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Profile 2001

A Socio-economic Profile of the People of the Bay of Plenty Region – Census 2001

Prepared by Julie Warren
Centre for Research, Evaluation and Social Assessment (CRESA)

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Executive Summary

Population Change

The Bay of Plenty is New Zealand's fifth most populated region. With around 239,412 inhabitants, the region comprises around 6% of the national population. The land area of the region is 12,486 km² with a population density of 19.2 people per square kilometre. Around 80% of the region's resident population lives in urban areas of more than 1000 people.

Between 1991 and 2001 there was a 17% increase in the Bay of Plenty resident population. The Western Bay of Plenty and Tauranga Districts experienced the largest population increases (36% and 28% respectively) over the ten-year period. Kawerau, Whakatane and Rotorua districts experienced population declines, mainly between 1996 and 2001.

The Bay of Plenty Region is expected to remain the second fastest growing region in New Zealand, with a projected population increase of 30% (or 89,576 people) between 2001 and 2026. A 60% projected growth in the Tauranga District between 2001 and 2026 accounts for much of the region's projected growth.

Population Characteristics

In 2001, 25% of the Bay of Plenty resident population identified as Maori compared with 14% for New Zealand as a whole¹. Five percent of the region's population identified with an ethnic group *other than* NZ European or Maori. In 2001, NZ European comprised 75% of the region's resident population.

The Bay of Plenty has a higher percentage of youth (0-14 years) and people in the older age groups (45 plus) than New Zealand as a whole. The age structure of the region's Maori population is markedly younger than NZ European with 38% of Maori being under the age of 15 compared with 22% for NZ European.

Increases in the 65 years plus age group are occurring as a result of both population ageing and migration.

Households and Families

In 2001, just under two thirds (65%) of household occupiers in the region owned or partly owned their homes.

Household size was generally larger in the eastern Bay of Plenty. In 2001, 31% of Kawerau households had four or more usual residents.

While the most common family type in New Zealand is Two-Parent, this is not the case in the Bay of Plenty. The most common family type in the Bay of Plenty (41%) is the Couple Only, slightly greater than the New Zealand proportion of 39%. The percentage of One-Parent families (21%) was higher in the Bay of Plenty, than New Zealand overall (16%).

¹ Because people can identify with more than one ethnic group, the total adds up to more than 100% (more details in Appendix 2: Glossary of Terms).

Within the Bay of Plenty, 14% of Opotiki households indicated being without a motor vehicle for private use compared with 5% in the Western Bay of Plenty.

Around 5% of households in the region were without access to a telephone in 2001. The percentage of households without access to telephones varied widely across the region, ranging from 3% in the Tauranga District to 21% in the Opotiki District.

Employment and Unemployment

In 2001, 100,746 people aged 15 years and over were engaged in either full-time or part-time paid employment. This is an increase of 10% from the 1996 figure of 91,770. Around 22% of the Bay of Plenty and New Zealand labour force were employed in the Community-Social Services industry or the Wholesale-Retail industry. Eleven percent were employed in Agriculture, Forestry and Fishing.

In 1996 the rate of unemployment was slightly higher in the Bay of Plenty (6%) than New Zealand as a whole (5%). Unemployment levels were highest in the Kawerau District (11%). Inter-censal comparisons show an overall decline in the number of unemployed between 1996 and 2001. However, this decline has largely been a NZ European phenomenon, with Maori unemployment levels only decreasing by 1% over this period.

Education

The region has a higher proportion of people with no formal qualifications (27%) when compared with New Zealand as a whole (24%). The proportion of resident populations with no formal qualifications was considerably higher in the eastern Bay of Plenty.

Income

The median personal income of Bay of Plenty residents aged 15 years and over in 2001 was \$16,800 per annum, compared with \$18,500 for New Zealand overall. Around 40% of the region's population aged 15 years and over earned between \$0 and \$15,000. In 2001, 32% of families in the region earned under \$30,000 per annum.

Twenty percent of the Bay of Plenty resident population aged 15 years and over (35,442 people) received some form of income support during the twelve months preceding the 2001 census. There was considerable variation in the proportion of the population aged 15 years and over who had received income support, varying between 16% in the Western Bay of Plenty District and 32% in the Opotiki District.

Economic Activity

Between 1997 and 2002 there was a 27% increase in the total number of businesses within the region. The number of businesses associated with the Property and Business Services increased by more than 50% from 3,453 in 1997 to 5,418 in 2002.

The Bay of Plenty registered a 3.8% growth in the economy for the June 2001 – June 2002 calendar year, the fourth lowest growth rate in the country.

Growth in commercial building consents decreased in all districts in the years 1998-2002 except in the Rotorua district where growth was slow. The large number of residential building consents issued in the Tauranga District between 1998 and 2002 reflects the overall increases in population and dwelling numbers.

Health Status

Evaluation of health status against the twelve Health Strategy Priorities identified by Government, shows the region population has higher levels of smoking, suicide and suicide attempts, cancer, cardiovascular disease, diabetes and violence. Maori have the highest health needs of any group in the region.

Participation in Community and Public Life

Compared with New Zealand overall, the Bay of Plenty Region's residents are more likely to be involved in helping or voluntary work for an organisation, group or marae.

Voter turnout in the Bay of Plenty at the 2002 general elections was similar to the national average, varying between 77-83%. While voter turnout was considerably lower (58%) for the Maori electorate, Waiariki, it was the same as the overall turnout for the combined Maori electorates.

In the 2001 Regional Council elections, voter turnout in the region was higher (52%) than the national average (49%). Voter turnout for the 2001 District Council elections was lowest in the Western Bay of Plenty (49%) and highest in the Opotiki and Whakatane Districts (57%). The New Zealand average for voter turnout at the district council elections was 57%.

2001 Key Statistics

Key statistics from the 2001 census for the Bay of Plenty Region and districts are summarised in the following tables.

2001 KEY STATISTICS

NEW ZEALAND

Usually Resident Population		Number	Percent Increase
	1991	3,373,926	1996 - 2001 = 3%
	1996	3,618,303	
	2001	3,737,277	
Area and Population Density			
	Total Land Area	270,500km ²	
	People per Square Kilometre	13.8/km ²	
	Percent of Population Living in Urban Areas	86%	
Total Number of Private Dwellings		Number	Percent Increase
	1996	1,276,332	1996-2001 = 7%
	2001	1,359,834	
Tenure (Home Ownership)		Number	Percent
	Dwelling Owned or Partly Owned	870,135	65%
	Dwelling Not Owned By Usual Resident	412,971	31%
Age Composition		Number	Percent
	0-4	270,801	7%
	5-14	576,942	15%
	15-24	505,065	14%
	25-44	1,109,259	30%
	45-64	824,787	22%
	65 and over	450,426	12%
Ethnic Composition		Number	Percent
	Maori	526,281	14%
	NZ European	2,868,009	77%
	Other	494,184	13%
Labour Force Status (15 Years and Over)		Number	Percent
	Labour Force (full-time and part-time)	1,727,271	60%
	Non Labour Force	933,909	32%
	Unemployed	139,908	5%
Incomes (15 Years and Over)		Number	Percent
	Personal Income: \$30,001 and over	789,306	27%
	Family Income: \$30,001 and over	550,374	57%
Highest Qualification (15 Years and Over)		Number	Percent
	University	292,086	10%
	Other Tertiary	507891	18%
	School	995895	34%
	No Qualifications	686226	24%
Family Type		Number	Percent
	One-Parent Family	182916	19%
	Two-Parent Family	407793	42%
	Couple Only	376905	39%

Source: Statistics New Zealand website and customised tables, and Visual Census01

BAY OF PLENTY 2001 KEY STATISTICS

Usually Resident Population		Number	Percent Increase
	1991	203,982	1996 - 2001 = 7%
	1996	224,364	
	2001	239,424	
Area and Population Density			
	Total Land Area	12,486km ₂	
	People per Square Kilometre	19.2/km ²	
	Percent of Population Living in Urban Areas	80%	
Total Number of Private Dwellings		Number	Percent Increase
	1996	79,632	1996-2001 = 10%
	2001	87,894	
Tenure (Home Ownership)		Number	Percent
	Dwelling Owned or Partly Owned	56,193	65%
	Dwelling Not Owned By Usual Resident	26,163	30%
Age Composition		Number	Percent
	0-4	18,285	8%
	5-14	40,050	17%
	15-24	28,119	12%
	25-44	65,748	27%
	45-64	53,886	23%
	65 and over	33,324	14%
Ethnic Composition		Number	Percent
	Maori	63,579	25%
	NZ European	178,420	75%
	Other	11,157	5%
Labour Force Status (15 Years and Over)		Number	Percent
	Labour Force (full-time and part-time)	100,746	56%
	Non Labour Force	63,213	35%
	Unemployed	10,692	6%
Incomes (15 Years and Over)		Number	Percent
	Personal Income: \$30,001 and over	42,261	23%
	Family Income: \$30,001 and over	32,811	51%
Highest Qualification (15 Years and Over)		Number	Percent
	University	10,941	6%
	Other Tertiary	34164	19%
	School	58086	32%
	No Qualifications	48705	27%
Family Type		Number	Percent
	One-Parent Family	13644	21%
	Two-Parent Family	24348	38%
	Couple Only	26055	41%

Source: Statistics New Zealand website and customised tables, and Visual Census01

