Pahiatua*

While the average and median size of blocks within the green zone are smaller than those for Dannevirke and Pahiatua, the average and median size of blocks within the blue zone as somewhat smaller. But again, all would be considered economically unviable, & not able to be reaggregated.

There is one block within the “blue” zone, of 22.8 hectares. Again, assuming this block is suitable for permanent horticulture, it could have the potential to be economically viable. But given it appears to be in an area of LUC 4 land, the question is moot.

3.2.4 *Eketahuna*

The blocks within both zones in and around Eketahuna are relatively minute, particularly in the green zone. And again, not economically unviable, & not able to be reaggregated.

Inasmuch as the situation regarding the proposed rezoning areas around the 4 towns is very similar, given the constraints outlined in this report, the proposed rezoning is not inappropriate.

In a similar vein, the impact on the agri-economic output from the proposed rezoning areas around the 4 towns will be minor, especially given the areas involved are too far constrained to be reverted back to primary production. In many respects, assuming the Treasury valuation on the value of housing, the District economic viability would be enhanced following the rezoning.

4.0 ISSUES AROUND LAND USE CHANGE

If the question is posed – is it possible that some of the larger blocks could convert to horticulture, thereby enhancing their economic viability, then the answer is yes, largely on the basis that it is not impossible. But – the probability of this occurring is quite low, for a variety of reasons.

A full discussion on land use change issues can be found in: *Analysis of Drivers and Barriers to Land Use Change* (Journeaux et al, 2017)². A summary of key factors, assuming physical factors such as soils and climate are compatible for horticultural production, are:

- (i) Access to water for irrigation. This is crucial in most locations in New Zealand, with access controlled by Regional Councils, and in many regions access can be (a) problematic, and (b) usually quite expensive.
- (ii) Access to capital to develop the enterprise
- (iii) Access to markets - is there a market for whatever land use is envisioned, what is the proximity to the market. Is the market domestic or international and how will these be serviced.
- (iv) Value/supply chain. Is there a value chain/infrastructure available to support the proposed land use – be it servicing firms, processing firms, marketing firms. If an established value chain does not exist, building this is a significant undertaking.
- (v) Access to labour. This is both with respect to skilled labour to manage the operation, and (relatively) unskilled labour for harvesting.
- (vi) Environmental constraints around intensive operations, e.g. vegetable production.
- (vii) Reverse sensitivity, whereby one or two larger blocks are converted to horticulture within a relatively dense lifestyle area, or near to a residential area, creating sensitivities around such actions as agrichemical applications, or the use of frost fans.

None of the above are insurmountable, but they do result in a brake, often significant, on land use change activities within New Zealand and would do so within Tararua District.

5.0 CONCLUSION

Overall, therefore, the key issues around rural subdivisions, and the NPS-HPL, are:

- (i) There is no shortage of HPL land within New Zealand, even if the Government removes LUC 3 land from the definition.

² <https://www.mpi.govt.nz/dmsdocument/23056-ANALYSIS-OF-DRIVERS-AND-BARRIERS-TO-LAND-USE-CHANGE>

- (ii) New Zealand does not face a food shortage, and the likelihood of doing so well into the future is exceedingly remote.
- (iii) Small/lifestyle blocks are productive, such that subdivision does not result in a diminution of production or a reduction in agricultural exports. The level of production from our primary sector is driven by a wide range of factors, of which subdivision of rural land is a very minor one.
- (iv) Housing has an economic (and social) utility which is far in excess of the value of the land under agricultural production.
- (v) The NPS-HPL places a lot of emphasis on the economic viability of the block of land, but did not define what economic viability actually meant.
A definition of economic viability has been promulgated, which effectively shows that the vast majority of small/lifestyle blocks are not economically viable, and therefore subdividable under the NPS-HPL. This should not be confused with the term economically sustainable, which most small/lifestyle blocks are, due to off-farm income brought into the property.
- (vi) The “economically viable” issue often also raised the question of reaggregation of small blocks into larger units which may be economically viable. The probability of such reaggregation occurring is remote, largely due to the capital cost of doing this.
- (vii) With respect to the proposed rezoning around the 4 towns in Tararua District, analysis of the data indicates that the proposed areas are already significantly disaggregated into small blocks, meaning that the vast majority are not economically viable, and the probability of reaggregation is vanishingly small. In this case the proposed rezoning around the 4 towns will have minimal impact on agricultural productivity.

