

DRAFT

THE ECONOMIC AND SOCIAL IMPACT**ON NGATI IRAPUAIA****OF THE RAUPATU.***Report prepared for Te Rununga o Ngati Irapuaia.*

RECEIVED Waitangi Tribunal
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Ministry of Justice WELLINGTON

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Brian Easton¹**1. Introduction**

1.1 Ngati Irapuaia, also known as Ngati Ira, is a hapu of Whakatohea,² in the Eastern Bay of Plenty. Along with many other hapu and iwi, Ngati Ira suffered grievous and wrongful confiscation of their land and other assets in the 1860s (the "Raupatu"). While it is now realized that the actions of the Crown were unjust, there has still been negligible compensation for those losses.

1.2 This paper attempts to assess and quantify those losses in financial terms. It must be emphasized that this is only one component of the totality of the losses from the unjust raupatu. However the report assists the hapu in its case for compensation by the Crown for the losses. The calculation focuses upon the financial and related economic losses, and ignores what the Crown believes it can, or should, afford. It is only by obtaining a estimate of the true magnitude of the costs of the raupatu that the hapu can firmly establish its case for just compensation.

1.3 As will be explained, the task of quantification is not an easy one. The exercise of quantifying involves large margins of error, and numerous assumptions. It is therefore especially important that when drawing conclusions from this paper, its various caveats be kept in mind.

1.4 Ngati Ira have made a number of claims about the confiscation of their lands, and the consequences. While I have read their material, I claim no expertise in judging its validity. That is a matter I leave to others. However in order to make progress, I have to make some assumptions. Accordingly I shall assume that the claims of the Ngati Ira are fully justified. If the claims are not fully justified, then the magnitudes may have to reduce my quantitative

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² The iwi name is strictly spelt with a macron above the o, but there is no facility for this in my word processor.

estimates in some proportion. Similarly I have no expertise to assess cross claims between hapu and iwi. The issues of reducing the quantified magnitude apply to them insofar as they are justified.

1.5 Ngati Ira have identified the following specific economic losses in regard to the raupatu, which I quantify separately:

- the confiscation of approximately 66,873 hectares of land within the Ngati Ira rohe;
- the death of men of the Ngati Ira hapu, killed in the hostilities of 1865 and 1866;
- the destruction of a flour mill, on the Waioeka River, as a result of the hostilities of 1865;
- the loss of the schooner, "Hira", confiscated during the hostilities, and subsequently wrecked.

1.6 However, before quantifying these individual losses, I need to describe the general issues of the losses that were consequent on the Raupatu. Although Ngati Ira is a hapu of the Whakatohea, I have elaborated the consequences to include those losses to the iwi. This avoids the drawing the difficult line between the property rights, responsibilities, and powers of a iwi and those of its hapu.

1.7 Throughout this paper, unless explicitly stated otherwise, "iwi" refers to iwi whanui, that is the confederation of hapu. The iwi of Ngati Irapuaia is Whakatohea.

2 The Consequences of the Raupatu

2.1 Raupatu involved a loss of Te Tino Rangatiratanga to the iwi and hapu involved. Most affect economic aspects of rangatiratanga in the meaning of the Tiriti. Here is a brief summary of some of the ways in which Ngati Ira and the Whakatohea suffered from the Raupatu. (Some phenomenon repeat, because they apply to more than one of the categories.)

2.1.1 The Loss of Capital and Other Productive Resources

- (1) Loss of their lands, mountains, forests, rivers, swamps and lakes.
- (2) Loss of sources of food and building materials.
- (3) Loss of water rights, riparian rights, and mineral rights.
- (4) A reduction in the population of the hapu and iwi, both directly from death during hostilities, and from subsequent impoverished economic and social development.
- (5) Loss of a flour mill, a schooner, and other capital assets.
- (6) Pollution of the air and waters of the rohe and consequent loss or deterioration of those resources.

