

**2014 FIELDAYS IN HAMILTON:
ECONOMIC IMPACTS FOR THE WAIKATO
REGION AND NEW ZEALAND**



**Institute for
Business Research**

Te Pūtahi Rangahau Umanga

THE UNIVERSITY OF WAIKATO



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THE UNIVERSITY OF
WAIKATO
Te Whare Wānanga o Waikato

The University of Waikato (the University) has a long history of association with Fieldays dating back to the contribution made to the establishment of Fieldays by the University's founding Vice-Chancellor, Sir Don Llewellyn in 1970.

The University has been a strategic partner with Fieldays since 2007 and has entered into a new Agreement for the period 2014-2016.



THE FIRST FIELDAYS IN 1968

Founded in 1968 by a group of passionate and like-minded individuals with a common vision and a will to succeed, the first Fieldays event was expected to attract 3,000 patrons at a quiet time of the year for farmers, when they could take a break from farming and view the products and services they utilised. That first year, visitors exceeded 10,000 and Fieldays has continued to grow its patronage ever since.

In 1970, the home at Mystery Creek in Hamilton was purchased for \$62,000 financed by a 100% mortgage secured against the personal farms of the organising committee. Through the efforts of this passionate group of volunteers, some who are still involved today, the current site was created and developed to become the home of Fieldays with the Mystery Creek Events Centre arguably known worldwide as the heart of New Zealand Agriculture.

Fieldays has continued to grow over the years to annually attract over 1,000 exhibitors on 1,400 exhibition sites, 120,000 plus visitors including more than 450 visitors from 50 countries. This makes Fieldays the largest agri-business exposition in the Southern Hemisphere. The event is a self-sustaining, not-for-profit organisation, independent and mandated to work for the greater good, supporting the promotion and development of Agriculture.

Fieldays is more than just a farm show. It is an agri-business exposition that is a window into one of the most innovative, forward-thinking agricultural economies in the world. The role of Fieldays is taken to be to Connect Business to Business, Business to Consumer, Exporter with New Markets and Town to Country.

The mission of Fieldays is to connect people and organisations to create opportunities, to facilitate the open exchange of ideas and to showcase the very best that New Zealand Agriculture has to offer the world.

As an independent body, Fieldays is non-partisan with the capability to draw on and bring together representatives and parties from all corners of the Agricultural industry and primary sectors. By acting as a conduit, Fieldays uses its reputation, enhanced over the last 46 years, as the foundation for facilitating collaboration and partnership across domestic and international borders.



TABLE OF CONTENTS

THE FIRST FIELDAYS IN 1968

EXECUTIVE SUMMARY	2
INTRODUCTION TO THE ECONOMIC IMPACTS FROM FIELDAYS 2014	4
PATRON ATTENDANCE AT 2014 FIELDAYS	5
VISITOR SPENDING IMPACTS	7
EQUIPMENT SALES IMPACTS	9
FIELDAYS ORGANISATIONAL EXPENDITURE IMPACTS	11
SUMMARY AND CONCLUSIONS	12
APPENDIX 1 – Methodology Review	14
APPENDIX 2 – Data Summary	18
AUTHOR PROFILE	21



EXECUTIVE SUMMARY

The 2014 Fielddays event over 11 –14 June attracted 119,892 gate entries which was 4.2% lower than in 2013. For the 2014 event, a total of 942 firms exhibited their goods and services (up 4.9% over 2013) including 71 overseas firms (+109%) using a total of 1366 exhibitor sites (+4.8%). The aggregate economic impacts for the Waikato region and all New Zealand are shown in the following table:

Total economic impacts for Waikato and New Zealand from the 2014 Fielddays from all sources

Region and Impact Source	Revenue \$ millions	Net Household Income \$ m	Employment Persons	Value Added or GDP \$ m
Waikato Region				
Visitor Expenditure	33.56	5.81	183	13.39
Equipment Sales	93.37	15.29	370	34.28
Organisational Expenditure	11.27	1.75	47	3.98
Total Impact for Waikato Region	138.20	22.85	600	51.65
Rest of NZ				
Visitor Expenditure	5.76	1.61	31	4.15
Equipment Sales	275.19	51.16	1177	117.62
Organisational Expenditure	2.37	0.81	18	1.95
Total Impact for All NZ	421.52	76.43	1826	175.37
2014 Percent for the Waikato Region	32.7%	29.9%	32.9%	29.5%
2013 Percent for the Waikato Region	34.4%	33.8%	36.5%	33.9%
2014 and 2013 COMPARISONS				
Waikato Total Impacts 2014 as above	138.20	22.85	600	51.65
Waikato Total Impacts 2013	127.67	22.75	609	51.61
Percent Gain for the Waikato Region	8.2%	0.4%	-1.5%	0.1%
NZ Total Impacts 2014 as above	421.52	76.43	1826	175.37
NZ Total Impacts 2013	370.72	67.33	1668	152.13
Percent Gain for All NZ 2014/2013	13.7%	13.5%	9.5%	15.3%



The highlights from the results in the above table are as follows:

- » \$422 m in sales revenue for New Zealand firms with \$138 m for the Waikato region.
- » 1,826 full-year jobs (both full and part-time) sustained in the New Zealand economy in 2014 (600 Waikato jobs).
- » \$175 m additional GDP for the New Zealand economy in 2014 (\$52 m addition to Waikato GDP).
- » Approximately 31% of Fieldays impacts were realized in the Waikato regional economy in 2014, slightly down from the 35% in 2013.
- » This dip in the Waikato percentage together with the 129% increase in overseas exhibitor sites may suggest Fieldays is evolving into a more national and international event although the regional impacts are still obviously important.
- » The gain in the 2014 Fieldays economic impacts for the New Zealand economy over 2013 varied between 10% and 15% depending on the impact measure (revenue, income, employment and GDP).

The economic analysis of Fieldays resulted in the following conclusions:

- » Every one of the 119,892 gate entries (man, woman or child) at the 2014 Fieldays generates \$3,500 in sales revenue for New Zealand firms including machinery and equipment sales.
- » Every gate entry by a visitor from outside the Waikato region generates \$500 in sales revenue for the Waikato hospitality sectors such as accommodation, restaurants, bars and retail trade (excludes equipment sales).
- » Visitors from outside the Waikato region to Fieldays contribute \$34 m annually in accommodation, entertainment, transport etc. to hospitality sectors in the Waikato regional economy.
- » Every dollar expended at Fieldays on accommodation, equipment sales, organisational infrastructure etc generated another \$1.30 of sales revenue somewhere else in the New Zealand economy including the Waikato region.