Paper to the 2024 NZARES Conference

Definition of Farm Economic Viability

Phil Journeaux
Journeaux Economics
phil.journeaux@agecon.co.nz

Abstract

Economic viability is a key component of the National Policy Statement – Highly Productive Soils but is not defined within the legislation. Many consultants involved in rural subdivision issues use Economic Farm Surplus as a proxy, but EFS is a measure of farm profitability, which is not the same as economic viability. There have been a range of overseas research on defining farm economic viability. These are discussed in the paper, and a definition of economic viability for New Zealand is offered, which has direct implications for Councils endeavouring to interpret the NPS-HPL.

Key Words: NPS-HPL, economic viability

The Issue

Under the recently released (2022) National Policy Statement – Highly Productive Land (NPS-HPL) it states in Section 3.10:

- (1) *Territorial authorities may only allow highly productive land to be subdivided, used, or developed for activities not otherwise enabled under clauses 3.7, 3.8, or 3.9 if satisfied that:*
 - (a) *There are permanent or long-term constraints on the land that mean the use of the highly productive land for land-based primary production is not able to be economically viable for at least 30 years.*

The issue that arises is that the term “economically viable” is not defined. In a number of cases before both Councils and the Environment Court, analyses based on Economic Farm Surplus (EFS) have been presented to show the profitability, or otherwise, of various alternative land uses.

EFS has been around for a long time and is a very useful standardised methodology of determining the profitability of a farming operation. But profitability is not the same as economic viability.

In a recent case it was stated that a positive EFS represents economic viability. I would disagree with this, as the quantum of the EFS is also very important. To take a hypothetical example; let's say landuse (a) has an EFS of \$500, and landuse (b) has an EFS of \$10,000. Both of them are positive, but the former cannot cover any other costs, while the latter can, to a limited degree. And both do not represent economic viability as will be explained in this paper.

Calculation of EFS

There are a number of methodologies for calculating EFS, but the one I have used is:
$$\text{EFS} = \text{Gross revenue} - \text{stock purchases} - \text{farm working expenses} - \text{depreciation} - \text{wages of management}.$$

It is important to note that “wages of management” is an imputed cost recognising the managerial input of the owner, which is apart from any actual wages paid to the owner (which in most budgets or accounts is shown as “drawings”).

For a lifestyle operation therefore, an allowance should be made for the owner doing actual “stuff”, e.g. livestock work, repairs and maintenance, feeding supplement, etc, as opposed to the wages of management (around designing the system and making decisions), which is then additional to the wages. If an EFS is calculated which excludes an imputed wage of management, then it is not an EFS – in which case the next best alternative is to use Earnings before Interest, Tax, Depreciation, and Amortisation (EBITDA) instead.

The other key thing with EFS is that it assumes an unencumbered freehold property, so debt and debt servicing is ignored.

Economic Viability

The Oxford Dictionary definition of viability as: *capable of working successfully; feasible. Where feasibility is the possibility and ability for something to be done. Viability is that something's ability to survive.*

The term “economically viable” is used to describe a project that provides an overall positive net economic contribution to society after all costs and benefits have been accounted for³.

The World Bank notes that *A project is economically viable if the economic benefits of the project exceed its economic costs, when analysed for society as a whole, and the economic costs of the project are not the same as its financial costs—externalities and environmental impacts should be considered*⁴.

To be economically viable, I would suggest that the income from the farm needs to be sufficient to cover:

- (i) Operating costs, e.g. wages, animal health, fertiliser, repairs and maintenance, etc
- (ii) Fixed costs such as rates, insurance, administration.
- (iii) Depreciation cost
- (iv) Living costs for the family
- (v) Debt servicing and debt repayment
- (vi) A surplus then available for the future development of the farm business

3

https://www.google.com/search?q=economically+viable&rlz=1C1ONGR_enNZ1049NZ1049&oq=economically+viable&gs_lcrp=EgZjaHJvbWUyCQgAEEUYORiABDIHCAEQABiABDIHCAIQABiABDIHCAMQABiABDIHCAQQABiABDIHCAUQABiABDIHCAYQABiABDIHCAcQABiABDIHCAgQABiABDIHCAkQABiABNIBCTMwNDJqMGoxNagCALACAA&sourceid=chrome&ie=UTF-8