2.1.2 Loss of the Ability to Regulate the Use of the Resources, the Welfare of the Community, and the Region

- (1) Loss of the mana of iwi and hapu.
- (2) Loss of leaders.
- (3) Damage and destruction of the social structure and organisation of whanau, hapu and lwi.
- (4) Loss of the mana of iwi and hapu leaders through their loss of control of their lands and resources, loss of authority and denial of Te Tino Rangatiratanga and as a consequence the breakdown of the iwi and hapu leadership system.
- (5) Loss of political influence.
- (6) Lack of appropriate participation in major projects in the rohe.

2.1.3 Loss of the Ability to Organize the Use of the Resources Efficiently

- (1) Loss of the mana of hapu and lwi.
- (2) Loss of leaders.
- (3) Damage and destruction of the social structure and organisation of whanau, hapu and lwi.
- (4) Destruction of the traditional system of ownership (customary title) and possession of land and resources.
- (5) The forced dislocation of hapu and the scattering of the people.
- (6) Loss of the mana of iwi and hapu leaders through their loss of control of their lands and resources, loss of authority and denial of Te Tino Rangatiratanga and as a consequence the breakdown of the iwi and hapu leadership system.

2.1.4 The Loss in the Quality of Life by other than Material Changes

- (1) Loss of the mana of hapu and lwi.
- (2) Loss of economic independence and prosperity.
- (3) The forced dislocation of hapu and the scattering of the people.
- (4) Loss of the mana of iwi and hapu leaders through their loss of control of their lands and resources, loss of authority and denial of Te Tino Rangatiratanga and as a consequence the breakdown of the iwi and hapu leadership system.
- (5) A reduction in the population of the hapu and iwi.
- (6) Loss of significant sacred and cultural sites and features.
- (7) As a result the imposing of stress, anxiety and trouble upon the people of the hapu and iwi.

2.2 The above subcategories reflect an economist's way of thinking about these issues. The Maori might present the conceptual framework a little differently, but the underlying situation is the same. Here I use the subcategories, with the understanding that they are referring to specific grievance of the Maori. The next paragraphs examine each subcategory in turn, especially from the position of the ability of an economist to quantify any loss.

3 The Loss of Capital and Other Productive Resources

3.1 Perhaps the most vivid statement by a New Zealand economist on this topic has been made by Paul Dalziel in a survey of economists' accounts of the Maori economic experiences.

"The most obvious weakness in the analysis is the common use by economists of psychological factors as an explanation of the Maori economic decline after 1870 and the recovery after 1920. Surely there are more powerful tools of analysis than that? In particular, between the signing of the *Treaty of Waitangi* in 1840 and the appointment of Gordon Coates as Native Minister in 1921, the amount of land in Maori title diminished from 66.4 million acres to under 4.8 million acres, a reduction of more than 90 percent. Imagine for a moment that the asset base of Fletcher Challenge or Electricorp were reduced by nine-tenths, with no compensation for large amounts of the asset-stripping. Analysts would not have to resort to exploring the psychological mood of the managers or the shareholders to explain why the company's economic performances would be decimated. Similarly, economists should be able to explain the impact on Maori tribes of uncompensated land confiscations, dishonourable land dealings and unfulfilled land-sale promises, much better than they have managed so far."³

3.2 And yet even this analogy does not fully capture the impact of the confiscations. Shareholders have a portfolio of shares, so the loss of one company is not the same as the loss of their entire wealth, housing included. Nor would the collapse of a company be as disastrous to all its employees, as would that of the collectivity of an iwi. (Moreover the employees are not typically the main shareholders of the company.) Nevertheless Dalziel is right to draw the parallel, as it provides some comprehension to the modern mind of the consequences to the Maori of the loss of their resource base.

3.3 It is not easy to quantify the consequential losses from the resource base. Many of the items do not even today have a ready market value. For instance, because the problem of defining and valuing the property rights of water (and parallel environmental resources) have yet to be resolved, any losses of those rights should be acknowledged, but it is inappropriate to put a quantitative on value them at this juncture. The quantification of the loss of population is so conjectural that it is difficult to imagine how they might be valued under any conceivable theory. This issue is, however, further considered in Section 8.

3.4 However we can, and will measure the loss from the alienation of the land. This is presented below as a part of the direct estimate, and the loss of two commercial assets, the flour mill and the schooner.