- » Surveys indicate that 30% of businesses attending Fieldays purchase equipment and other goods at the event. Another 17% are "likely to purchase" within the next 12 months as a result of exposure to products at Fieldays.
- » Exhibitor sites for overseas businesses increased from 34 in 2013 to 78 in 2014, a 129% increase. This suggests the international importance of Fieldays is gaining significant momentum.
- » Government sponsorship with regard to overseas interest may be important in sustaining this 129% increase in overseas involvement with Fieldays. Making Fieldays the agricultural equivalent of the Farnborough Air Show should be a top Government priority.
- » Fieldays is without peer as a platform for demonstrating New Zealand's agricultural expertise and world leadership in some areas, as well as acquainting grass roots farmers and growers with the latest productivity enhancing equipment and techniques.
- » A total of 76% of 2014 patrons rated Fieldays as the most important (or equally important) event of all annual New Zealand events.
- » The economic impacts summarised above are important but not the only gains secured nationally and regionally from Fieldays. The 942 firms participating in the event enhance their reputation and build brand loyalty for future operations. This is particularly important for international sales and New Zealand exports in the future. The politicians and market movers attracted to this international event facilitate world-wide and regional interactions that could help the Waikato region further develop its production and logistics potential.



INTRODUCTION TO THE ECONOMIC IMPACTS

The 2014 Fieldays were held at the Mystery Creek home location in Hamilton from June 11th to 14th. Gate entries over the four day event totalled 119,892 down 4.2% on the 125,127 in 2013. In 2014 there were 942 exhibitors (+4.9% over 2013), including 71 international exhibitors (+109% over 2013), on 1366 sites at the Mystery Creek complex. The large increase in overseas exhibitors (more than doubling) is especially pleasing and augers well for the international future of the event. More international exhibitors mean an increased stimulus for the hospitality sectors in the Waikato region as these patrons are typically higher spenders. A total of 76% of the New Zealand patrons attending in 2014 rated Fieldays as at least as or more important than any other New Zealand event held annually. The economic impacts such as sales revenue, employment etc. from this event accrue first in the Waikato region but spill over into the rest of New Zealand (RONZ) for a significant nation-wide economic stimulus. This is especially important at this time as both New Zealand and the world continue to emerge from the Global Financial Crisis (GFC) that ensued in 2008. Fieldays is the main showcase for New Zealand expertise in agricultural, horticultural and related technology and also attracts international business exhibitors. This year, overseas exhibitor sites increased by 129% over the 2013 number.

The economic impacts estimated in this report due to Fieldays activities comprise sales revenue, net (after tax) household income, employment as measured by employment count (includes both full and part-time workers) and value added or gross domestic product (GDP or gross regional product GRP for a region such as the Waikato Regional Council). Value added or GDP/GRP comprise the gross wages and salaries of regional (or national) workers, the gross (before tax) profits of regional business units plus depreciation of fixed capital used up in production. GDP is a better measure of regional gain than sales revenue since the latter includes the value of imported goods and services included in the final sale. For products such as vehicles and sophisticated machinery such as turbines, the sales revenue figure is high but most of the value added is generated overseas. All four economic impacts are reported here. Economic impacts from events such as Fieldays

originate from three main sources. First, the economic activity generated by out-of-region patrons at the event or visitors to the region. Their Fieldays expenditure would have typically occurred in their home region but the Fieldays event results in some expenditure being transferred to the Waikato region. This is a net regional gain for the Waikato. Expenditure by Waikato patrons at Fieldays (eg a vehicle purchase) would almost certainly have occurred in Waikato at some time during the 2014 year without the event and is therefore excluded from the Fieldays impacts. Sales of equipment, machinery, outdoor furniture etc. are included as an impact, although a proportion of this expenditure would have occurred without the Fieldays event. These sales accrue to Waikato firms, firms in the rest of New Zealand and overseas firms. Note that sales revenues secured at Fieldays by overseas firms are excluded from the economic impacts recorded here. In fact, a proportion of these sales (possibly 10% - 15%) would generate activity for New Zealand businesses and employees through delivery, after-sales service, maintenance, parts etc. This means that as all sales from overseas sites are excluded here, the impacts reported can be considered "conservative". Finally, expenditure by organisations at Fieldays (eg electricity, waste disposal etc.) will also generate impacts for the Waikato region and the rest of New Zealand. Specialised financial services such as insurance will generally directly impact the major cities such as Auckland and Wellington and not regions such as Waikato (Hamilton). All such so-called flow-ons are estimated from the economic models and are included in the total impacts for all New Zealand.

All economic impacts for the Waikato region and New Zealand in total have been estimated using 88-sector economic models for the year ended December 2013 (see Appendix 1). In recent years including 2014, the GFC has had discernable effects on economic activity, employment etc. with total New Zealand employment in 2013 for example still below the level achieved in early 2008. Quite possibly, due to New Zealand's current and projected high growth rates by historical standards, the 2014 figures when reported in November 2014 will exceed the 2008 peaks.



PATRON ATTENDANCE

Table 1 below summarises the 2014 Fieldays patron demographics by age and residency for 2014 Fieldays.

Table 1: Visitor demographics by age and residency

Age	Percentage	Number
0 – 30	18	21,581
30 – 39	15	17,984
40 – 49	21	25,177
50 – 59	27	32,371
60 – 69	15	17,984
70+	4	4,795
TOTALS	100%	119,892

Residency	Percentage	Number
Northland	4	4,796
Auckland	16	19,183
Waikato/Coromandel	47	56,349
Bay of Plenty	14	16,785
Lower North Island	13	15,586
South Island	3	3,597
Overseas	2	2,398
Not Disclosed	1	1,198
TOTALS	100%	119,892

The relatively even spread over the various age groups is a good sign for all types of exhibitors. At over 2,000, the number of overseas patrons is also a heartening statistic as the international stature of Fieldays is becoming evident. The 47% of patrons from the Waikato (includes Coromandel) region is a significant increase over the 2013 Waikato percentage of just over 40%. This percentage in 2014 may have been inflated over 2013 due to 3 vehicular accidents on the southern motorway link to Auckland during the event. Many potential Fieldays patrons apparently returned to Auckland. Furthermore, a closure on the Kaimai road reduced the number of Bay of Plenty patrons this year.