WESTERN BAY OF PLENTY DISTRICT 2001 KEY STATISTICS

Usually Resident Population		Number	Percent Increase
	1991	29,871	1996 - 2001 = 9%
	1996	34,968	
	2001	38,235	
Area and Population Density			
	Total Land Area	2,121km ²	
	People per Square Kilometre	18.0/km ²	
	Percent of Population Living in Urban Areas	43%	
Total Number of Private Dwellings		Number	Percent Increase
	1996	12,561	1996-2001 = 12%
	2001	14,043	
Tenure (Home Ownership)		Number	Percent
	Dwelling Owned or Partly Owned	9,729	70%
	Dwelling Not Owned By Usual Resident	3,459	25%
Age Composition		Number	Percent
	0-4	2,622	7%
	5-14	6,618	17%
	15-24	3,693	10%
	25-44	9,876	26%
	45-64	9,948	26%
	65 and over	5,475	14%
Ethnic Composition		Number	Percent
	Maori	6,339	17%
	NZ European	31,887	83%
	Other	1,146	3%
Labour Force Status (15 Years and Over)		Number	Percent
	Labour Force (full-time and part-time)	17,178	59%
	Non Labour Force	9,666	33%
	Unemployed	1,236	4%
Incomes (15 Years and Over)		Number	Percent
	Personal Income: \$30,001 and over	6,960	24%
	Family Income: \$30,001 and over	5,760	54%
Highest Qualification (15 Years and Over)		Number	Percent
	University	1,614	6%
	Other Tertiary	5712	20%
	School	9561	33%
	No Qualifications	7839	27%
Family Type		Number	Percent
	One-Parent Family	1581	15%
	Two-Parent Family	4254	40%
	Couple Only	4854	45%

Source: Statistics New Zealand website and customised tables, and Visual Census01

TAURANGA DISTRICT 2001 KEY STATISTICS

Usually Resident Population		Number	Percent Increase
	1991	66,738	1996 - 2001 = 17%
	1996	77,778	
	2001	90,909	
Area and Population Density			
	Total Land Area	168km ²	
	People per Square Kilometre	541.2/km ²	
	Percent of Population Living in Urban Areas	100%	
Total Number of Private Dwellings		Number	Percent Increase
	1996	29,583	1996-2001 = 19%
	2001	35,319	
Tenure (Home Ownership)		Number	Percent
	Dwelling Owned or Partly Owned	22,536	65%
	Dwelling Not Owned By Usual Resident	10,842	31%
Age Composition		Number	Percent
	0-4	6,387	7%
	5-14	13,308	15%
	15-24	10,401	11%
	25-44	24,798	27%
	45-64	20,346	22%
	65 and over	15,663	17%
Ethnic Composition		Number	Percent
	Maori	14,112	16%
	NZ European	76,776	84%
	Other	3,762	4%
Labour Force Status (15 Years and Over)		Number	Percent
	Labour Force (full-time and part-time)	38,493	54%
	Non Labour Force	26,805	38%
	Unemployed	3,792	5%
Incomes (15 Years and Over)		Number	Percent
	Personal Income: \$30,001 and over	16,626	23%
	Family Income: \$30,001 and over	13,050	52%
Highest Qualification (15 Years and Over)		Number	Percent
	University	4,539	6%
	Other Tertiary	13941	20%
	School	24135	34%
	No Qualifications	18210	26%
Family Type		Number	Percent
	One-Parent Family	4863	19%
	Two-Parent Family	8862	35%
	Couple Only	11292	45%

Source: Statistics New Zealand website and customised tables, and Visual Census01

ROTORUA DISTRICT [PART] 2001 KEY STATISTICS

Usually Resident Population		Number	Percent Increase
	1991	58,026	1996 - 2001 = -2%
	1996	62,083	
	2001	61,053	
Area and Population Density			
	Total Land Area	1,609km ²	
	People per Square Kilometre	38.0/km ²	
	Percent of Population Living in Urban Areas	86%	
Total Number of Private Dwellings		Number	Percent Increase
	1996	21,810	1996-2001 = 3%
	2001	22,557	
Tenure (Home Ownership) Rotorua [whole]		Number	Percent
	Dwelling Owned or Partly Owned	13,098	62%
	Dwelling Not Owned By Usual Resident	6,738	32%
Age Composition		Number	Percent
	0-4	5,094	8%
	5-14	10,506	17%
	15-24	8,163	13%
	25-44	17,718	29%
	45-64	12,867	21%
	65 and over	6,663	11%
Ethnic Composition		Number	Percent
	Maori	20,970	34%
	NZ European	40,393	66%
	Other	4,509	7%
Labour Force Status (15 Years and Over)		Number	Percent
	Labour Force (full-time and part-time)	26,478	58%
	Non Labour Force	14,028	31%
	Unemployed	2,721	6%
Incomes (15 Years and Over)		Number	Percent
	Personal Income: \$30,001 and over	10,968	24%
	Family Income: \$30,001 and over	8,256	53%
Highest Qualification (15 Years and Over)		Number	Percent
	University	3,120	7%
	Other Tertiary	8370	18%
	School	14193	31%
	No Qualifications	11673	26%
Family Type		Number	Percent
	One-Parent Family	3885	25%
	Two-Parent Family	6210	40%
	Couple Only	5460	35%

Source: Statistics New Zealand website and customised tables, and Visual Census01

WHAKATANE DISTRICT 2001 KEY STATISTICS

Usually Resident Population		Number	Percent Increase
	1991	32,091	1996 - 2001 = -1%
	1996	33,126	
	2001	32,817	
Area and Population Density			
	Total Land Area	4,442km ²	
	People per Square Kilometre	7.4/km ²	
	Percent of Population Living in Urban Areas	65%	
Total Number of Private Dwellings		Number	Percent Increase
	1996	11,100	1996-2001 = 3%
	2001	11,469	
Tenure (Home Ownership)		Number	Percent
	Dwelling Owned or Partly Owned	7,332	65%
	Dwelling Not Owned By Usual Resident	3,444	30%
Age Composition		Number	Percent
	0-4	2,748	8%
	5-14	6,183	19%
	15-24	3,945	12%
	25-44	9,024	28%
	45-64	7,173	22%
	65 and over	3,741	11%
Ethnic Composition		Number	Percent
	Maori	13,197	40%
	NZ European	20,949	64%
	Other	1,104	3%
Labour Force Status (15 Years and Over)		Number	Percent
	Labour Force (full-time and part-time)	13,191	55%
	Non Labour Force	8,130	34%
	Unemployed	1,833	8%
Incomes (15 Years and Over)		Number	Percent
	Personal Income: \$30,001 and over	5,667	24%
	Family Income: \$30,001 and over	4,209	49%
Highest Qualification (15 Years and Over)		Number	Percent
	University	1,341	6%
	Other Tertiary	4425	19%
	School	7131	30%
	No Qualifications	6948	29%
Family Type		Number	Percent
	One-Parent Family	2082	24%
	Two-Parent Family	3441	40%
	Couple Only	3081	36%

Source: Statistics New Zealand website and customised tables, and Visual Census01

KAWERAU DISTRICT 2001 KEY STATISTICS

Usually Resident Population		Number	Percent Increase
	1991	8,337	1996 - 2001 = -11%
	1996	7,830	
	2001	6,975	
Area and Population Density			
	Total Land Area	22km ²	
	People per Square Kilometre	318.0/km ²	
	Percent of Population Living in Urban Areas	100%	
Total Number of Private Dwellings		Number	Percent Increase
	1996	2,430	1996-2001 = -4%
	2001	2,337	
Tenure (Home Ownership)		Number	Percent
	Dwelling Owned or Partly Owned	1,500	65%
	Dwelling Not Owned By Usual Resident	645	28%
Age Composition		Number	Percent
	0-4	660	9%
	5-14	1,524	22%
	15-24	843	12%
	25-44	1,896	27%
	45-64	1,419	20%
	65 and over	639	9%
Ethnic Composition		Number	Percent
	Maori	3,915	56%
	NZ European	3,426	49%
	Other	342	5%
Labour Force Status (15 Years and Over)		Number	Percent
	Labour Force (full-time and part-time)	2,217	46%
	Non Labour Force	1,884	39%
	Unemployed	531	11%
Incomes (15 Years and Over)		Number	Percent
	Personal Income: \$30,001 and over	993	21%
	Family Income: \$30,001 and over	723	40%
Highest Qualification (15 Years and Over)		Number	Percent
	University	111	2%
	Other Tertiary	744	16%
	School	1248	26%
	No Qualifications	1713	36%
Family Type		Number	Percent
	One-Parent Family	564	32%
	Two-Parent Family	660	37%
	Couple Only	561	31%

Source: Statistics New Zealand website and customised tables, and Visual Census01

OPOTIKI DISTRICT 2001 KEY STATISTICS

Usually Resident Population		Number	Percent Increase
	1991	8,667	1996 - 2001 = -2%
	1996	9,375	
	2001	9,201	
Area and Population Density			
	Total Land Area	3,105km ²	
	People per Square Kilometre	3.0/km ²	
	Percent of Population Living in Urban Areas	43%	
Total Number of Private Dwellings		Number	Percent Increase
	1996	3,147	1996-2001 = 2%
	2001	3,207	
Tenure (Home Ownership)		Number	Percent
	Dwelling Owned or Partly Owned	1,986	63%
	Dwelling Not Owned By Usual Resident	978	31%
Age Composition		Number	Percent
	0-4	756	8%
	5-14	1,866	20%
	15-24	1,023	11%
	25-44	2,349	26%
	45-64	2,067	22%
	65 and over	1,137	12%
Ethnic Composition		Number	Percent
	Maori	4,995	54%
	NZ European	4,842	53%
	Other	291	3%
Labour Force Status (15 Years and Over)		Number	Percent
	Labour Force (full-time and part-time)	3,090	47%
	Non Labour Force	2,670	41%
	Unemployed	588	9%
Incomes (15 Years and Over)		Number	Percent
	Personal Income: \$30,001 and over	978	15%
	Family Income: \$30,001 and over	816	35%
Highest Qualification (15 Years and Over)		Number	Percent
	University	219	3%
	Other Tertiary	945	14%
	School	1773	27%
	No Qualifications	2268	34%
Family Type		Number	Percent
	One-Parent Family	657	28%
	Two-Parent Family	891	38%
	Couple Only	786	34%

Source: Statistics New Zealand website and customised tables, and Visual Census01

PART ONE**INTRODUCTION**

Chapter 1: Purpose and Scope of the Profile

1.1 Basis for Profile

Regional councils such as Environment Bay of Plenty are responsible for promoting the sustainable management of natural and physical resources. Sustainable management includes managing in a way or at a rate that enables people and communities to provide for their social, economic and cultural well-being.