3.5 It should be noted that in commercial terms a capital value (say of land) is a

³ Dalziel, P. (1991) "Economists' Analysis of Maori Economic Experience: 1959-1989", *Society and Culture: Economic Perspectives*, Proceedings of the Sesquicentennial Conference of the New Zealand Association of Economists, Vol I, June 1991, New Zealand Association of Economists, Wellington, p.212-3.

discounted sum of a flow of income. The conversion of this income stream into a lump sum is called "capitalization", and requires an explicit discount rate. Economists switch between capital and income through this discounting/capitalization procedure easily, sometimes to the confusion of the public.

4 Loss of the Ability to Regulate the Use of the Resources, the Welfare of the Community, and the Region

4.1 However rangatiratanga is not merely a matter of ownership of capital and other resources. It also includes the regulation of those resources. In a modern economy regulation is typically the responsibility of government, today usually through the law (including market relations underpinned by law). In classical Maori society regulation was carried through Maori tikanga (customary ways) based upon the mana of the iwi. Here are a few examples pertinent to the issue under consideration, which describe what happens when mana is diminished, and hence regulation through tikanga becomes no longer practised.

4.2 Maori tikanga regulated the environment (rather than as we do today through such legislation as the Resource Management Act). The best documented example which I know of is fish in the Muriwhenua rohe.⁴ Many other iwi will have similar examples, although they may not be as well documented. It is evident from the historical (including oral and archaeological) record that in the times of the classical Maori the seas around the Aupouri peninsular were abundant with fish, while the beaches were rich with shellfish. Moreover the iwi had a series of tikanga which conserved the stocks to a sustainable level. Today those stocks are seriously depleted. The best explanation for the depletion is that with the diminution of mana of the local iwi, the practice of the customary tikanga diminished, and non-sustainable fishing took over.

4.2.1 Almost certainly the same thing happened to the resources of the Ngati Ira.

4.2.2 The Crown could perhaps have justified the reduction in this regulatory rangatiratanga, by arguing it was taking over the regulatory powers under its kawanatanga powers of Article 1 of the Tiriti. In my view the appropriate line between kawanatanga powers and rangatiratanga powers for environmental regulation is not easy to draw. For instance I could be persuaded that today the Resource Management Act (1991) is a more appropriate form of environmental regulation than one based on local regimes. However the historical record is that the Crown did not replace local regulation by iwi and hapu by a national regime administered mainly by the central government. The effects of its actions were to destroy the local regulatory regime, but little was put in its place. Insofar as this occurred the Crown failed in its commitments under Article 1 of the Tiriti.

⁴ Reported to the Waitangi Tribunal in Wai 45.

4.2.3 The result was a reduction in the management of sustainable environmental resources, which reduced the welfare of the iwi and hapu dependent upon them.

4.3 A second example is that traditionally the iwi regulated relations between hapu. Loss of mana led to a reduction in the ability to regulate these relations, and a resulting fractiousness between hapu, to the detriment of the iwi, the hapu, and the people involved.

4.4 A third example is that the iwi and hapu also lost the ability to promote the economic development of the region. Again this was a role taken over by the government, and again they did this poorly in the rohe o te iwi. Even in the fifty years from 1935 to 1985 when the government ran an active regional development policy, districts on the fringes of New Zealand, like Opotiki, were poorly supported in comparison to the more central districts. Often a high proportion of those living in these marginalised districts in the North Island were Maori. There has been a loss of political authority. Thus the iwi had neither the local authority to run their own economic development program, nor the national political authority to persuade the government to take a sufficiently active involvement in the economic development of the region.

4.5 It may seem that these three regulatory activity authorities are sufficiently different to be treated separately. Space has precluded such a treatment, but in any case the Maori approach was so holistic that separation is not as practically easy.