Table 2: Gate entries by day for 2014 Fieldays

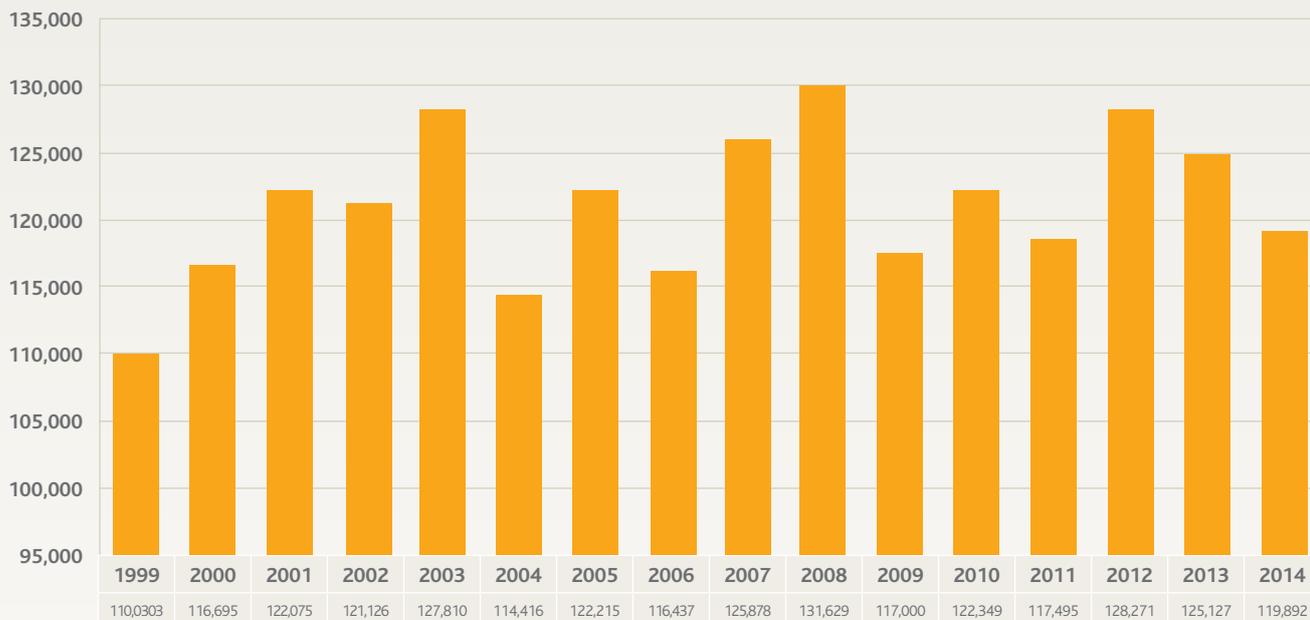
Day of the Week	Entries by Day	Running Total	2014/2013 % Change	Conditions
Wednesday 11th June	21,353	21,353	-20%	H'vy rain, str'g wind
Thursday 12th June	25,139	46,492	-20%	Showers all day
Friday 13th June	41,219	87,711	-9%	Sunny and dry
Saturday 14th June	32,181	119,892	-4%	Sunny and dry
TOTALS	119,892	119,892	-4.2%	

For 2014, gates entries at 119,892 were 4.2% lower than for 2013 at 125,127. The Global Financial Crisis (GFC) continues to have a restraining effect on world economic activity. The latest available Employment Count data by sector as at February 2013 estimated total employment at 1,941,040 for New Zealand and 166,190 for the Waikato Regional Council economy. These figures are 1.8% and 2.6% below the respective February 2008 peak values before the full effects of the GFC became evident. Currently in August 2014, Treasury is forecasting growth in the New Zealand economy for the year ended March 2015 at 5.2% in nominal terms and 3.8% in real (inflation adjusted) terms. In

real terms, the 3.8% growth currently is forecast to fall to 3% for the year ended March 2016 and to 2.2% for the year after. These are still extremely good growth rates for the New Zealand economy compared to its performance over 2008 – 2012 and the continuing slow recovery from the GFC. Although some commodity prices have retreated from their all-time highs, the climate augers well for the agricultural sectors which are the main drivers of New Zealand's economic prosperity. If the Treasury growth rates eventuate (and the world economy may indeed yet stall), New Zealand employment levels (in total and in the regions) should overtake the previous 2008 peaks noted above.



Figure 1: Fieldays gate entries for years 1999-2014



■ Total Visitor Numbers

Looking at Figure 1, the GFC effect is clearly evident after 2008 when gate entries peaked at 131,629. The fall-off in gate numbers in the three years since 2012 back to the levels of the early 2000's is yet more evidence that the GFC is still influencing business

activity world-wide. Currently, a continued but slow emergence from the GFC appears to be the most likely outcome. Any further shock or geopolitical incident could stall this recovery with ominous consequences for the world economy.



VISITOR SPENDING IMPACTS

An estimated 63,543 of out-of-region patrons (ie non-Waikato) directly spent an estimated \$15.84 m in total over the four days of the 2014 Fieldays. This equates to an average of just under \$250 per person at the event but excludes the cost of entry to Fieldays itself. This spending in sectors such as Accommodation, Restaurants and Bars, Sport and Recreation etc. by visitors is labelled direct or first round spending and induces follow on or flow-on spending in sectors supplying the direct spend sectors such as Accommodation (see below). This direct or first-round

spending is the first value in Table 3 below. All other impacts are derived from this expenditure using the appropriate economic model (Waikato region or all New Zealand). All such direct spending induces flow-ons from supplying sectors such as Electricity, Meat Processing, Beverages Malt and Tobacco, Other Food Manufacturing and similar that aggregate up to a total impact for the Waikato region and also for the rest of New Zealand. Economic impacts from visitor spending for the Waikato region and the rest of New Zealand are summarised in Table 3.

Table 3: Total Impacts from Visitor Expenditure at 2014 Fieldays for the Waikato Region and NZ

Expenditure Round	Revenue \$ millions	Net Household Income \$ m	Employment Persons	Value Added or GDP \$ m
Waikato				
Direct or first round	15.84	3.61	126	7.29
Flow-on rounds	17.72	2.20	57	6.10
Total Impact Waikato Region	33.56	5.81	183	13.39
Other NZ				
Airfares Overseas Patrons	0.87	0.24	5	0.63
Other NZ Flow-on Rounds	4.89	1.37	26	3.52
Total Impact for All NZ	39.32	7.42	214	17.54
Waikato Percentage of NZ	85.3%	78.3%	85.5%	76.3%
Waikato Region Multiplier	2.12	1.61	1.45	1.84
NZ Multiplier	2.35	1.93	1.63	2.21
2014 and 2013 Comparisons				
Total Impacts 2014 as above	39.32	7.42	214	17.54
Total Impacts 2013	30.11	6.24	218	14.65
Percentage Gains 2014/2013	30.6%	18.9%	-1.8%	19.7%



Visitor spending at Fieldays generates \$39.32 m of sales revenue throughout New Zealand with \$33.56 of this total (85%) captured by businesses in the Waikato region.