As caretakers of the land, air, water and the coast, regional councils monitor the effects of human activities on our environment and where appropriate, limit or control the use of resources. Regional councils plan with the community to develop and implement sustainable resource management policies and priorities, administer programmes to control plant and animal pests, construct and maintain catchment protection works and carry out environmental education programmes. Regional councils also have important responsibilities in the areas of civil defence and emergency management, land transport planning, and marine and harbour management.

To be effective caretakers of the natural environment, regional councils need to have a clear understanding of the region's social and economic environment. This profile updates a 1998 report, *People of the Bay of Plenty Region: A Socio-economic Profile*. It presents an overview of the demographic and social characteristics, and economics of the Bay of Plenty Region and districts and their populations. Information contained in this profile will be used to inform the development of policy by Environment Bay of Plenty and other government agencies. This document will also be useful to those individuals and community groups seeking an overview of the region and its people.

The statutory basis for this profile comes from section 35(1) of the Resource Management Act 1991, which requires local authorities to:

...gather such information, and undertake or commission such research, as is necessary to carry out effectively its functions under this Act.

1.2 Profile Structure

The profile is divided into four main parts:

Part One is divided into two chapters. Chapter One presents the scope and purpose of the profile, data sources and the structure of the report. Chapter Two gives an introductory overview of the Bay of Plenty Region.

Part Two examines the demographic characteristics of the Bay of Plenty resident population. This part of the profile is divided into two chapters outlining population change between 1991 and 2001, population projections to the year 2026, and the age and ethnic composition of regional and sub-regional populations.

Part Three presents information on the socio-economic characteristics of the region's population. The eight chapters that makes up this section describe various aspects relating to families and households, employment and unemployment, education, sources of income, economic activity, health status, participation in community and public life, and public perceptions of the natural environment.

Part Four presents information based on the 2001 Index of Deprivation². The two chapters that make up this section include a series of charts and associated commentaries and maps of the Bay of Plenty districts.

1.3 Data Sources

The report is a compendium of information from a variety of sources. Data comes primarily from the 2001 Census, accessed from VisualCensus01 (a GIS based product developed by Critchlow Associates), and Statistics New Zealand. The census data presented in this report relates to the population that usually lives in the Bay of Plenty Region.

Business confidence and activity information was sourced from the National Bank of New Zealand website and the Business Activity Surveys conducted annually by Statistics New Zealand. Industry information was obtained from a number of the more prominent industrial companies operating within the region as well as from Statistics New Zealand. Building consent data were also obtained from Statistics New Zealand. Quotable Value New Zealand supplied information on residential house prices throughout the region. Information about school leavers was obtained directly from the Ministry of Education. Election statistics were sourced from the Department of Internal Affairs.

Background and historical information on the seven districts of the Bay of Plenty Region was taken largely from Destination-NZ and district council websites.

The Bay of Plenty and Lakes District Health Boards provided the mortality, morbidity and other health information used in the regional health profiles.

² The Index of Deprivation integrates nine variables from the 2001 census, which reflects eight dimensions of deprivation. The Index of Deprivation was developed by researchers at the Health Services Research Centre, a joint venture between the Wellington School of Medicine, University of Otago and the Institute of Political Studies, Victoria University of Wellington. The nine variables are: Communication; Income (personal); Employment; Income (household); Transport; Support; Qualifications; Owned home; and Living space.

Definitions of some of the terminology used in this profile are given in Appendix 2.

1.4 **Data Presentation**

To aid in interpretation, most of the numerical data are presented in graphical form. In some instances data relating to graphical presentations are included in Appendix 1 of the report. In most instances, the numerical data presented in the figures and tables have been rounded to the nearest whole number.

Where appropriate, information is given for the region, as well as for the territorial authorities (district councils) that fall wholly or partly within the Bay of Plenty regional boundary. Time-series analyses are undertaken in some instances to gain a better understanding of trends over time. Geographical comparisons are also made to see how the Bay of Plenty compares with other regions and New Zealand overall.

Chapter 2: Regional Overview

2.1 The Bay of Plenty Region

Bay of Plenty was the name given to the north-facing coastline on the east coast of the central North Island of New Zealand by James Cook in 1769 (refer to Map 1). The name is reputedly an acknowledgement of the warm hospitality he received from the local iwi, in contrast to the less friendly reception he received in the area that he called Poverty Bay. The Bay of Plenty gives the region its identity and, in keeping with its name, provides an impressive range of economic, cultural, social and recreational resources.

Post European recorded Maori history in the Bay of Plenty (Te Moana-A-Toitehuatahi) dates back to at least 1290³ when the Takitimu canoe beached at Te Awanui (now Tauranga Harbour). However, the Maori presence is much older than that. Other waka associated with the region include Mataatua, Te Arawa, Tainui, Nuku-tere, Ara-utauta, Pakihi-kura, Tauira, Horouta and others.

Inter-tribal rivalry between Te Arawa, Ngaiterangi, Takitimu and Tainui tribes dominates the Maori history of the western Bay of Plenty and these were exacerbated by the raids by northern tribes led by Hongi Hika in the 1820s. Tuhoe, Ngati Awa, Whakatohea and Whanau a Apanui are the dominant tribes of the present day eastern Bay of Plenty although a small sector of Tainui are settled at Torere and at the eastern extremity of the region a small enclave of the Ngati Porou people settled. Nevertheless there were already resident iwi here when the canoes arrived, the Te Hapuoneone people descended from Toi te Huatahi from whom the area received its Maori name, many years prior to Captain Cook.

After 1840, Protestant and Catholic missionary activity was significant in shaping Maori/Pakeha relations, particularly under Bishops Pompallier and Selwyn. However, following the statutory land confiscations and troop invasions approved by Governor Grey in 1863, relations between most resident Maori and Pakeha became marked by war as they did elsewhere in the country. The Bay of Plenty hosted several major skirmishes including the famous Maori victory at Pukehinahina (Gate Pa) in 1864.⁴

³ Archaeological evidence suggests there was Polynesian contact with the area as early as 1285 (www.nzarchaeology.org/BoP%20Expression%20of%20Interest.doc).

⁴ See the chronology provided on the Tauranga District Council website.

Many of the land confiscations have now been, or continue to be, investigated by the Waitangi Tribunal and their reports have established serious irregularity by the Crown. Compensatory settlements are currently being negotiated but much animosity towards the Crown prevails amongst Bay of Plenty iwi, even from some so-called loyalist iwi who fought alongside colonial troops against iwi.

Historic sites are a feature of the Bay of Plenty landscape and recent archaeological projects have uncovered a range of particularly early sites pointing to the Bay of Plenty's earliest contact with voyagers from east Polynesia.⁵

Maori language and culture are particularly strong in the Bay of Plenty Region today. The first Kohanga Reo was opened in the Bay of Plenty, on the Hairini Marae in 1983.⁶ In 1999 the Bay of Plenty had the highest involvement of Maori in Maori language education. Almost 43% of all Maori students were enrolled in a Maori language programme and 31.8% of Maori in the region were able to converse in the language compared with 24.7% across New Zealand as a whole.⁷

The region takes in the full sweep of the coastline of the Bay of Plenty from Potikirua in the east, to the southern end of Homunga Bay, north of Waihi Beach, in the west. On the landward side, the region is mostly bounded by the watersheds of the catchments that flow into the Bay of Plenty, and includes the lakes of the Rotorua district. On the ocean side, it takes in some 18 offshore islands and extends to the limit of the territorial sea. The area of the region is 12,486 km² of land and 9,378 km² of coastal marine area.

Approximately 60% of the Bay of Plenty Region is land. The remaining area is fresh or salt water. Eight major rivers empty into the oceanic Bay of Plenty. These are the Wairoa, Kaituna, Tarawera, Rangitaiki, Whakatane, Waioeka, Motu and Raukokore Rivers. A prominent feature of the Bay of Plenty is the coastline, which forms a perimeter of 689 kilometres. This coastline includes two major estuaries, namely Tauranga and Ohiwa Harbours. The five other estuaries within the Bay of Plenty are Maketu, Little Waihi, Whakatane, Waioeka, and Waioeka/Otara.

⁵ See www.nzarchaeology.org/BoP%20Expression%20of%20Interest.doc.

⁶ See Tauranga District Council website.

⁷ *Te Maori I Nga Rohe*, Te Puni Kokiri, 2001.

Map 1 Bay of Plenty Region and North Island Regional Councils

2.2 The Region's Districts and Islands

The Bay of Plenty Region encompasses seven local government districts – Western Bay of Plenty, Tauranga, Whakatane, Kawerau, Opotiki, Rotorua and Taupo. Five of these are entirely within the region's boundaries. The remaining two, Taupo and Rotorua, are only partially within the Bay of Plenty Region. District boundaries for all seven districts are shown in Map 2. In addition, the region has a significant number of offshore islands. These islands are currently administered by the Department of Internal Affairs on behalf of the Minister of Local Government. Each of the region's territorial districts is briefly described below, including details of the local geography and other points of interest.

2.2.1 Western Bay of Plenty District

The Western Bay of Plenty District is the region's northern-most district. It encompasses an area of 2,121 km² from the Ohinemuri River watershed to the Whakatane District boundary, and is bounded to the west by the Kaimai Ranges and to the east by the Pacific Ocean. The district comprises land of rolling to steep contour as well as extensive coastal plains. It also includes Matakana Island, Maketu and Little Waihi estuaries and part of Tauranga Harbour.