4.6 What we have to remember is that for most of the Opotiki area's time of human settlement there was an effective and efficient government based on the iwi. The effect of the Raupatu was to destroy that local government, and to replace it with a government based on Wellington, which was only partially as effective. An equivalent contemporary parallel would be if parliament were to abolish, over a very short period, the Bay of Plenty Regional Council, the Opotiki District Council, and some other locally based agencies (such as the police, the local courts, and the fire brigade), but to provide little to replace those institutions. The quality of the life and the economic prosperity of the area would quickly collapse. Thus it was after the Raupatu, except that in those days the majority of the inhabitants were Maori, and such alternate forms of government the central government made available tended to favour the European.

4.7 The thought experiment of abolishing the local government of an area described in the previous paragraph leads us also to conclude that it is well nigh impossible to quantify directly the impact of the parallel abolition which occurred as a result of the Raupatu.

5 Loss of the Ability to Organize the Use of the Resources Efficiently

5.1 As well as being an owner of resources and its regulation of economic activities, the iwi and its hapu was also a manager of resources. The quality of their management would determine the efficiency of the use of those resources, which in turn would affect the consumption resources available to the stakeholders in the economic activities - the iwi members. An obvious impact of the Raupatu, as chronicled in the evidence to the Tribunal, is that there was a loss of leadership and overall demoralization, which must have reduced the efficiency of management, and the material welfare of iwi members.

5.2 Again it is difficult to see how the effects of this loss of efficiency could be estimated directly, although they will be again incorporated in the indirect estimates.

6 The Loss in the Quality of Life by other than Material Changes

6.1 This section is to remind us that the costs to iwi members were not only a loss of material wellbeing. Economists sometimes call these non-material losses "intangible": the Maori refer to them as "spiritual". They are difficult to measure, but no less important when we assess loss.

6.2 While the courts and the Crown have to on occasions make judgements on the value of some of these intangibles, economic analysis has only a marginal role. Nevertheless I shall attempt to quantify the loss due to deaths during hostilities.

6.3 In the circumstances I think it pointless to even try to provide a quantitative estimate - even an indirect one - but by mentioning it here this economist is emphasizing that these non-material losses in the quality of life are very real, and should not be ignored.

7 Estimating the Losses Due to the Raupatu and its Consequences

7.1 The above evidence has emphasized that the social and economic impact of Raupatu was not merely a loss of land and other capital goods, but a loss of rangatiratanga which includes a much wider range of economic and non-economic phenomenon. The analysis has also concluded that it is difficult to estimate directly the losses, in all but some very specific cases.

7.2 First I say something about the loss of population (section 8). Then in section 9, I estimate a value for the economic loss of the confiscated land and two other capital assets directly.

7.3 It needs to be emphasized to non-economists that economists measure costs by

"opportunity costs", that is in relation to an alternative (opportunity). The alternative needs to be very carefully and transparently defined. Typically economists call this alternative a "counterfactual scenario" when it happens in real time. These scenarios will be explained as they are required.

7.4 Inevitably it is necessary to make assumptions. Often the outcomes of the counterfactual scenarios are sensitive to the assumptions. The text draws attention to specific examples of this with sensitivity analyses. Regrettably not all assumptions lead to robust estimates. Nevertheless no matter how the figures are calculated, the conclusion is the costs of the Raupatu to the Ngati Ira have been very large.

7.5 I am aware that others may challenge the specific counterfactual scenarios and assumptions. I could provide estimates based upon alternatives if it was so wished.

8 Compensation for the Loss of Men in Hostilities

8.1 There appears to be no demographic history of the Ngati Ira people, nor of their Whakatohea Iwi. On the basis of other studies we can say with confidence that a consequence of the Raupatu was that the Maori population grew more slowly than had there not been this disruption. This would apply to the Whakatohea population, including those in the Ngati Ira hapu. However it is not possible at this stage to estimate the loss of population relative to some counterfactual scenario, nor as a result to value that loss.

8.2 Ngati Ira are anxious to recall the loss of their men during hostilities, which they number at 45. It is not easy to value this loss of people.

8.3 Suppose the 45 men had died as the result of an accident in 1995. Under the Accident Compensation and Rehabilitation Act, each man has the following entitlements (slightly simplified):

- a funeral grant of \$1900 (section 55);
- a grant of \$4000 for his widow (section 56);
- a grant of \$2000 for each child under the age of 18 (section 56);
- up to 80% of earnings to the widow and children for either five years or until (usually) the youngest child turns 18.