About 81% of the New Zealand-wide visitor spending impacts on average accrue to the Waikato region. The Revenue multipliers tell us that every dollar of visitor expenditure at Fieldays induces another \$1.12 of expenditure for businesses in the Waikato region with another 23c of expenditure flowing into the rest of New Zealand ($1.00 + 1.12 + 0.23 = \$2.35$).

With 63,543 of non-Waikato visitor patronage at Fieldays, we can conclude that every visitor gate entry (man, woman or child) generates over \$500 of expenditure in the Waikato region's hospitality and supporting sectors. These include Accommodation, Restaurants and Bars, Road Transport (taxis, tours etc.), Sport and Recreation and the retail trade sectors as well as the primary supporting sectors (see below). Furthermore, an estimated 183 full-year jobs (both full and part-time) are sustained in the

Waikato region due solely to this Fieldays visitor expenditure in the hospitality sectors. The sectors gaining most of the flow-on business from hospitality services include Horticulture and Fruit Growing, Meat Processing, Dairy Processing, Other Food Manufacturing, Beverages Malt and Tobacco which are all substantial employing sectors in the Waikato region. This means the Waikato region needs to import very little in the way of goods and services to supply the hospitality sectors in servicing Fieldays visitor demands. Accordingly, much of the Value Added (or GRP) created by visitor spending at Fieldays remains in the Waikato region. For example, if Hamilton did not have a casino, some of this visitor spending could leak into the Auckland region with its more extensive entertainment infrastructure.

The slight percentage fall in the 2014 employment impact compared to 2013 possibly reflects better working productivity in the effected sectors in the latest economic model for the year ended December 2013 compared to an earlier model used to calculate the 2013 impacts.



EQUIPMENT SALES IMPACTS

Exhibitor demographics are summarised in Table 4. Comparing 2014 with last year, an overall 5% increase in exhibitors shows the event to be gaining traction despite the GFC backdrop to current world economic conditions.

Table 4: Exhibitor demographics For 2014 Fieldays and 2013 comparisons

	Number 2014	Number 2013	Percent Gain
Residency			
Waikato	255		
Rest of New Zealand	616		
Total NZ	871		
Overseas	71		
TOTALS FOR RESIDENCY	942	898	4.9%
Exhibitor Sites			
Waikato	359	352	2.0%
Rest of NZ	929	917	1.3%
Total NZ	1288	1269	1.5%
Overseas	78	34	129.4%
Totals For Sites	1366	1303	4.8%

Although New Zealand sites increased by only 1.5% over 2013, it is particularly pleasing to see the 129% increase in overseas exhibitor sites. This suggests that the international awareness of Fieldays is gaining significant momentum. A key feature for the 2015 event will be the sustainability of this increased overseas interest. There is clearly a role for Government here to incentivise involvement by overseas firms in what could become the agricultural equivalent of the Farnborough Air Show.

A total of 942 exhibitors on 1,366 sites participated in the 2014 event. Of this 1,366 total, 359 (26%) were from the Waikato region, 929 (68%) from the rest of New Zealand and 78 (6%) from overseas. Fieldays provides an opportunity for exhibitors to demonstrate the latest technology available for the agricultural, horticultural and other primary sectors.

In estimating equipment sales at each exhibitor site, respondents were asked to include in their estimate the sales they judged would occur as a result of the Fieldays interactions. While

this introduces subjectivity into the sales estimates, it is well understood that not all sales due to Fieldays are realised at the four days of the event. Major equipment purchases are not usually spur-of-the-moment transactions. Over the four days, average sales per site were estimated at \$125,829. With 1,288 New Zealand exhibitor sites, this results in total direct equipment sales due to Fieldays at \$162.06 m. Based on exhibitor residency, this allocates \$45.17 m to Waikato firms and \$116.89 m to firms in the rest of New Zealand. As noted above, sales by overseas exhibitors are excluded from the economic impact calculations for Waikato and New Zealand.

Although equipment sales are a predominant feature of Fieldays activities, sales of consumables such as drenches, sprays etc. and other agricultural services are also important. Clearly some of these sales would have taken place in the absence of Fieldays but have been included in the impacts reported here making surveys of purchases easier to undertake by respondents.



Table 5 below summarises the total economic impacts for Waikato and the rest of New Zealand after allowing for the flow-ons from direct equipment sales of \$162.06 m.

Table 5: Total impacts from equipment sales at 2014 Fieldays for the Waikato and New Zealand

Expenditure Round	Revenue \$ millions	Net Household Income \$ m	Employment Persons	Value Added or GDP \$ m
Waikato				
Direct or first round	45.17	9.01	218	17.73
Flow-on rounds	48.20	6.28	152	16.55
Total Impact Waikato Region	93.37	15.29	370	34.28
Other NZ				
Rest of NZ direct or first round	116.89	23.71	565	46.60
Flow-on rounds	148.94	24.22	551	62.96
Waikato flow-ons to RONZ	9.36	3.23	61	8.06
Total NZ Impacts	368.56	66.45	1547	151.90
Waikato Percentage of NZ	25.3%	23.0%	23.9%	22.6%
Waikato Region Multiplier	2.07	1.70	1.70	1.93
NZ Multiplier	2.27	2.03	1.98	2.36
2014 and 2013 Comparisons				
Total Impacts 2014 as above	368.56	66.45	1547	151.90
Total Impacts 2013	328.07	58.68	1396	131.62
Percentage Gains 2014/2013	12.3%	13.2%	10.8%	15.4%

The Revenue multiplier for all New Zealand is derived as $368.56 / (45.17 + 116.89)$ or 2.27. This means every dollar of equipment sales at Fieldays generates another \$1.27 of sales revenue elsewhere in the New Zealand economy including the Waikato region. Since the majority of New Zealand exhibitors were from outside the Waikato region, the rest of New Zealand (excluding Waikato) is the main beneficiary of this activity. Of course, we must acknowledge that some of these sales would have been realized by New Zealand firms during 2014/15 in the absence of Fieldays. Nevertheless, it is credible to claim that the size and international significance of the Fieldays event generates attendance by potential

buyers from around the world resulting in sales for New Zealand firms that would not have occurred in the absence of the event. Gaining international recognition as a reliable supplier of agricultural, horticultural and similar equipment and machinery makes Fieldays an indispensable input into ongoing profitability for New Zealand manufacturing firms in these sectors. Continued success in agricultural machinery production can only be achieved if a sufficient scale is attained by New Zealand manufacturers. Selling internationally is therefore a necessity. The current activity in these sectors throughout New Zealand can attribute over 1,500 jobs to the Fieldays event.



ORGANISATIONAL EXPENDITURE IMPACTS

The organisation of Fieldays requires expenditures by a number of businesses including expenditures at the Mystery Creek location. An estimated \$6.20 m was expended on Fieldays organisation in 2014 including expenditure of

\$3.38 m by the New Zealand National Fieldays Society Inc. This total, augmented by exhibitor expenditure, comprised \$4.71 m on goods and services and an additional \$1.49 m on gross household income for employees and casual staff.