Maketu is the final landing place of the Arawa canoe in the mid 14th century. It is famous for the bounty of seafood and, over the centuries, iwi have fought over it, including some major battles between the Tainui tribes (Waikato) and Te Arawa people.⁸

Te Puke, the birthplace of the New Zealand kiwifruit industry, currently produces thousands of trays of the distinctive green fruit every year, earning the town the well-deserved title of "Kiwifruit Capital of the World" although the product is now grown extensively across the whole region.

Land use within the district is varied and includes horticulture, grazing, dairying and exotic and plantation forestry. Horticulture, especially kiwifruit and meat processing, are important primary industries in the district. The Western Bay of Plenty District has 16% of the region's population (38,235 people) and experienced a 9% growth rate between 1996 and 2001.

2.2.2 Tauranga District

The Tauranga District is located predominantly on low-lying coastal plains and provides a junction point for a variety of transport links, including road, rail, air and sea, most notably the Port of Tauranga. With a population of 90,909, the Tauranga District has 38% of the population of the Bay of Plenty overall and the lowest proportion of Maori in the region (16%). The District has a land area of 168 km².

Tauranga is the Bay of Plenty's largest residential and commercial area. The population of the Tauranga District increased by 17% between 1996 and 2001. The population of the Tauranga urban centre, which extends into the Western Bay of Plenty District, increased by 36% over the same period.

⁸ *Discover New Zealand, A Wises Guide*, Wises, NZ, 1994, p. 106.

2.2.3 Whakatane District

The Whakatane District has a central location in the Bay of Plenty Region, covering the coast from Otamarakau in the west to Ohiwa Harbour in the east. It also extends inland over part of the volcanic plateau and covers 4,442 km². The district can be divided into three distinctive landscape features: eastern greywacke hill country, western ignimbrite sheets and low-lying plains (in particular the Rangitaiki). Extensive flood control and drainage schemes have been undertaken within the district to allow for development in low-lying areas.

Whakatane provides a tourist gateway to Urewera National Park and Whakaari/White Island, an active volcano which can be visited by boat or helicopter. Whakatane's premier game fishing waters extend to offshore islands, offering a range of species to anglers, including snapper, kingfish, tuna, marlin, tarakihi, hapuka, shark and the giant albacore.⁹

The largest dairy processing plant in the Bay of Plenty is sited at Edgecumbe, on the Rangitaiki plains, approximately 20 km west of Whakatane township.

The predominant land uses are plantation forestry, sheep and cattle grazing and dairying. The district has 14% of the region's population (32,817 people). Approximately 40% of the district's population claimed some Maori descent in the 2001 Census. The Whakatane urban area is the third largest in the region. Between 1996 and 2001 the district experienced a 1% decrease in population.

2.2.4 Kawerau District

The Kawerau District is situated at the foot of Putauaki (Mount Edgecumbe) in the south west of the Rangitaiki Plains. The district is largely flat, although there is some hilly land to the south, and contains a significant geothermal resource. Kawerau itself is one of the youngest towns in New Zealand having been built in 1953 to create a centre for the production of forest products from the nearby Tarawera, Matahina and Kaingaroa forests. Carefully planned before construction began, Kawerau was designed to attract and accommodate a specialist workforce for a single industry. Carter Holt Harvey and Norske Skog continue to be key employers.

The district has a population of 6,975 (3% of the region's total). Its area is approximately 22 km² with a population density of around 318 people per square kilometre. The district also has the youngest average age (26 years) and the highest proportion of Maori (56%) in the region. The district experienced an 11% decline in population between 1996 and 2001.

⁹ See <http://www.destination-nz.co.nz/bayofplenty>

2.2.5 Opotiki District

The Opotiki District extends approximately 160 km along the eastern coastline of the Bay of Plenty Region, from Ohiwa Harbour to Potikirua, and covers 3,105 km². The district has 4% of the region's population (9,201 people). Opotiki District has the lowest population density in the region. The district experienced a population decrease of 2% between 1996 and 2001. Opotiki has the second highest proportion of Maori of all districts in the region (54%).

The market orientated economic policies of the mid 1980s and 1990s had a severe impact on Opotiki. Local industries, including a dairy factory, clothing manufacturer, footwear factory and bacon works closed in the 1990s. A forestry company's retrenchment of its business in the Bay of Plenty also contributed to rising unemployment rates. Today, the rate of unemployment in Opotiki is one of the highest in the country and the local economy is in transition.¹⁰ Dairying, beef and sheep production are the mainstays of the district's economy but kiwifruit and other horticultural crops are beginning to make a contribution. Planning has also commenced on a significant aquacultural enterprise based in Opotiki.

The landforms of the district fall into three basic physical units: coastal terraces and alluvial plains, rugged hill country and rolling hill country. The district also has an extensive coastline and significant tracts of native forest.

2.2.6 Rotorua District

The Rotorua District is landlocked and lies partly within the Bay of Plenty Region and the Waikato Region. The whole district covers approximately 2,614 km². The 1609 km² that lies within the Bay of Plenty Region has a population of 61,053 equating to 25% of the region's population. Rotorua is the ninth largest urban centre in New Zealand. Forestry and tourism are important forms of industry in this district.

Spectacular geothermal sites and the hospitality of local Maori made Rotorua one of New Zealand's earliest tourist centres and tourism remains a staple of the district today. After the New Zealand land wars, large numbers of tourists viewed Lake Rotomahana's pink and white terraces, subsequently destroyed in the Tarawera eruption (1886). In addition to the natural wonders of the area, marae visits, hangi, cultural performances and traditional Maori craft are available to today's visitors.

2.2.7 Taupo District

That section of the Taupo District that falls within the Bay of Plenty has no urban areas and a population of only 186 (less than 1% of the region's total). Around 28% of the area's population are Maori.

Taupo District covers 6,955 km² of which 995 km² is in the Bay of Plenty Region and comprises the southern-most part of the region. This land is on the volcanic plateau and predominantly consists of ash soils. Much of the land is currently in plantation forestry, although sheep and beef grazing and some dairying are also present in this area. The largest pastoral farm in the region is situated in this part of the region.

¹⁰ See http://www.odc.govt.nz/content_economy.htm

2.2.8 Islands

The Bay of Plenty has many islands, some of which are inhabited. The main islands are listed in Table 2.1 below, which also includes their physical size and 2001 population.

Table 2.1 *Islands in the Oceanic Bay of Plenty Region*

Island	Area	Resident Population 2001
Tuhua(Mayor)	13.1km ²	3
Motiti	6.8 km ²	30
Whakaari/White	3.2 km ²	15 ¹
Moutohora (Whale)	1.7 km ²	0
Matakana	64.5 km ²	291

¹ Although Whakaari/White Island is an uninhabited active volcanic island, on census night 2001, 15 people indicated they usually resided within the White Island area unit. This is doubtful given that no residential accommodation exists on the island.

Other islands include Karewa, Rangiwaea, Motuhua, Moturiki, Motuotau, Motunau, Mokoia, Rurima, Tokata, Moutoki, Ohakana, Uretara Islands and Paepae o Aotea (Volkner Rocks).

Moturiki and Motuotau Islands are within the Tauranga Districts; Matakana, Rangiwaea and Motuhua Islands are within the Western Bay of Plenty District; Ohakana Island is within Whakatane district; and Uretara Island is within Opotiki District. Mokoia Island, in Lake Rotorua, is within the Rotorua District. For those islands and islets that are not part of a district, the Minister of Local Government is the territorial authority.

Map 2 Territorial Authorities in the Bay of Plenty Region

PART TWO

DEMOGRAPHIC CHARACTERISTICS

Chapter 3: Population Change

3.1 Population and Population Density 2001

At the 2001 census, 239,412 residents were enumerated in the Bay of Plenty Region, making it New Zealand's fifth most populated region and comprising around 6% of the national population. As Figure 3.1 shows, most of the region's residents (63%) live within the Tauranga and Rotorua Districts. This proportion has changed little over the 5 years since the last census, when 62% of the region's population lived in these two districts. The increased proportion of people living in Tauranga (up from 35% in 1996 to 38% in 2001) reflects the district's 17% population growth over the 5 years (discussed in Section 3.2).

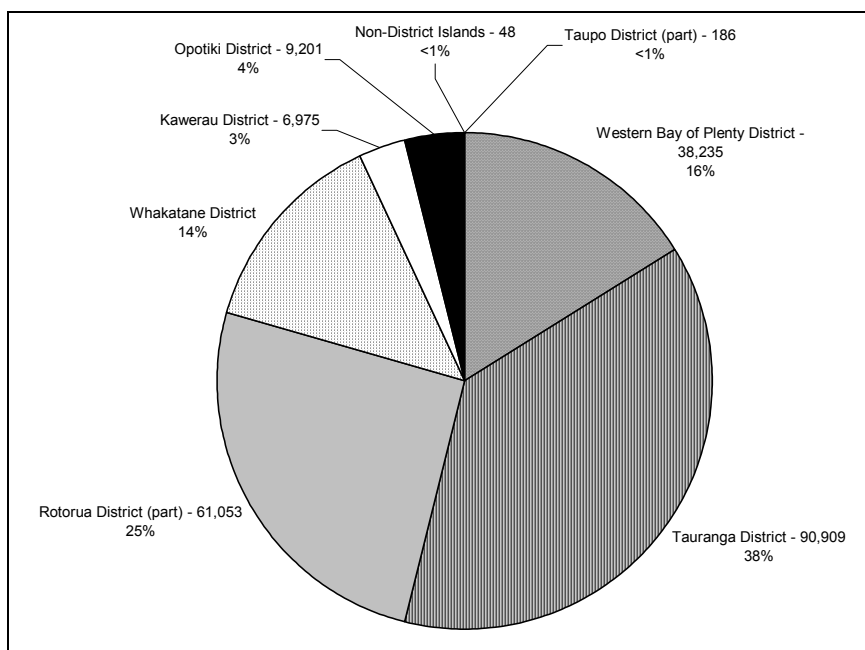


Figure 3.1 Resident Populations, Bay of Plenty Districts, 2001

Compared with other regions, the Bay of Plenty Region is comparatively densely populated. As Table 3.1 shows, only Auckland, Nelson and Wellington regions have higher population densities. The high population density reflects the higher proportion of the population living in urban areas compared with many other regions.