8.4 Suppose on average each man left a widow and two children, the youngest of whom was aged 7. In this case they would receive a lump sum grant of \$9900. Then if their annual earnings was the male average of (about) \$37,000,⁵ the family would receive for an average of 11 years ($11 \times 37000 \times .8$) = \$325,600. This figure has to be reduced for it not being given as

⁵ Because we will be scaling the estimate (see paragraph 8.6) that the average Maori does not earn the average wage is not crucial.

a lump sum but over 11 years. Using a real discount rate of 5 percent the total is reduced to \$256,100 (i.e. by 22.3 percent), which with the lump sum included comes to \$266,000.

8.5 This is the compensation the family of a man in the given circumstances is entitled to, if he dies from an accident in 1995. In my opinion (and probably in law) it is an appropriate compensation for one who dies from hostilities, with the exception that there may well be exemplary damages. There is no obvious way to calculate exemplary damages for the Raupatu and related hostilities. In any case it would be only one component of any exemplary damages.

8.6 The figure applies for 1995. What would be a comparable figure for 1865? Unfortunately there are no comparable wage rate measure for that time, and the best systematic series we have only goes back to 1873 when carpenters received 64s 4d a week and farm labourers received 24s 2d a week plus board (and perhaps 50s a week without board).⁶ Suppose we take as a fair wage (including their subsistence earnings) for a Maori at this time of 57 shillings a week, or \$296.4 a year. Moreover wages appear to be reasonably steady in this period, so we take this rate to reflect that of 1865. Scaling the calculated lump sum for 1995 by relative wages to 1865 reduces it to \$2130 per man, or \$95,850 for the 45 men.

8.7 The \$95,850 (or £47,925) is the figure which would have been paid in compensation in 1865. It was not. Consumer prices have risen about 29.6 times between 1865 and 1996, so £47,925 in today's consumer prices would be worth \$2.8m.⁷ Moreover the figure of \$2.8m is misleading, insofar as it makes no allowance for the fact that Ngati Ira have not been able to use that money over the period.

8.8 To calculate a realistic value for the inability to use that compensation, we need a suitable counterfactual scenario. Suppose £47,925 had been paid in compensation in 1865, and had placed the money in a trust account where it had been wisely invested over the years, the return accruing to the trust. What would be the value of the trust in 1995?

8.9 The calculation is a straight forward one of compounding interest. However it requires an estimate of the average return a prudent trustee would have obtained over the 131 years. I know of no authoritative estimate of that figure. I shall have to derive a return.

8.10 In my evidence to the Waitangi Tribunal in regard to the compensation that Ngati Awa

⁶ M.A. Arnold, *Wage Rates, 1873-1911*, VUW Department of Economics Discussion Paper No.12, April 1982.

⁷ Calculated from M.A. Arnold, *A Long Run Consumer's Price Index for New Zealand for March years 1862 to 1983*, VUW Department of Economics, 1983(?), and official data since 1983.

should receive in regard to their losses from Raupatu, I concluded a fair return on any trust account over the period would be 6.7 percent p.a. (An extract from the report is in an appendix.)

8.11 Applying that rate to the £47,925, that is assuming the money had been invested in a trust account compounding at 6.7 percent p.a., the value of the Trust Account would be worth \$468m today.

8.12 This 1996 value of the hypothetical trust is very sensitive to the assumed level of interest: an inevitable consequence of the long period involved. For instance if the rate of return had been a half a percentage point lower at 6.2 percent p.a., the value would have been \$253m; if it had been the same amount higher at 7.2 percent p.a., the capital sum would have been \$865m.

8.13 What the number shows is that although the initial amount was small (even after being adjusted for inflation), a prudent investment policy would have resulted in the sum being very large some 131 years later.