The direct and flow-on impacts from the \$4.71 m first round expenditure on goods and services (and also the household expenditures resulting from the \$1.49 m from wage and salary income) are summarised in Table 6.

Table 6: Total impacts from 2014 Fieldays organisational expenditure for the Waikato and New Zealand

Expenditure Round	Revenue \$ millions	Net Household Income \$ m	Employment Persons	Value Added or GDP \$ m
Waikato				
Direct or first round	4.71	0.86	24	1.54
Flow-on rounds	6.56	0.89	23	2.44
Total Impact Waikato Region	11.27	1.75	47	3.98
Other NZ				
Flow-ons into the RONZ	2.37	0.81	18	1.95
Total Impact for All NZ	13.64	2.56	65	5.93
Waikato Percentage of NZ	82.6%	68.4%	72.3%	67.1%
Waikato Region Multiplier	2.39	2.03	1.96	2.58
NZ Multiplier	2.90	2.98	2.71	3.85
2014 and 2013 Comparisons				
Total Impacts 2014 as above	13.64	2.56	65	5.93
Total Impacts 2013	12.54	2.41	54	5.86
Percentage Gains 2014/2013	8.8%	6.2%	20.4%	1.2%

The scale of this expenditure at a total of \$6.2m initially (\$4.71 m on goods plus \$1.49 m on wages) results in total impacts at a much lower level than visitor spending and equipment sales at Fieldays. Large events like Fieldays do, however, allow suppliers in the printing, advertising, marketing, waste disposal, security and other sectors that are crucial to such events to develop and expand their services and this in turn benefits other organisations in the Waikato region requiring these goods and services for their own

events. From Table 6 we note that the Waikato percentage for Revenue at 83% with the Value Added percentage at 67% suggests that high value goods and services may be imported into the Waikato region from say Auckland or overseas to support Fieldays activities. This contrasts with the corresponding percentages for the visitor spending impacts in Table 3 where the impact percentage difference is not so marked at 85% and 76% respectively.



SUMMARY AND CONCLUSIONS

Aggregating impacts from the three sources analysed above leads to total impacts from Fieldays over the four impact measures as summarised in Table 7.

Table 7: Total economic impacts from 2013 Fieldays from all sources

Region and Impact Source	Revenue \$ millions	Net Household Income \$ m	Employment Persons	Value Added or GDP \$ m
Waikato Region				
Visitor Expenditure	33.56	5.81	183	13.39
Equipment Sales	93.37	15.29	370	34.28
Organisational Expenditure	11.27	1.75	47	3.98
Total Impact for Waikato Region	138.20	22.85	600	51.65
Rest of NZ				
Visitor Expenditure	5.76	1.61	31	4.15
Equipment Sales	275.19	51.16	1177	117.62
Organisational Expenditure	2.37	0.81	18	1.95
Total Impact for All NZ	421.52	76.43	1826	175.37
2014 Percent for Waikato Region	32.7%	29.9%	32.9%	29.5%
2013 Percent for Waikato Region	34.4%	33.8%	36.5%	33.9%
2014 and 2013 COMPARISONS				
Waikato Total Impacts 2014	138.20	22.85	600	51.65
Waikato Total Impacts 2013	127.67	22.75	609	51.61
Percent Gain For Waikato Region	8.2%	0.4%	-1.5%	0.1%
NZ Total Impacts 2014	421.52	76.43	1826	175.37
NZ Total Impacts 2013	370.72	67.33	1668	152.13
Percent Gain For All NZ	13.7%	13.5%	9.5%	15.3%

For the New Zealand-wide economic impacts over all four measures, approximately 31% accrue to the Waikato region. Since 72% of New Zealand exhibitors at Fieldays come from outside the Waikato, the equipment sales generated at the event predominately accrue to non-Waikato business units. As we see from Table 7, this source of activity generates the most business at the event.

Another way to measure the impact of Fieldays is to say that every one of the 119,892 gate entries (man, woman or child) generates about \$3,500 in sales revenue for New Zealand firms and about \$1,150 for businesses in the Waikato region. These averages include hospitality services, equipment sales and organisational expenditures. The Waikato average is lower due to an estimated 72% of equipment sales coming from outside



the Waikato region. For the Waikato region, the impact of Fieldays visitor patron expenditure alone (excluding equipment purchases) is significant. Every gate entry by a visitor to the region (ie 63,543 persons) generates \$528 of expenditure on accommodation, restaurants and other recreation for Waikato businesses. Other hospitality sectors such as the retail trade sectors will secure a proportion of this business. Clearly Fieldays visitors are of major importance to the Waikato regional economy by contributing an estimated \$34 m annually to the region.

The importance of Fieldays to the continued success of the New Zealand economy, particularly the major agricultural exporting sectors, cannot be overstated. Fieldays provides a platform for advertising the latest technology available to augment the productivity of workers in the farming and horticultural sectors. It is important that New Zealand maintain a leadership in the early adoption of productivity-augmenting equipment in the primary sectors. Early adopters, however, run the risk of paving the way for larger, better capitalised competitors to reap the majority of the rewards the early adopters have demonstrated. This can curb future innovation and this is something New Zealand cannot afford to facilitate especially in the sectors so vital to the country's future prosperity. There is a role for Government here in ensuring that innovation as demonstrated by Fieldays exhibitors continues to be a world-wide event attracting participants from overseas.

It seems very clear that Fieldays has evolved into a major player in assuring New Zealand's economic future. First, Fieldays can provide a platform for bringing New Zealand innovation in agricultural, horticultural etc machinery to the attention of the world food producers and potential equipment purchasers. Innovative but small New Zealand manufacturers may not be able to afford a presence in other similar forums overseas. Better to have the world come to Hamilton in June every year. The 129% increase in overseas exhibitor sites in 2014 suggests this is no pipedream. Secondly, maintenance of brand leadership requires a continual presence at least annually at a world-class event such as what Fieldays has become. And it is important for New Zealand to realize that the current Fieldays in Hamilton

is New Zealand's best shot at achieving and maintaining the world-class status of this event. While other similar events around New Zealand may deserve resources, they will never attain the scale and recognition that Fieldays has already achieved over the last 46 years. World players in agriculture may come to New Zealand but once a year, so why not ensure that such a visit is as memorable as possible by making the Fieldays site iconic? Thirdly, the availability of innovative productivity enhancing equipment needs to be demonstrated to the actual farmers and growers in the field around New Zealand. Only by using the latest equipment and techniques can New Zealand producers expect to maintain their current high standing in dairy, meat, horticultural, wine and other primary production.