4 <https://ppp.worldbank.org/public-private-partnership/assessing-project-feasibility-and-economic-viability#:~:text=A%20project%20is%20economically%20viable,environmental%20impacts%20should%20be%20considered.>

All of which would suggest that economic viability is much more complex than a simple EFS. Michigan State University has noted⁵: *Economic viability is a necessary condition for sustainable agricultural and food systems. Profitability is a good place to begin. Evaluating the likely profitability of potentially more sustainable practices can start with budgeting. But economic viability is about more than profitability.*

Overseas Research

There have been several papers written on this topic, particularly in the United States and Europe, with a range of definitions as to what economic viability is.

Savickiene et al (2015) noted that *the economic viability of a farm is its capability to survive (ie income > costs), live, and develop by using the available resources, and that the main goal of any farmers' farm is not only production of the amount of agricultural and food products to satisfy the family's needs, but also generation of sufficient income to ensure a normal standard of living for the family and further development of the anticipated activity.*

Other definitions of farm economic viability include:

Table 3: Definitions of Farm Economic Viability

Location	Reference	Definition of viability
USA	Smale <i>et al.</i> (1986)	A level of annual cash income sufficient to cover farm operating costs, meet the household's minimum consumption needs, replace capital items at a rate that ensures constant serviceability of the capital stock, and finance loan retirement as scheduled.
USA	Salant et al (1986)	Considered viability as achieved where the "farm household that receives enough income from all sources to cover minimum family living expenses, cash farm operating costs and capital replacement costs at the same time as it improves its net worth by making scheduled principal payments on its debt.
Ireland	Frawley and Commins (1996)	A viable farm (is described) as one having (a) the capacity to remunerate family labour at the average agricultural wage, and (b) the capability to give an additional 5 per cent return on non-land assets.
USA	Adelaja <i>et al.</i> (2004)	A farm is defined as economically viable when it generates enough revenue from its operations to cover all variable and fixed costs of production, all appropriate family living expenses, and capital replacement costs.
Ireland	Hennessey <i>et al.</i> (2008)	An economically viable farm is defined as one having (a) the capacity to remunerate unpaid family labour at the average agricultural wage; and (b) the capacity to provide an additional 5 per cent return on non-land assets – these include the capital value of machinery, livestock and production quotas.

Source: in O'Donoghue et al 2016

⁵

https://www.canr.msu.edu/afre/centers_services/economic_analysis_of_sustainable_ag_food_systems/index#:~:text=Economic%20viability%20is%20a%20necessary,is%20about%20more%20than%20profitability.

Essentially, most of these are (a) allowing for a living allowance for the family, (b) a return on capital tied up in non-land assets (i.e. livestock and plant and equipment), and (c) a number are also including debt repayment.

The Europeans have developed a Farm Economic Viability (FEV) indicator (in Hloušková et al 2022), with the formula of:

$$FEV = \frac{FNVA - RP - (IP + OCC)}{W + OCL}$$

Where:

FEV = Farm Economic Viability

FNVA = Farm net value added (Gross Revenue less depreciation)

RP = Rent Paid

IP = interest paid

OCC = Opportunity cost of capital (including land)

W = Wages

OCL = opportunity cost of labour

Under this approach, if FEV is greater than 1, then the farm is economically viable.

Again, the interesting thing from this approach is the inclusion of debt servicing and an opportunity cost of capital which includes the land value.

Savickiene et al (2015) includes a list of methodologies used by various researchers to determine economic viability as shown in Table 2.

Table 4: Methodologies on assessment of farm economic viability (in descending usage)

Return on equity: farm net value added / equity
Return on Assets: farm net value added / assets
Operating expense ratio: expense / total output at basic prices
Current ratio: current farm assets / current farm liabilities
Debt to assets: total farm liability / total farm assets
Gross margin: farm gross value added / total output at basic prices
Asset turnover ratio: total output at basic prices / total assets
Labour productivity: Farm net value added / annual work unit (AWU)
Land productivity: Farm net value added / hectare of UAA
Debt to total output ratio: debt / total output at basic prices
Depreciation expense ratio: expense / total output at basic prices

Spicka et al, 2019 note with respect to these indices that, *one of the most significant problems of financial ratios is a purely accounting perspective which does not consider the opportunity cost of own land, labour and capital. Authors suggest that viability assessment through financial indicators is rather financial viability than economic viability because it does not consider productivity and opportunity costs.*

In an economic sense it could be argued that the best means of determining economic viability would be a cost/benefit analysis – if the NPV is positive and the IRR is greater than the cost of capital, then it is viable.