9 Compensation for the Confiscation of Land.

9.1 Ngati Ira claim that 66,872 hectares (165,244 acres) of the land confiscated by the Crown Council was in the Ngati Ira rohe.⁸ I do not have a record of how much was subsequently returned. The following calculations should be scaled down in proportion to the land returned, but subject to the caveats discussed below. In particular some of this returned land was alienated again without full and voluntary agreement of the iwi, while some land outside the raupatu rohe was similarly alienated. How should we value this confiscated land?

9.2 Mr Graham Hill, a registered valuer, estimates the unimproved value of the land in the Ngati Ira Rohe to be worth \$33.832m in late 1995.⁹ (I shall assume that there has not been a marked change in land prices since.) This figure excludes improvements and so is not the capital value, but includes the effects of improvements following investment. (Examples include better transport access, drainage of a swamp, reduced risk of erosion and flooding through works, increased fertility as the result of long term pasture management.)

9.3 In any case the figure does not properly reflect the total loss to Ngati Ira because it does not allow for the accumulated return on the land over the years. Nevertheless it gives a benchmark order of magnitude. If the Ngati Ira had been able to hold on to their land, instead of it being confiscated, their holdings would appear to be valued in excess of \$33m.

⁸ See letter of Graham Hill to John Kameta, 22 December 1995.

⁹ *op. cit.*

9.4 What was the value of the 165,244 acres at the time of the Raupatu? Doing a similar calculation for a submission to the Waitangi Tribunal on the Ngati Awa Raupatu, I argued a reasonable price for the sale of their land would average 5 shillings an acre. This price was consistent with the price promulgated by Governor Grey's Land Regulations of 1853, when he set a price of 5 shillings an acre for land with pastoral potential.

9.5 However the land held by Ngati Ira does not have the same potential as the land confiscated from Ngati Awa. The more northerly part of the river plains is of similar value to the river plains of Whakatane, but the southern part is much more hilly. (The comparable northern land in the Ngati Awa region was not confiscated.) This is evident in the different current values of the land, with the rural land in the Whakatane area worth about \$1470 a hectare today, whereas the Ngati Ira land averages only \$506 a hectare. This suggests a fair price in 1865 for the confiscated land would have been 1s 9d an acre, which gives a value for the Ngati Ira land of £14,460 in 1866.

9.6 If the Ngati Ira were to have voluntarily sold (at 1s 9d a acre) all the 168,000 acres that were confiscated they would have received £14,460. Consumer prices have risen about 28.3 times between 1866 and 1995, so £14,460 in today's consumer prices would be worth \$846,000.¹⁰ This is substantially lower than the current value of the land, partly because land prices tend to rise faster than general prices, but also because the current values include the effects of improvements. Nevertheless, one is left with an impression that 1s 9d an acre was cheap relative to the future value of the land, since it represents a price of about \$12.6 a hectare in today's prices, in contrast to an actual average price of \$506 a hectare.

9.7 Moreover the figure of \$846,000 is misleading, if it were to imply an account in which the Crown used the land for 126 years, and then bought it at the past price, albeit adjusted for inflation, but paid nothing for the 126 years of use.

9.8 To calculate a realistic value for the use of the seized land, we need a suitable counterfactual scenario. Among those I have rejected are trying to write an account of the outcome if the Ngati Ira had been paid the £14,460 in 1866, and secondly an account in which the Crown had paid a fair market rental on the land to the Ngati Ira each year. Both involve great difficulties of measurement, the first horrendously so.

9.9 Instead, I propose the following counterfactual scenario. Suppose the Crown had paid £14,460 for the land in 1866, and had placed the money in a trust account where it had been wisely invested over the years, the return accruing to the trust.¹¹ What would be the value of

¹⁰ See Section 8.5 for the explanation and source for this calculation, noting however the confiscation took place a year later than the hostilities.

¹¹ We are implicitly assuming that the iwi were not told of this trust, so that their behaviour in the

the trust in 1995?

9.10 The calculation is a straight forward one of compounding interest. However it requires an estimate of the average return a prudent trustee would have obtained over the 130 years. I have used the rate of 6.7 percent p.a. which I derived for a Waitangi Tribunal submission.

9.11 Suppose the average return on the trust account was 6.7 percent p.a. If £14,460 had been deposited in 1866, today it would be worth \$132m.