New Zealand can never achieve the production scale required for a sustained presence in, for example, motor vehicle production. Australia has belatedly come to realise this reality. New Zealand can, however, sustain competitiveness in the smaller production runs required for specialised agricultural machinery and equipment such as fruit sorting equipment, milk dryers and similar. But this does require sales to overseas businesses since sales to New Zealand-based producers alone comprise only a small fraction of world capacity. For these products, innovation with engineering excellence and not economies of scale is the crucial competitive advantage. Fieldays as a showcase for New Zealand agricultural technology can facilitate the export growth necessary to maintain New Zealand's position as a world leader in Agriculture generally.

The economic impacts summarised above are important but not the only gains secured nationally and regionally from Fieldays. The 942 firms participating in the event enhance their reputation and build brand loyalty for future operations. This is particularly important for international sales and New Zealand exports in the future. The politicians, market movers and overseas executives attracted to this international event facilitate world-wide and regional interactions that could help the Waikato region further develop its production and logistics potential.



APPENDIX 1

METHODOLOGY REVIEW OF THE 88-SECTOR ECONOMIC MODELS

This review provides a brief non-technical description of the 88-sector input/output model used to generate the general equilibrium economic impact (resulting impacts after all reactions to initiating events, industry developments etc are accounted for) on the New Zealand economy as well as any regional economies such as the Auckland City economy, Waikato Regional Council economy, Waipa District Council economy etc that may be affected by the activity under analysis.

The economic models were constructed from data originating with **Statistics New Zealand** for the year ended March 2007. The New Zealand economy and all regional economies were categorised into 88 sectors (see below and *italicised* for easy identification). They comprise the basic farming sectors such as *Dairy and Cattle Farming*, *Other Farming* (pigs, goats, horses etc.), *Horticulture and Fruit Growing*, *Services to Agriculture* and similar. There are ten such primary sectors in the model up to *Oil and Gas Exploration and Extraction*. Related follow-on sectors to these primary producers that are important for rural regional economies include *Meat Processing*, *Dairy Processing*, *Other Food Manufacturing* (vegetables, fruit, fish, confectionery), *Beverages*, *Malt and Tobacco* and three sectors related to wood processing. Altogether there are thirty-five manufacturing sectors including the primary processing sectors above as well as *Industrial Machinery*, *Ship and Other Transport Equipment*, *Other Chemical Products* etc. There are four utility sectors as in *Electricity*, *Gas*, *Water and Sewerage Drainage and Waste*. Construction is subdivided into four sectors including *Construction Services* (eg paving, pools, wiring, plumbing, roofing, landscaping). The models then use forty-five sectors covering a variety of wholesale and retail trade sectors, four transportation sectors, sixteen finance and business service sectors, central and local government services as well as separate sectors for *Primary and Secondary Education*, *Hospitals*, *Community Care Services*, *Sport and Recreation* and similar. All of the 88 sectors are listed below. Where a sector description is not obvious, some of the activities in that sector are listed in the right-most column.

These comprehensive economic models comprise a class of so-called general equilibrium economic models labelled Input/Output models. Each of the 88 sectors in a model quantifies the inputs it receives from all other sectors such as *Electricity* in

order to produce the goods and services sold in a given period (output level in dollars) usually a year. Also quantified are the total inputs of labour and capital goods (depreciation or capital replacement) needed to produce at that output level. The models are constructed for the latest year for which national GDP data are available. Currently this means a model for the year ended December 2013.

The input/output models provide detailed information concerning:

- » The structure of the New Zealand and/or regional economies as to the most important sectors in the economy in terms of employment, profitability, exports out of the country/region etc.
- » The impact of a change originating in one sector (eg *Meat Processing*) and its implications for other related sectors (eg *Road Transport*) and the national/regional economy as a whole.
- » Consequences for employment and income flowing from major changes to the economy due to government policy (eg lower taxes, increased GST), exchange rate movements and similar.
- » The implications for the regional and national environment of significant increases in the output level of any sector or group of sectors (eg *Dairy and Cattle Farming* with increasing dairy conversions).

There are four economic impacts that can be analysed for the national or regional economy as follows:

- » Total sales revenue, turnover or output level in dollars
- » Net household income after tax, ACC charges, superannuation and other saving in dollars
- » Employment Count as in both full and part-time workers
- » Value Added for the region (defined below) otherwise known as gross regional product (GRP) or regional GDP. Gross domestic product or GDP is the equivalent national measure for all New Zealand.



Although total sales or output best measures the dollar value of total economic activity in a region, it can be inflated by the value of large imports of products or services (eg power turbines) into a region such as the Waikato from say Auckland or overseas. While the sales or revenue figure measure total transaction value, the Value Added or GRP value quantifies the economic value in dollars created with a region such as Waikato by local businesses and their workforce after allowing for any necessary imports of raw materials and other goods and services from outside the region. This is the measure of GRP for a regional economy and ultimately inputs into New Zealand's GDP and best reflects the true gain to the regional economy.

The value added measure includes:

- » Net after-tax wages and salaries for employees
- » Net after-tax business operating surpluses but before dividends and interest paid by businesses
- » Capital replacement of plant and equipment used up in current production
- » All taxes paid to government as in PAYE, company tax, GST, excise and customs taxes, road user charges and all similar taxes paid to central government.

Value Added can be considered the total return from any activity or event received by workers (wages), businesses (profits) and government (taxes).

Net after-tax wages and salaries (or net household income) is the best measure of available household purchasing power. Strong growth or impact for this measure in a region signals improved prospects for all wholesale and retail trade sectors as well as for sectors like *Construction Services* (eg house additions or renovation) and similar sectors.

A wealthy country or region may show acceptable outcomes for the three dollar measures above but may lack the industrial capacity to support significant job growth in say the region. Employment is therefore an important attribute of regional prosperity and this means economic development within the region may be required to expand opportunities for a regional workforce. Such employment is measured in the economic models as Employment Count and includes both full and part-time persons. An important capital intensive facility such as a

port or airport may itself need only a moderate workforce (direct employment) for efficient operation. Through the facility's linkages to other sectors, however, it can ensure profitability to those sectors and drive significant employment growth in those sectors (eg *Horticulture and Fruit Growing* which includes floriculture, strawberries, asparagus etc.) by facilitating immediate transport to high value markets for any New Zealand region.