Table 3.1 Population Densities, New Zealand and Regional Councils, 2001

New Zealand and Regional Councils	Area (Square Kilometres) ¹	Total Population ²	People Per Square Kilometre
Auckland	6,978km ²	1,158,756	166.1
Nelson	444km ²	41,568	93.7
Wellington	8,211km ²	423,753	51.6
Bay of Plenty	12,486km ²	239,424	19.2
Taranaki	7,261km ²	102,867	14.2
Waikato	26,184km ²	357,750	13.7
Canterbury	45,337km ²	481,413	10.6
Northland	13,801km ²	140,121	10.2
Hawke's Bay	14,164km ²	142,965	10.1
Manawatu-Wanganui	22,206km ²	220,077	9.9
Otago	31,934km ²	181,557	5.7
Gisborne	8,355km ²	43,962	5.3
Marlborough	12,494km ²	39,561	3.2
Tasman	14,537km ²	41,349	2.8
Southland	32,722km ²	91,008	2.8
West Coast	23,352km ²	30,282	1.3
New Zealand	270,500km ²	3,737,277	13.8

¹ Areas were formulated from Level 1 Digital Area Unit Information 2001 published by Statistics New Zealand and include harbours, estuaries, and islands situated within regional authority boundaries but exclude oceanic area units and islands situated outside regional boundaries.

² Population figures were calculated from area unit data of the usually resident population from the 2001 census provided by Statistics New Zealand.

Around 80% of the Bay of Plenty resident population (i.e. 192,282 people) reside within urban areas of more than 1000 people, which is slightly lower than the national urban percentage figure (86%).

As shown in Table 3.2, population density varies considerably across the region and usually can be explained by the proportion of each district's residents who live in urban areas. Thus, Tauranga District is the most densely populated (at 540.2 per square kilometre) because it comprises the Tauranga urban area (all the Tauranga residents live in an urban area). The high population density in Kawerau reflects the small size of the district as well as its urban character. The lower population densities of the Opotiki, Western Bay of Plenty and Taupo [part] Districts and the non-district islands reflect the larger proportions of people living in rural areas.

Table 3.2 Population Densities, New Zealand, Bay of Plenty Region and Districts, 2001

New Zealand, Bay of Plenty Region and Districts	Area (Square Kilometres) ¹	Total Population ²	People Per Square Kilometre	% of Population Living in Urban Areas
Western Bay of Plenty District	2,121km ²	38,235	18.0	43%
Tauranga District	168km ²	90,909	540.2	100%
Whakatane District	4,442km ²	32,817	7.4	65%
Kawerau District	22km ²	6,975	318.0	100%
Opotiki District	3,105km ²	9,201	3.0	43%
Rotorua District [part]	1,609km ²	61,053	38.0	86%
Taupo [part] District	995km ²	186	0.2	0%
Non-district Islands ³	25km ²	48	1.9	0%
Bay of Plenty Region	12,486km ²	239,424	19.2	80%
New Zealand	270,500km ²	3,737,277	13.8	86%

¹ Areas were formulated from Level 1 Digital Area Unit Information 2001 published by Statistics New Zealand and include harbours, estuaries, and islands situated within territorial authority boundaries but exclude other coastal areas.

² Population figures were calculated from area unit data of the usually resident population from the 2001 census provided by Statistics New Zealand.

³ Includes Mayor (Tuhua), Motiti, Whakaari/White and Moutohora (Whale) Islands.

Due to the small number of people in the [part] Taupo District and off-shore islands, these Bay of Plenty populations are excluded from the district analyses presented in the subsequent sections of the profile. However, these populations are included in the regional totals (i.e. the Bay of Plenty as a whole).

3.1.1 Changes in populations of urban areas in the Bay of Plenty Region

Two urban areas in the Bay of Plenty Region, Tauranga and Katikati, experienced consistently high population growth over the ten-year period between 1991 and 2001. Table 3.3 shows the populations of the Bay of Plenty Region's urban areas and Table 3.4 shows the population changes between censuses. The greatest population growth occurred in the 1991-96 period and the greatest population decreases occurred between 1996 and 2001. Between 1991 and 2001, Tauranga's population increased by 36%, followed by Katikati, at 24%. Over the same period, a reverse trend occurred in Murapara, Kawerau, Edgecumbe and Opotiki, with Murapara's population declining by 18%.

Table 3.3 Populations of Urban Areas, Bay of Plenty Region, 1991, 1996, 2001

Urban areas	1991	1996	2001
Tauranga ¹	70,293	82,287	95,694
Rotorua	50,769	52,953	52,605
Whakatane	16,662	17,496	17,778
Waihi Beach	1,788	1,914	1,908
Te Puke	6,162	6,495	6,774
Katikati	2,346	2,661	2,916
Edgecumbe	1,854	1,761	1,668
Kawerau	8,340	7,830	6,975
Murupara	2,397	2,208	1,959
Opotiki	4,188	4,152	3,999
Total	164,799	179,757	192,276

¹ Because the Tauranga urban area extends beyond the boundary of the Tauranga District into the Western Bay of Plenty District, the population is greater than the Tauranga District.

Table 3.4 Changes in Populations of Urban Areas, Bay of Plenty Region, 1991-2001

Urban areas	1991-1996	1996-2001	1991-2001
Tauranga	17%	16%	36%
Rotorua	4%	-1%	4%
Whakatane	5%	2%	7%
Waihi Beach	7%	0%	7%
Te Puke	5%	4%	10%
Katikati	13%	10%	24%
Edgecumbe	-5%	-5%	-10%
Kawerau	-6%	-11%	-16%
Murupara	-8%	-11%	-18%
Opotiki	-1%	-4%	-5%
Total	9%	7%	17%

3.2 Regional Population Change, 1991-2001

At the 2001 census, 239,412 residents were enumerated in the Bay of Plenty Region, an increase of 15,050 people since the 1996 census. Over the ten-year period between 1991 and 2001 there was an increase of 35,430 people in the Bay of Plenty resident population, representing a 17% increase. The Bay of Plenty Region was the third fastest growing region in New Zealand over this ten-year period (see Figure 3.2), following the Auckland and Tasman Regions.

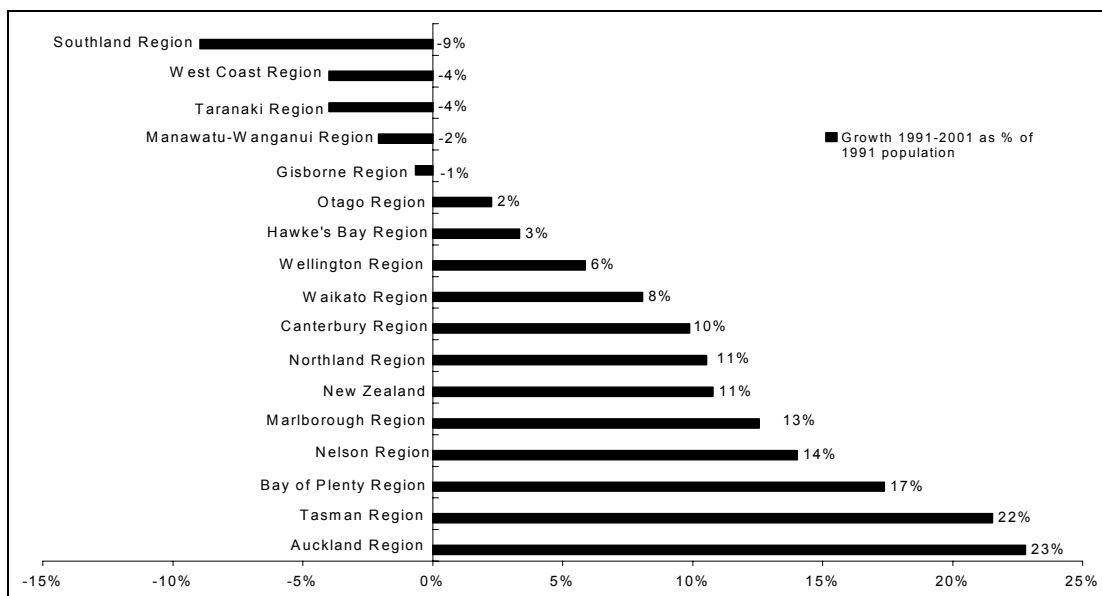


Figure 3.2 New Zealand Regional Population Change, 1991-2001

Population growth in the Bay of Plenty Region was more pronounced in the first half of this ten-year period, that is between 1991 and 1996. In that period, the region experienced a 10% increase in population size (i.e. an increase of 20,380 people) but the growth slowed to a 7% increase in the period between 1996 and 2001.

3.3 Location of Population Change, 1991-2001

Figure 3.3 shows population changes over the ten-year period between 1991 and 2001 at a district level. The Tauranga and Western Bay of Plenty Districts experienced the largest resident population increases over this period, at 36% and 28% respectively. Kawerau, Opotiki, Whakatane and Rotorua Districts experienced population declines over this period, mainly between 1996 and 2001.