9.12 This 1996 value of the hypothetical trust is very sensitive to the assumed level of interest: an inevitable consequence of the long period involved. For instance if the rate of return had been a half a percentage point lower at 6.2 percent p.a., the value would have been \$72m; if it had been the same amount higher at 7.2 percent p.a., the capital sum would have been \$244m.

9.13 What the number shows is that although the initial amount was small (even after being adjusted for inflation), a prudent investment policy would have resulted in the sum being very large some 130 years later.

9.14 This estimate applies only to the loss of land from the Raupatu (and not subsequent losses from subsequent breaches of the Tiriti, either within or outside the Raupatu rohe), but does not allow for any returned land. It does not apply to the losses of other resources (such as water property rights), nor of the other consequences from the loss of rangatiratanga. It has not been possible to make an estimate for this, as I did for the Ngati Awa claim, because the demographic data is not available.

9.15 The valuation on the loss of land is only about 40 percent of the valuation of the loss of the 45 men. We should not be surprised. The value of the human capital of a group usually exceeds the value of its physical assets.

10 Compensation for the Loss of the Flour Mill

10.1 In the course of the 1865 hostilities, a flour mill owned by Ngati Ira was burnt down. The mill had been completed in 1860 at a cost of £800.¹² It was burnt down in 1865, apparently in the hostilities. Ngati Ira are asking for compensation for the loss of the mill.

10.2 It is appropriate to depreciate the mill for the five years use after 1865. I have done so at a rate of 10 percent p.a. Thus the value of the mill in 1865 would be £470, which I take to

counterfactual was no different than what it was in actuality.

¹² My main documentary source is an undated affidavit by H.G.D. White.

be the amount that the government would have been obliged to compensate Ngati Ira for the loss of their mill during hostilities, had the Crown accepted responsibility. Again this figure does not include exemplary damages.

10.3 Using the same counterfactual scenario of a trust account for the previous two examples (men and land) the value for compensation in 1996 for the loss of the mill would be \$4.6m.¹³

11 Compensation for the Loss of the Schooner

11.1 In the course of the 1865 hostilities, a schooner "Hira" owned by Ngati Ira was confiscated by the government troops. It had been built in the Bay of Plenty by Heziakh Hunt and was registered at the port of Auckland. The schooner was not returned to its owners and wrecked with a total loss at Opotiki on 7, July, 1867.¹⁴ Ngati Ira are asking for compensation for the loss of the schooner.

11.2 I have been unable to obtain a direct valuation for the schooner. After having consulted Paul Monin and Brad Patterson, historians familiar with the period, and having examined the documentary evidence they knew of, I have taken the value of the Hira, to be £600, or about £17 a ton.¹⁵

11.3 Using the same counterfactual scenario of a trust account for the previous examples, the value for compensation in 1996 for the confiscation and subsequent loss of the mill would be \$5.9m.¹⁶

12 Conclusion

12.1 I have not tried to assess the intangible (on non-material, or spiritual) losses of the Ngati Ira, nor have I been able to assess the consequential losses from the loss of Rangatiratanga by the Hapu. It has also not been possible to suggest appropriate exemplary damages, if any. They are mentioned here because it would not be appropriate to ignore them totally.

¹³ If the rate of return had been 6.2 percent p.a. (or 7.2 percent p.a.) the amount in the hypothetical trust account would be \$2.5m (or \$8.5m).

¹⁴ Source of information comes from the Watts Index A-I VM15, Whakatane Museum, page 247.

¹⁵ The documentary evidence is available on request. I am grateful to the two scholars for their assistance.

¹⁶ If the rate of return had been 6.2 percent p.a. (or 7.2 percent p.a.) the amount in the hypothetical trust account would be \$3.2m (or \$10.9m).