The so-called general equilibrium (includes all subsequent reactions to initiating economic stimuli) nature of the 88-sector Input/Output model is designed to reflect the idea that employment in any one sector generates employment in other sectors of the economy/region being analysed. From employment, related benefits such as income, value added etc. follow. As employees in the initiating sector build houses and educate their families in the general course of living, they create demands for goods and services that must be satisfied by other sectors with their own employees. In turn, these employees create yet further demands in other sectors and so on and so on. In economic jargon, these successive rounds of impacts are labelled round-by-round effects with some activities down the line requiring yet further services and employment from the initiating sector. The resulting general equilibrium impacts (Revenue or Output, Net Income, Value Added and Employment) are estimated by the Input/Output methodology and account for all rounds of economic activity. Modern computers and software have made these calculations now routine.

Using accurate data from **Statistics New Zealand**, credible estimates of the economic importance of sectors like *Dairy and Cattle Farming* for a regional economy such as Waikato can be derived. The household income created within this sector links forwards in to sectors such as *Supermarkets and Groceries, Other Personal Household Services, Sport and Recreation* etc. The inputs required for production by *Dairy and Cattle Farming* link backwards in to supplying sectors such as *Electricity, Services to Agriculture, Non-Residential Building, Industrial Machinery, Road Transport* etc. The total flow-on linkages (backwards and forwards) can be estimated from the model and in the case of *Dairy and Cattle Farming* constitute about 30% of the Waikato Regional Council economy in terms of GRP for the December 2013 year. A similar analysis shows *Horticulture and Fruit Growing* (includes kiwifruit) to be about 20% of the BOP's GRP annually.



88-SECTOR MODEL DESCRIPTIONS

1	Horticulture and fruit growing	Nurseries floriculture veg kiwi grapes fruit citrus
2	Livestock and cropping farming	Grains rice livestock fattening and finishing deer
3	Dairy and cattle farming	Milk solids lamb mutton beef production
4	Other farming	Poultry horses pigs goats emus beekeeping
5	Services to agriculture and hunting and trapping	
6	Forestry and forestry services	
7	Logging	
8	Fishing	Deep sea fresh water aquaculture fish farming
9	Mining and quarrying	Coal gold construction materials and aggregates
10	Oil and gas exploration and extraction	
11	Meat and meat product manufacturing	
12	Dairy product manufacturing	
13	Other food manufacturing	Seafood cabin meals bread bakery confectionery
14	Beverage, malt and tobacco manufacturing	Beer wine spirits
15	Textiles product manufacturing	Wool scouring floor coverings curtains
16	Clothing and footwear manufacturing	Knitted leather furs
17	Wood product manufacturing	Logs veneer plywood mouldings
18	Pulp paper and paper board manufacturing	
19	Paper and paper board containers manufacturing	Stationery sanitary and cleaning
20	Printing, publishing and recorded media	Newspapers books music
21	Fertilizer petroleum indust chemical manuf	Gasoline explosives industrial gases bitumen
22	Other chemical product manufacturing	Cleaning pesticides veterinary toiletries
23	Rubber product manufacturing	
24	Plastic product manufacturing	
25	Non-metallic mineral product manufacturing	Bricks cement lime ceramics aggregates
26	Basic metal manufacturing	Iron steel pipes aluminium ingots
27	Structural sheet and fabricated metal manufact	Aluminium products boilers tanks nuts and bolts
28	Motor vehicle and part manufacturing	
29	Ship boat and other transport equip manufact	Railcars aircraft caravans motor homes trailers
30	Photographic and scientific equip manufacturing	Communications medical optical
31	Electronic equipment and appliance manufacturing	Whiteware
32	Industrial machinery manufacturing	Aircon heating ventilation pumps conveyers
33	Prefabricated building manufacturing	
34	Furniture manufacturing	
35	Other manufacturing nec	Jewellery toys
36	Electricity generation and supply	
37	Gas supply	
38	Water supply	
39	Sewerage drainage and waste disposal services	
40	Residential construction	
41	Non-residential building construction	Commercial buildings, factories, plants, cool-stores
42	Non-building construction	Roads bridges runways loading bays ports
43	Construction trade services	Roofing plumbing wiring hardware
44	Unprocessed primary product wholesaling	Wool grains



45	Petroleum, metal and chemical wholesaling	Oil companies BP Mobil Caltex Z
46	Builders supplies wholesaling	Timber plumbing hardware
47	Machinery and equipment wholesaling	Computer communications professional scientific
48	Motor vehicle wholesaling	
49	Food, drink and tobacco wholesaling	Meat poultry dairy fish fruit liquor cigarettes
50	Personal and household goods wholesaling	Clothing furniture jewellery toys books CDs
51	S'mkt grocery furniture appliance recreation retailing	
52	Specialized food and liquor retailing	Takeaways fish fruit bakery beer wine
53	Department stores	
54	Other personal and household good retailing	Clothing footwear computer garden toiletries
55	Motor vehicle retailing and services	
56	Accommodation	
57	Restaurants and bars	
58	Road transport	Freight taxis scenic tours urban rural
59	Water and rail transport	
60	Air transport, services to transport and storage	Pipelines customs and freight agents storage
61	Communication services	
62	Banking and Financial services	Banking credit unions
63	Life and health Insurance	
64	Superannuation fund operation	
65	General Insurance	
66	Services to finance and insurance	
67	Real estate	
68	Investor in other property	Livestock horses publishing movies sports teams
69	Vehicle and equipment hire	
70	Ownership of owner-occupied dwellings	
71	Scientific research and technical services	Testing architect engineering regulatory
72	Computer services	
73	Legal and accounting services	
74	Other business services	Mkt research consult employ credit packaging
75	Central government administration and defence	
76	Local government administration	Water drainage recreation regulatory
77	Pre-school primary and secondary education	
78	Post school education	Universities technical institutes
79	Other education	Technical arts sports vocational hair beauty
80	Hospitals and nursing homes	
81	Health and Dental Services	
82	Veterinary services	
83	Community care services	Aged care child care correctional prisons
84	Motion picture, radio and TV services	
85	Libraries museum and the arts	Zoological botanical parks
86	Sport and recreation	Racing amusement fitness attractions golf pools
87	Personal and private household serv and h'hold staff	Video dry-cleaning funeral gardening cleaning
88	Religious organisations and interest groups	Rotary Lions

APPENDIX 2

THIS APPENDIX REPRODUCES SOME OF THE RAW DATA USED IN THE ABOVE ANALYSIS.

Although there were 119,892 gate entries at 2014 Fielddays, patrons do come in groups which may be a household as in husband and wife plus children or a group of farmers who come to Fielddays together or another group of Fielddays patrons as represented by a business. The following table summarises the basic data from a sample of 105 respondents.

Group Size

Table on group size

Number in Group	Groups	Percentage
1	24	22.86
2	45	42.86
3	13	12.38
4	13	12.38
5	4	3.81
6+	6	5.71
TOTALS	105	100.00

Average group size using 7 as average for 6+ = 2.54. Average group size using 8 as average for 6+ = 2.60.