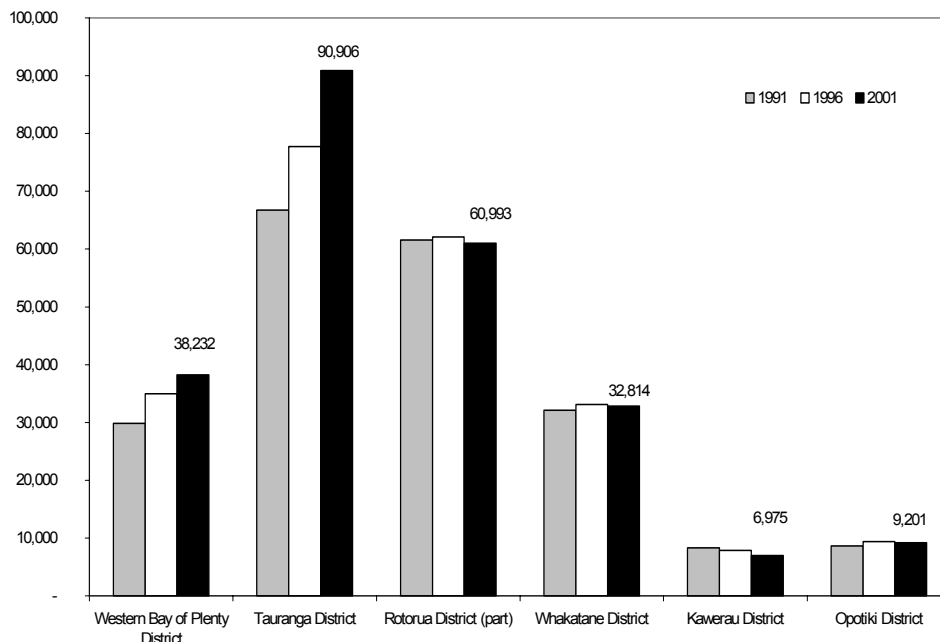


Figure 3.3 Population Change, Bay of Plenty Districts, 1991-2001

Table 3.5 shows the rates of population growth for each census period, 1986-91, 1991-96 and 1996-2001 for each of the districts. Population growth in the Bay of Plenty Region is skewed, with significant increases in the Tauranga and Western Bay of Plenty Districts and decreases in all the other districts. Strong and steady growth of the resident population of the Tauranga District continues, with rates of 13%, 17% and 17% respectively for each of the three periods. The population of Western Bay of Plenty District also continues to increase, with the 17% increase of the 1991-96 period dropping to a 9% increase in the 1996-2001 period. In contrast, the resident populations of the other districts, Whakatane, Opotiki, Kawerau and Rotorua, all declined between 1996 and 2001. The largest decline was in Kawerau, at 11%.

Table 3.5 Population Change, New Zealand, Bay of Plenty Region and Districts, 1986-1991, 1991-1996, and 1996-2001

New Zealand, Bay of Plenty Region and Districts	Percent Increase		
	1986-1991	1991-1996	1996-2001
Western Bay of Plenty District	12%	17%	9%
Tauranga District	13%	17%	17%
Whakatane District	3%	3%	-1%
Kawerau District	-3%	-6%	-11%
Opotiki District	9%	8%	-2%
Rotorua District [part]	4%	5%	0%
Bay of Plenty Region	7%	10%	7%
New Zealand	3%	7%	3%

3.4 Components of Population Change

There are two components of population change:

- (a) *Natural Increase* – the annual number of births minus the number of deaths; and
- (b) *Net Migration* – the number of people who move into the area minus the number of people who leave the area.

3.4.1 Natural Increase, Bay of Plenty Region and Districts, 1991-2001

Between 1991 and 1996 and between 1997 and 2001, the populations of the Bay of Plenty Region and the districts experienced natural increases.¹¹ That is, births outnumbered deaths.

Table 3.6 Natural Increase and Net Migration, Bay of Plenty Region and Districts, 1991-2001

New Zealand, Bay of Plenty Region and Districts	Natural Increase		Net Migration ¹	
	1991-1996	1997-2001	1991-1996	1996-2001
Western Bay of Plenty District	1,185	1,209	3,910	2256
Tauranga District	1,795	2,554	9,240	8985
Whakatane District	2,000	1,570	-970	-552
Kawerau District	765	450	-1,270	-837
Opotiki District	615	413	9	-312
Rotorua District ²	3,690	3,634	-680	-2007
Bay of Plenty Region	10,068	9,551	10,310	8559

¹ The net migration figures do not include other aspects of population change, including people who, five years before census night 2001, lived overseas, were not born, were of no fixed abode, or lived in New Zealand but did not define where they lived.

² The 1991-1996 figures are for Rotorua District [part] and the 1996-2001 figures are for Rotorua District [whole].

Between 1996-2001, the Bay of Plenty made net migration gains from 10 other regions, most of these in the North Island. The highest net migration gains were from Auckland (at 2,415), Waikato (2,418) and Manawatu-Wanganui (1,347) Regions. Natural increase and net migration data for the Bay of Plenty Region and districts are shown in Table 3.6.

Of those moving into the Bay of Plenty between 1996 and 2001, most came from the Waikato Region, mostly from Hamilton, followed by the Auckland Region, in particular from Auckland City and, to a lesser extent, Manukau and North Shore. As Table 3.7 shows, the top five contributing regions were in the North Island. Table 3.7 shows that most people moving out of the Bay of Plenty also moved within the North Island, although the Canterbury Region was amongst the top five receiving regions.

¹¹ Natural increase statistics are based on yearly reporting of births and deaths, while net migration statistics are based on data collected at 5 yearly intervals (on census night).

Table 3.7 Top Five Contributing Regions to Bay of Plenty Region, 1996-2001

Region	Number of People
Waikato Region	10,563
Auckland Region	9,987
Manawatu-Wanganui Region	3,072
Wellington Region	2,862
Hawke's Bay Region	1,704

Table 3.8 Top Five Receiving Regions from Bay of Plenty Region, 1996-2001

Region	Number of People
Waikato Region	8,145
Auckland Region	7,473
Wellington Region	2,259
Manawatu-Wanganui Region	1,725
Canterbury Region	1,329

Rotorua, Kawerau, Whakatane and Opotiki Districts all experienced net-outward migration flows. However, the net-outward flows from Kawerau and Whakatane Districts slowed in the most recent inter-censal period, 1996-2001 (see Table 3.5). These net-outward migration flows have contributed to the overall population decreases in these districts.

More people moved around the region than moved into or out of it. Between 1996 and 2001, at a district level, most inwards migration came from other Bay of Plenty districts. For instance, of the people moving into the Western Bay of Plenty District, most came from the Tauranga District (3,255). Similarly, in the Tauranga District, most came from the Western Bay of Plenty District (2,907). Similar trends were apparent for the remaining districts. In general, people moving into these districts from outside of the Bay of Plenty Region came from Auckland City or Hamilton City.

People moving out of the districts, but not going to other Bay of Plenty Districts, most often moved to Hamilton City. The only exception was Tauranga District, where most people moving out went to Auckland City.

3.5 Population Projections 2001-2026

New Zealand's resident population is projected¹² to grow by 19% over the next 25 years to reach 4.6 million. Half of the projected national growth is expected to occur in Auckland, Manukau, North Shore and Waitakere cities. According to recent projections, the North Island will be home to 78% of New Zealanders by the year 2026, compared with 76% in 2001.

¹² These are Statistics New Zealand generated population projections. In the method used to derive them, the base population is projected forward by calculating the effects of births, deaths, and migration within each age and sex group according to specified fertility, mortality, and net migration assumptions. More information about the method is available in Appendix 3.

The Bay of Plenty is expected to remain the second fastest growing region in New Zealand with a projected population increase of 30% (or 80,576 people) between 2001 and 2026. These most recent projections are considerably higher than those made in 1996, when the population was projected to increase by 26% over the next 25 years (to 2021). The population projections for North Island regions to the year 2026 are shown in Figure 3.4.

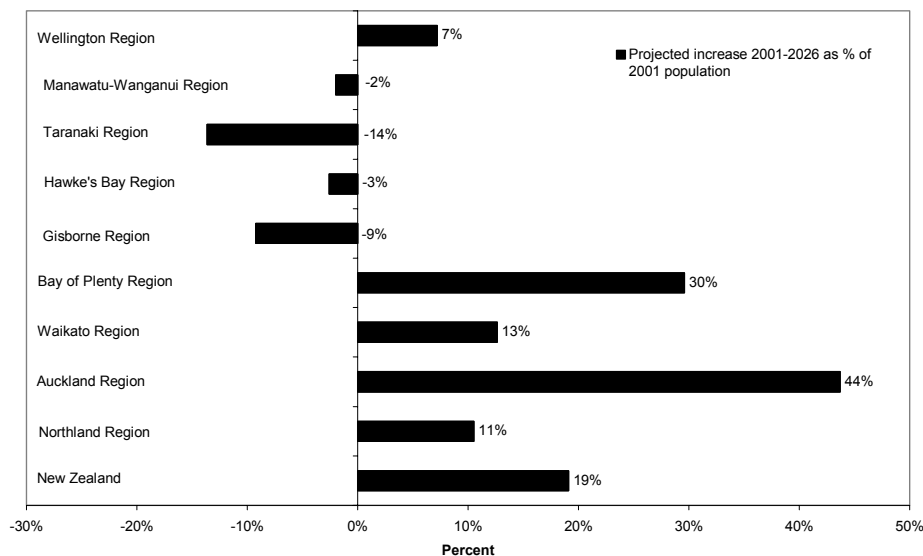


Figure 3.4 Projected Population Change, New Zealand and North Island Regions, 2001-2026

Population projections for the Bay of Plenty districts over the 25-year period following the 2001 census show growth is not uniform across the region (as Figure 3.5 shows). Some districts are expected to grow rapidly, contributing to the comparatively high projected regional growth, and some are expected to experience contracting populations. The Tauranga District is projected to have a population of 145,000 by the year 2026, which represents a 60% increase from the 2001 baseline population. This readjusted growth projection is considerably larger than the 45% increase projected for the 25 years period following the 1996 census.