Perhaps the key finding from all this work is that there is no set definition of farm economic viability, but it does provide pointers as to what could possibly be included in a New Zealand methodology.

The Question of Debt

While several of the definitions noted above include an allowance for debt servicing/debt repayment, as a generalisation, the level of debt (and attendant debt servicing) is usually ignored in comparisons of farm profitability in New Zealand. This is largely on the basis that debt is a personal factor, which varies depending on the individual circumstances of the farmer.

With reference to small blocks/lifestyle units, the inclusion of debt in any profitability or economic viability assessment becomes even more problematic, as the level of debt usually bears no relationship to the productive capacity of the block. This is particularly so as lifestyle blocks are purchased for a variety of reasons well outside of agricultural production, and the market price reflects this.

While there is an argument to include a debt allowance in the analysis of economic viability of a commercial farm, the same issue highlighted just above also applies. Namely that the market value of the land and buildings also usually does not relate well to its productive capacity.

I would therefore suggest that in an analysis of economic viability, especially for small/lifestyle blocks, an allowance for a level of debt/debt servicing should be ignored.

Providing a Living for the Family

Most of the definitions of farm economic viability include covering the costs of living for the family. I would contend that this is a prerequisite component of any analysis of farm economic viability.

The question which then arises is how to determine the quantum of this “living allowance”. There are a number of potential indices:

- The mean family income in New Zealand in 2023 was \$127,423⁶
- The median family income in New Zealand for 2023 was \$115,200⁷
- The average annual salary as of June 2023 was \$70,069⁸
- The median annual wage as of June 2023 was \$66,196⁹

⁶ https://ecoprofile.infometrics.co.nz/auckland/StandardOfLiving/Household_Income

⁷ <https://webrear.mbie.govt.nz/theme/household-income-median/map/timeseries/2023/new-zealand?accessedvia=new-zealand&right-transform=absolute>

⁸ <https://www.newshub.co.nz/home/money/2023/07/new-zealand-s-average-salary-cracks-70-000-reaching-record-high-trade-me.html>

⁹ <https://www.stats.govt.nz/news/income-growth-for-wage-and-salary-earners-remains-strong/#:~:text=In%20the%20year%20to%20the%20June%202023%20quarter%2C%20median%20hourly,increase%20in%20the%20previous%20year.>

Possibly a better approach would be to consider a minimum allowance figure to use as a base, given that the cost of living for a family is again a somewhat personal expense.

I would suggest the following formula: minimum wage x average hours worked per year. As of February 2024, the minimum wage was \$23.15/hour, and average hours worked per week was 40 (although this is starting to reduce)¹⁰, with 45.8 weeks worked per year (allowing for 4 weeks holiday and 11 statutory days)¹¹. The calculation therefore is $23.15 \times 40 \times 45.8 = \$42,411$ per year.

If the median wage of \$31.61/hour is used, the resultant total is \$57,910/year.

Whether an allowance of \$42,400 is sufficient to provide a living for a family is moot, particularly relative to the annual figures noted above, but is used to define a minimum allowance.

Return on Capital

Again, many of the definitions of farm economic viability include an allowance for the opportunity cost of capital. This is particularly for “operating capital” (i.e. capital tied up in livestock and plant and equipment) with some also including an allowance for capital tied up in the land.

I would contend that the value of land be excluded from any calculation of economic viability. The key reason behind this is that the value of farmland in New Zealand bears only a very modest relationship with the productive capacity of the land (Journeaux, 2017), and that the value of small/lifestyle blocks bears no relationship with productive capacity. Including an opportunity cost against the value of the land would therefore distort any analysis.

An opportunity cost against operating capital though, is a valid cost that needs to be considered. The question that then arises is what discount rate to use.