Airfare Impact

Fielddays attracted in excess of 2,400 overseas patrons after allowing for non-respondents. An average airfare of \$1450 was estimated using respondents spending \$500 or more on transportation. The resulting average of \$1,450 is almost certainly conservative. In future years, this statistic will be surveyed more comprehensively.

Total airfare expenditures for Fielddays 2014 are estimated in millions as $2.4 \times 1.45 = \$3.48$ m.

A 25% share of this expenditure or \$0.87 m is used for New Zealand economic impact calculations and covers expenditures by airlines in New Zealand for refuelling, cleaning, landing charges, cabin meals and similar.

Hospitality Spending by Non-Waikato Patrons

Non-Waikato patron gate entries totalled 63,543 with 63,543/2.54 or 25,017 groups. Average expenditure by group is shown in the following table with total expenditure by category.

Table on hospitality expenditure

Category	Group Average \$	Total Expenditure \$m
Accommodation	115.00	2.877
Transportation	136.62	3.418
Retail Trade	156.57	3.917
Restaurants and Bars	224.75	5.623
TOTALS	632.94	15.835

The total direct spend at 2014 Fielddays by non-Waikato patrons totalled \$15.84 m. This equates to just under \$250 per person.

Note that the question was so framed that an intended purchase could be from a competitor to the exhibitor at the site visited.

Table on equipment and consumables purchases

Sales Value	Number of Sites	Percentage
\$0 - \$5,000	46	23.12
\$5000 - \$9999	26	13.07
\$10,000 - \$49,999	56	28.14
\$50,000 - \$99,999	32	16.08
\$100,000 - \$499,999	33	16.58
\$500,000 - \$999,999	1	0.50
\$1,000,000 +	5	2.51
TOTALS	199	100.00



PURCHASES REALISED AT FIELDAYS BY EXHIBITORS

The following table shows a sample over 214 exhibitors as to actual sales or firm orders realised at the 2014 Fieldays by site.

Table on equipment and consumables purchases

Sales Value	Number of Sites	Percentage
\$0 - \$5,000	46	23.12
\$5000 - \$9999	26	13.07
\$10,000 - \$49,999	56	28.14
\$50,000 - \$99,999	32	16.08
\$100,000 - \$499,999	33	16.58
\$500,000 - \$999,999	1	0.50
\$1,000,000 +	5	2.51
TOTALS	199	100.00

Only sales by New Zealand exhibitors over 1,288 sites are used for economic impact purposes. Most of the value added by overseas exhibitors such as vehicle firms accrues to overseas countries and is excluded from New Zealand impacts. Consumables such as drenches, sprays etc. are included in the above but the majority of sales will be equipment related.

Average sale per site is \$125,829 over 1,288 sites for total sales of \$162 m.

Average Contacts per Site

This measure is important since it shows the number of potential sales per site as estimated by catalogues or business cards etc. distributed to interested parties over the four days of Fieldays.

Table on catalogues etc distributed per site

Number of Catalogues	Number of Sites	Percentage
0 – 100	52	24.30
101 – 500	89	41.59
501 – 1000	36	16.82
1001 – 2000	18	8.41
2001 – 3000	7	3.27
3001 – 4000	7	3.27
4001 – 5000	0	0.0
5001 – 7500	4	1.87
7500 – 10,000	1	0.47
TOTALS	214	100.00

The average of catalogues or cards per site is estimated at 743 or approximately 750.



Chance of Purchase per Visitor or Group at Exhibitor Site

The following table shows the responses when a person or group was asked if they had made a purchase at the site they were just leaving. The response YES indicates a purchase was made at the site by the person or group just leaving that site.

Table on response to purchase question on leaving an exhibitor site

Response to Question on whether Purchase Made	Number	Percentage
Yes	32	30.19
No but highly likely to buy in the next 12 months	14	13.21
No but could buy at Fieldays next year	4	3.77
No	56	52.83
TOTALS	106	100.00

If we aggregate the first two responses in the above table we see that there is a 43% chance of making a sale at Fieldays for every visitor or group entering the exhibitor site. Note that the question was so framed that an intended purchase could be from a competitor to the exhibitor at the site visited.

DR WARREN R HUGHES - AUTHOR PROFILE



The author is Cambridge, New Zealand born and a graduate of the University of Auckland and Indiana University in the USA, where he completed his doctorate in Business Economics and Public Policy in 1970.

Since that time, he has taught in the areas of econometrics, forecasting, financial economics and managerial strategy at The University of New South Wales in Sydney (1970 – 1978) and most recently at The University of Waikato (1978 – 2007). At various times, he has taught in MBA programmes at the University of Florida in Gainesville and in the Graduate School of Management at the University of California at Irvine. Dr Hughes retired from the University of Waikato in 2007 and was appointed an Honorary Fellow in Economics in 2008. At the present time, he works as an independent economic consultant based in Auckland.

The author has published extensively, mainly as single-authored articles in international journals such as *Decision Sciences*, *Theory and Decision*, *The Journal of Business*, *Mathematical and Computer Modelling*, *Environment and Planning*, *Australian Journal of Management*, *Forest Science*, *Australasian Journal of Regional Studies* and, most recently in April 2009, *OMEGA*, the international journal of management science and again in September 2010 in the *Chinese Business Review*. Other articles on theoretical and applied economics have been published by the author

in *New Zealand Economic Papers* and Australia's *Economic Record*. He is a former member of the Advisory Board for the Wiley journal *Managerial and Decision Economics* and maintains a continuing interest in the latest developments in economic theory as it relates to management and business. The author has developed a particular expertise in the area of impact and regional analysis. He was the Editor/Manager of the *Regional Economic Bulletin*, which focused on topical issues relevant to the business and wider communities, mainly but not exclusively, in the Waikato and Bay of Plenty regions. The *Bulletin*, which was a complimentary publication of the University of Waikato, ceased publication in 2008.

The author has acted as a consulting economist for *Economic Solutions Limited*, *Environment Waikato*, *Carter Holt Harvey Limited*, *Contact Energy*, *Norske Skog Tasman Limited*, *Port of Tauranga Limited*, *Port of Napier*, *Feltex Carpets Limited*, *Man'O War Farm Limited*, *Refining New Zealand Limited*, *Zespri International*, *Waikato Innovation Park*, *Property Council of New Zealand*, *Creative Napier*, *Katolyst*, *Priority One BOP*, *Vision Manawatu*, *Enterprise Franklin*, *Venture Taranaki*, various District Councils in the Waikato, Bay of Plenty, Hawkes Bay and other regions and for events such as *Tauranga's Montana Jazz Festival*, *Hamilton's Balloons Over Waikato* and *Napier's Art Deco Weekend*.

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