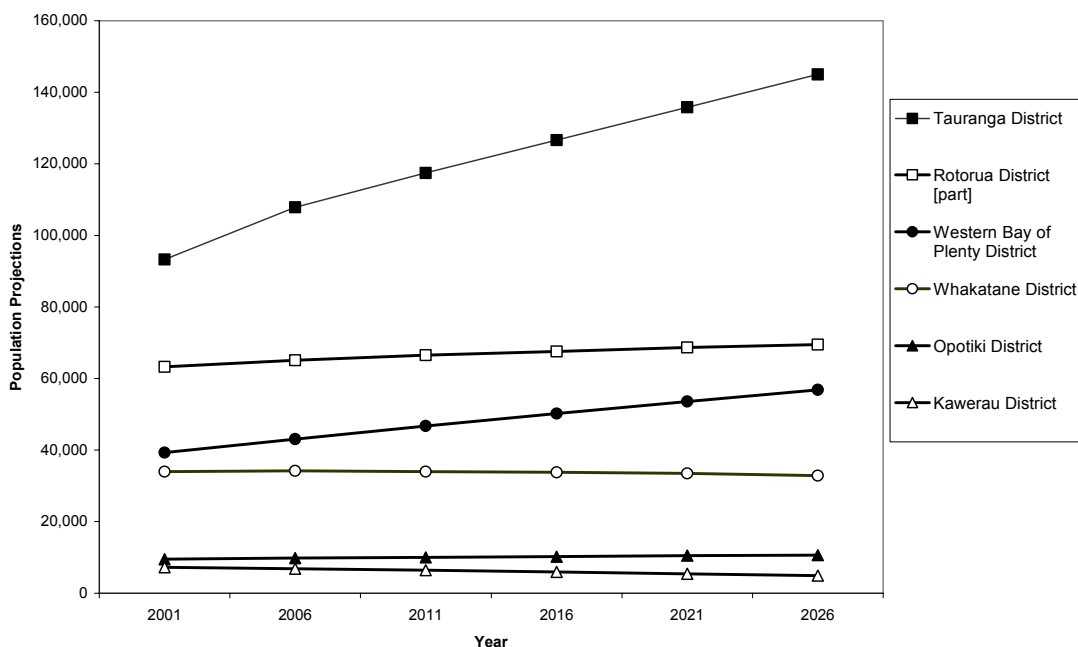


Figure 3.5 Population Projections, Bay of Plenty Districts, 2001-2026

By the year 2026, the resident population of the Western Bay of Plenty District is projected to increase by 49% to 56,800. The populations of other districts are projected to increase modestly (14% and 15% in Rotorua and Opotiki Districts respectively), stay the same (Whakatane District) or contract. Kawerau District's population is projected to decrease by 30%.

3.5.1 Population Projections by Age Structure, 2001-2026

The projected population by age structure statistics show a continued ageing trend, both numerically (that is, an overall increase in the number of older people - aged 65 years and over) and structurally (that is, an increasing proportion of older people in relation to the young).

From 2001 to 2026, the proportions of younger age groups (1-4 years, 5-14 years, 15-24 years and 25-44 years) are projected to steadily decrease in the Bay of Plenty Region. Conversely, the proportions of older age groups (45-64 years and 65 years and over) are projected to steadily increase. By 2026, 22% of the region's population is projected to be 65 years or over, compared with 20% for New Zealand. Figure 3.6 shows the projected population by age structure for 2011 and 2026.¹³

As Figure 3.7 shows, projected population by age structure varies across the districts in the Bay of Plenty Region. However, in common with the region and New Zealand as a whole, the proportions of younger age groups are projected to decrease, with corresponding increases in the proportions of older people, in all districts.

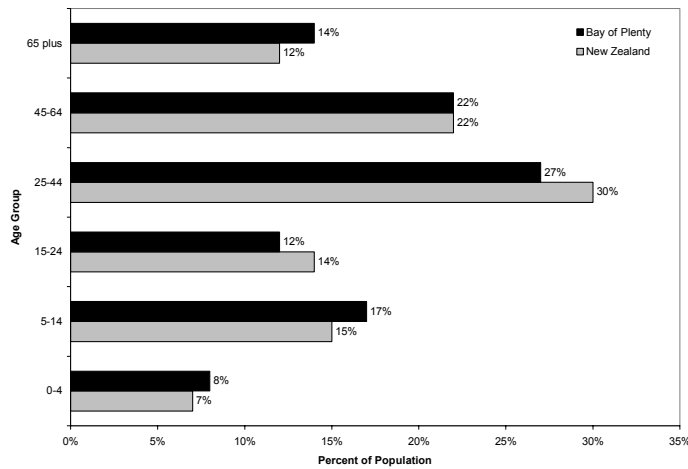
The Kawerau District is projected to still have the largest proportion of young people under 15 years in the region, but the 2001 proportion of 31% is projected to decrease

¹³ Projected population by age structure statistics are available at five-year intervals (2006, 2011, 2016, 2021) in tables in Appendix 1.

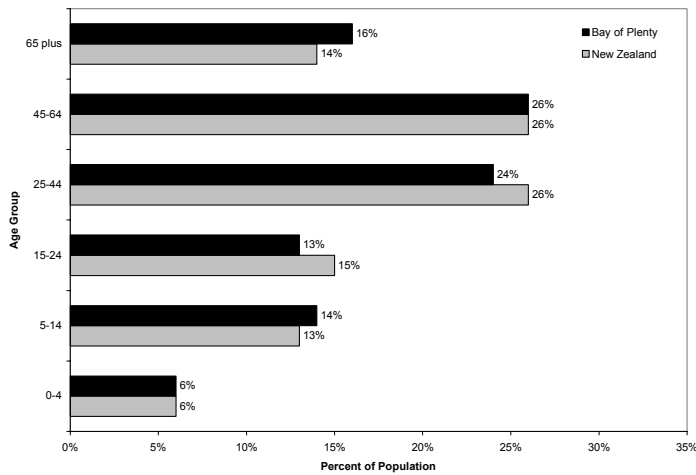
to 26% by 2011 and increase to 27% by 2026. In other districts, people younger than 15 years are projected to comprise between 19-21% of the total populations by 2026.

Western Bay of Plenty District is projected to have the largest proportion of people 65 years and over by 2026 (at 25%), followed by Whakatane and Opotiki Districts (each at 23%).

2001 – Estimated Resident Population



2011 – Projected Resident Population



2026 – Projected Resident Population

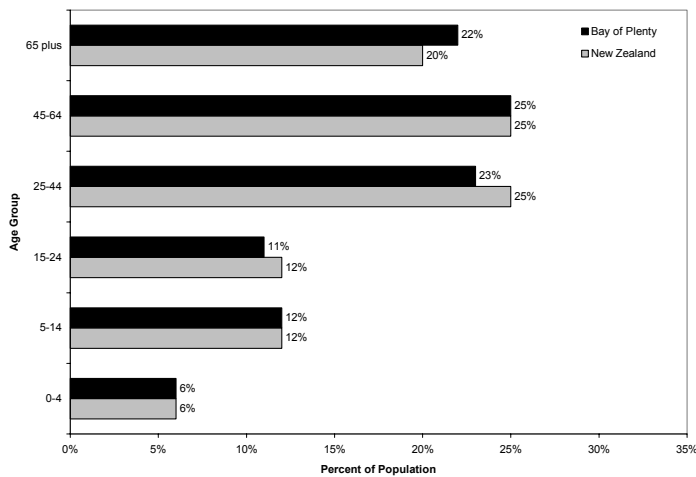
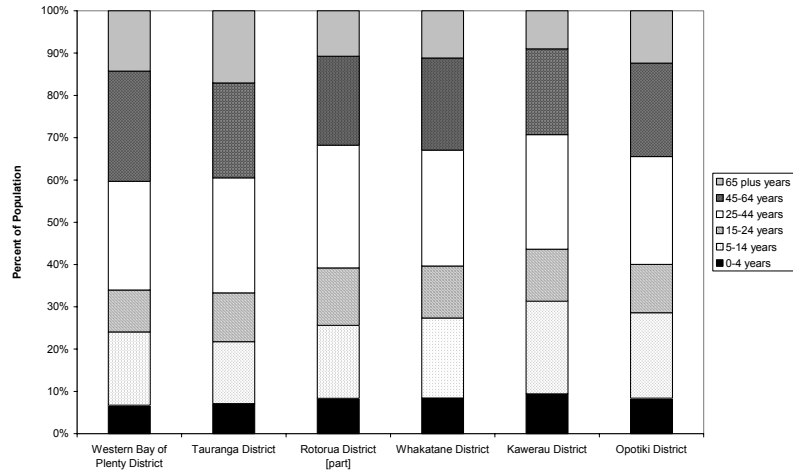
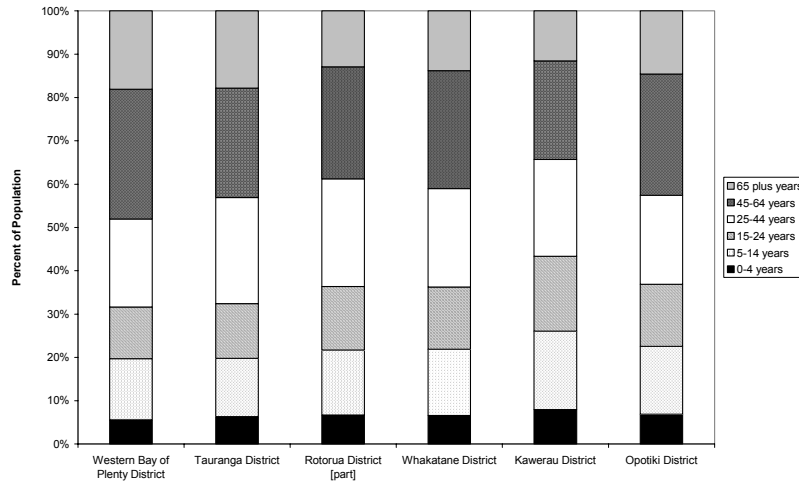