12.2 Those items for which the Ngati Ira claim compensation, are valued as follows:

In 1865/6 Terms:

	£
Men killed in hostilities (45)	47,925
Land confiscated (165,244 acres)	14,460
Flour mill destroyed	470
Schooner seized	<u>600</u>
TOTAL	63,455

12.3 If these amounts are treated as being invested in a trust account at a return of 6.5 percent p.a. they accumulate over the years to:

In 1995/6 Terms:

	\$m
Men killed in hostilities (45)	468
Land confiscated (165,244 acres)	132
Flour mill destroyed	4.6
Schooner seized	<u>5.9</u>
TOTAL	610.5

12.4 In summary, and allowing for a degree of rounding (given the inherent inaccuracy of the estimating procedures), Ngati Irapuaia would have been entitled, under the assumptions described above, to compensation of around £63,500 for their losses from the Raupatu hostilities and subsequent confiscations. Compounded at 6.7 percent p.a., our best estimate of a fair rate of interest, this is equivalent to a sum of \$610 million today.

12.5 These estimates are subject to wide margins of error, and to numerous assumptions and caveats including the omissions mentioned above. Nonetheless they demonstrate that insofar as the Ngati Irapuaia claims are justified, the hapu is entitled to a substantial degree of compensation.

Appendix: Extract From "Evidence of the Social Impact of the Raupatu"

9.11 The calculation is a straight forward one of compounding interest. However it requires an estimate of the average return a prudent trustee would have obtained over the 129 years. I know of no authoritative estimate of that figure. I shall have to derive a return.

9.12 There is a theory, albeit a far from robust one, which suggests that the average (nominal) actual return on investment should relate in the long run to the average (nominal) growth of the economy. I shall not describe the theory but pull together such evidence we have which tests it.

9.13 The longest estimated average return on all investment series I know of, is for the period from the March 1948 to the March 1974 year, a relatively short period of 26 years in comparison to the 129 years which is our concern.¹⁷ That shows an average return on all personal wealth of 9.4 percent p.a. The increase in nominal GNP over this period was 9.3 percent p.a.¹⁸ The match is as reasonably close with the theoretical prediction as we might hope.

9.14 The longest consistent series I know of for the return on a financial asset is the average rate of interest on new mortgages for the period of the March 1913 to the March 1983 year.¹⁹ This measure is deficient for our needs, because it includes the interest rate on mortgages subsidized by the government. Moreover the mortgage interest rate is lower than an average return for a more diversified portfolio, which would include shares, debentures, and property. The average mortgage interest rate over the 70 years was 6.2 percent per p.a. The average nominal growth of GNP over the same period was 7.8 percent.²⁰ Most of the 1.6 percent difference is probably explained by the two effects mentioned earlier in the paragraph.

9.15 According to the estimates of Keith Rankin nominal GNP was £18.4m in 1866.²¹ For the March 1995 Year the official (Statistics New Zealand) estimate of GNP is about \$82,500m. This gives an average growth rate of 6.7 percent p.a.

9.16 I cross-checked this figure by assuming that if on average a quarter of national income goes to return on capital and the capital to output ratio is 4 years, we would get an average return on capital of 6.25 percent p.a. This is not too different from the other estimate.

¹⁷ B.H. Easton, *Income Distribution in New Zealand*, NZIER Research Paper No 28, Wellington, 1983. The series is the sum of the nominal capital gain series and the market return series using the aggregate wealth series shown in Table 9.1.

¹⁸ This comes from official estimates of GNP, recorded in the 1990 *New Zealand Official Year Book*, Table 26.3.

¹⁹ Tabulated in various *New Zealand Official Year Books* between 1962 and 1985.

²⁰ This compares the Rankin estimate of GNP, referenced in the next footnote, with the official estimate referenced in the previous footnote.

²¹ K. Rankin, (1992) "New Zealand's Gross National Product:1959-1939" *Review of Income and Wealth*, Series 38, Number 1, March 1992, p.49-69.

9.17 It should be noted that consumer prices rose 2.6 percent p.a. on average over this period, so the real return on the investment would be closer to 4 percent p.a.²²

From B.H. Easton, *Evidence of the Social Impact of the Raupatu*, Evidence to the Waitangi Tribunal on Ngati Awa and related claims, 1995.

²² If the rate still seems high it should be noted that the return on investment in human market capital, which would almost certainly have been a priority for iwi had they the cash is usually thought to be over 20 percent p.a.