The average rate of return from sheep & beef farming over the last 14 years is 1.2%¹², and for dairying 4.1%¹³. Over the last 5 years the figures are 1.1% and 2.8% respectively. I would suggest that these types of average rates of return not be used, for 2 reasons:

- (i) They are quite low, a direct reflection of poor profitability combined with over-valued land prices relative to productive capacity, and
- (ii) They obviously vary between the sectors, whereas a more standardised figure is required.

Other potential standardised discount rates are:

- The 5 or 10-year bond rate
- Reserve Bank OCR

¹⁰ <https://www.stats.govt.nz/news/8-hour-workday-remains-commonplace-in-new-zealand/>

¹¹ Equates to 1,832 hours per year.

¹² Beef+Lamb NZ Economic Service Surveys

¹³ Dairy NZ Economic Surveys

- 5-year fixed mortgage rate
- Treasury discount rate for cost/benefit analysis

Of these, the one I would tend to favour is the Treasury discount rate for cost/benefit analysis¹⁴, which in itself is a proxy for average interest rates within New Zealand and is presented as a “risk-free” rate. It also does not vary as much as the other indices noted above. The calculation therefore would be: operating capital x Treasury discount rate (currently 5%).

It could be expected that for small/lifestyle blocks, the level of operating capital would be relatively small.

Definition of Economic Viability

Drawing all this together as to an analysis of farm economic viability in New Zealand, I would suggest this includes:

- (i) Gross farm revenue, less
- (ii) Operating costs
- (iii) Fixed costs
- (iv) Depreciation
- (v) A living allowance for the family
- (vi) An opportunity cost of operating capital

The easiest way to calculate (i) – (iv) is to calculate an EFS, so essentially the analysis becomes:

EFS less living allowance less opportunity cost of operating capital.

At a personal level, an analysis of economic viability could well include debt and return on land capital, but not for a generic analysis.

Economic Sustainability

A difference is drawn in the literature between economic viability and economic sustainability. Hennessy et al (2008) note that *Farms that are not economically viable may be economically sustainable due to the off-farm income of the household members*. I would contend that this accurately reflects the vast majority of small/lifestyle blocks in New Zealand – they are not economically viable, but they are economically sustainable because of the off-farm income being brought in by the owners.

NPS-HPL

Coming back to the NPS-HPL, and its requirement that subdivision is only possible if *there are permanent or long-term constraints on the land that mean the use of the highly productive land for land-based primary production is not able to be economically viable for at least 30 years*.

The situation is:

¹⁴ <https://www.treasury.govt.nz/information-and-services/state-sector-leadership/guidance/reporting-financial/discount-rates>

- (i) EFS is a good, standardised methodology to determine farm profitability. But an EFS in itself is not a measure of farm economic viability – it is just part of the analysis.
- (ii) Most small/lifestyle blocks are productive¹⁵, and most would cover their operating costs. But relatively few would also cover their fixed costs, and even fewer would show a positive EFS. In stating this, size of block plays an important role (i.e. economies of scale) – the larger the block the greater the probability of a positive EFS.
- (iii) But virtually none could be considered economically viable, and this situation is very unlikely to change over the next 30 years. [By definition, a lifestyle block is not economically viable – otherwise it would be a commercial farm or orchard]. A few thousand dollars either way on an EFS does not alter this basic fact.
- (iv) While most small blocks are not economically viable, most are economically sustainable, under the definitions given above.

To give a hypothetical example:

The 5-year average EFS for the Beef+Lamb NZ Economic Service North Island Intensive Finishing Farm (Class 5) is \$469/ha. Allowing for a 5% opportunity cost against operating capital reduces this to \$346/ha. The minimum size of a unit to then cover the required minimum living allowance, would be 123ha. [If the median family income is used as the definition of a living allowance, then the size of the block rises to 333 ha.] In other words, any sheep & beef farm under 123 ha could be subdivided as it is already not economically viable. In other words, the large block is productive but not economically viable. Subdividing this into smaller blocks does not change this equation.

Overall, therefore, Clause 3.10 (1)(a) of the NPS-HPL is untenable.

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¹⁵ It is important to note that productivity and economic viability are also very different. Many Councils regard small blocks as uneconomic (which they are) and hence unproductive (which they are not).

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Contact

Phil Journeaux

Agricultural Economist

027 511 8161

phil.journeaux@agecon.co.nz