Figure 3.6 Projected Changes in the New Zealand and Bay of Plenty Region Population Age Structure, 2001, 2011, 2026

2001 – Estimated Resident Population



2011 – Projected Resident Population



2026 – Projected Resident Population

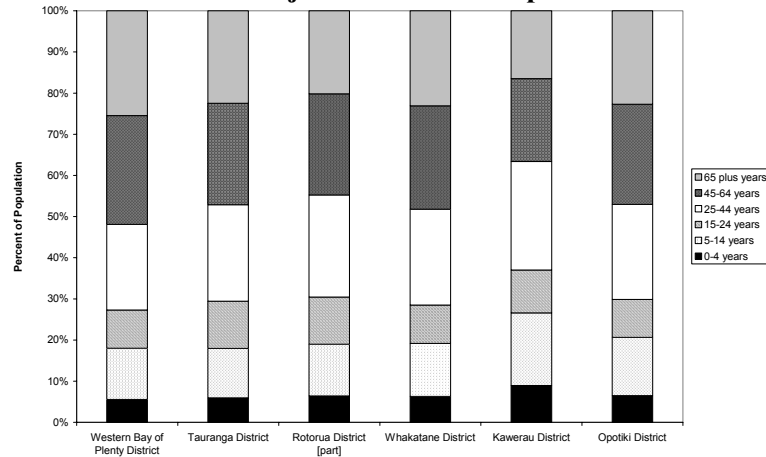


Figure 3.7 Projected Changes in the Bay of Plenty Districts Population Age Structure, 2001, 2011, 2026

Chapter 4: Population Characteristics

4.1 Ethnic¹⁴ Composition

The population of the Bay of Plenty is less ethnically diverse compared with the New Zealand population as a whole. In 2001, 25% (63,579 people) of the Bay of Plenty resident population identified as Maori compared with 14% for New Zealand as a whole. Seventy-five percent identified as NZ European, compared with 77% for New Zealand as a whole. Only 5% of the region's population identified with an ethnic group *other than* NZ European or Maori. This is considerably lower than the national average of 13% (which includes 6% each of Pacific Island and Asian).

There was considerable variation in ethnic composition across districts within the region, as illustrated in Figure 4.1. In 2001, the proportions of Maori were greater across all the Bay of Plenty districts compared with New Zealand as a whole (at 14%). Kawerau District had the highest proportion of Maori residents (51%), followed by the Opotiki (49%) and Whakatane (37%) Districts. The proportions of Maori and NZ Europeans living in Tauranga and Western Bay of Plenty Districts were more closely aligned with the ethnic composition of New Zealand as a whole.

4.1.1 Changes in Ethnic Composition

In the ten-year period between 1991 and 2001, there have been only minor changes in the ethnic composition of the populations of the Bay of Plenty Region and districts. As Figures 4.1 and 4.2 show, the Maori populations of most the Bay of Plenty and districts (with the exception of Tauranga) have remained the same or decreased slightly despite a slight increase in the New Zealand population.

¹⁴ People can identify with more than one ethnic group (more details in Appendix 2: Glossary of Terms).

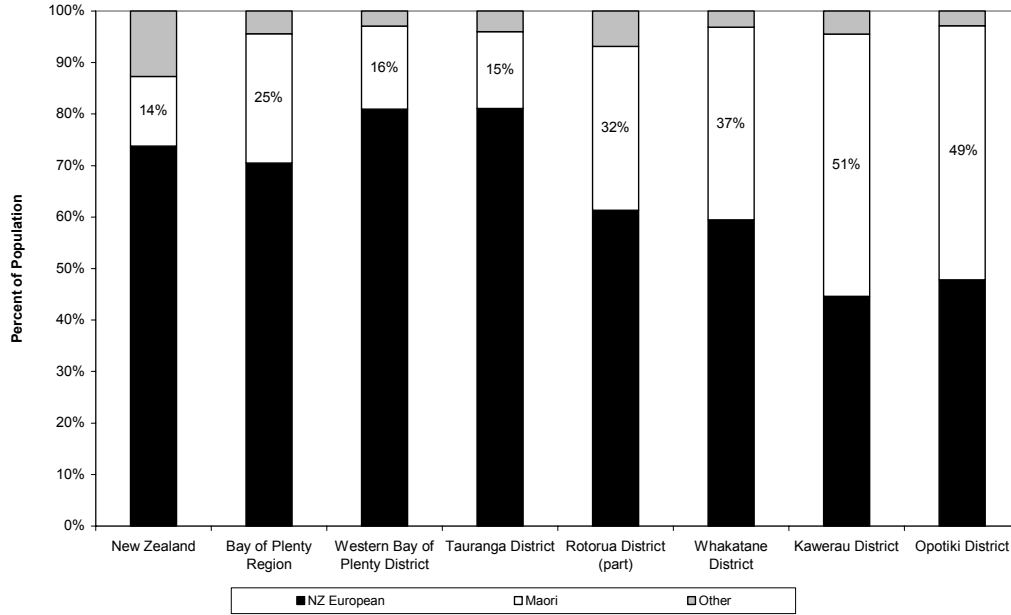


Figure 4.1 Ethnic Composition, New Zealand, Bay of Plenty Region and Districts, 2001

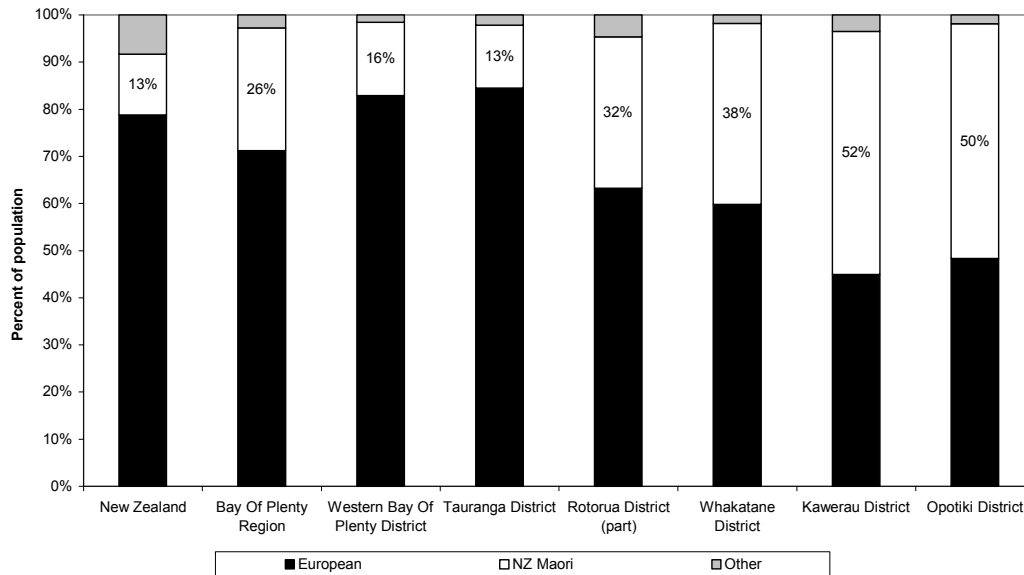


Figure 4.2 Ethnic Composition, New Zealand, Bay of Plenty Region and Districts, 1991

4.1.2 Birthplace

Compared with the New Zealand population, residents of the Bay of Plenty Region were more likely to have been born in New Zealand. In 2001, 83% of residents had been born in New Zealand, compared with 77% nationally.

4.1.3 Languages spoken

The languages spoken in the Bay of Plenty Region reflect its bi-cultural characteristics. Compared with the New Zealand population, residents of the Bay of Plenty Region are more likely to speak English only. However, the proportion that speaks Maori and English (at 8%) is double the national percentage (see Table 4.1).

Table 4.1 Languages Spoken, New Zealand and Bay of Plenty Region, 2001

New Zealand, Bay of Plenty Region and Districts	Maori only	English only	Maori & English	Maori & other	English & other	Other
Bay of Plenty Region	0.46%	79%	8%	0.02%	5%	3%
New Zealand	0.18%	77%	4%	0.02%	11%	4%

4.2 Iwi Populations in the Bay of Plenty

The 2001 census sought information relating to Maori ancestry and iwi affiliation. Depending on definition, there are in excess of 36 iwi in the Bay of Plenty (including the rohe that straddle the regional boundary). In 2001, 69,294 people in the region indicated having Maori ancestry, which is 29% of the total Bay of Plenty population. Of these people, 13% indicated that they did not know their iwi.

Te Arawa is the most populous iwi in the Bay of Plenty followed by Tuhoe and Ngati Awa. Forty-two percent of those with Maori ancestry identified affiliation with non-Bay of Plenty iwi (Table 4.2).

Table 4.2 Iwi Populations in the Bay of Plenty Region¹, 2001

Iwi/Hapu (Main Iwi Affiliates)	Population with Maori Ancestry	% of Population with Maori Ancestry
Te Arawa ²	10,221	15%
Tuhoe	10,185	15%
Ngati Awa	6,036	9%
Whakatohea	4,407	6%
Ngati Tuwharetoa	4,293	6%
Ngaiterangi	4,203	6%
Whanau-A-Apanui	3,705	5%
Ngati Ranginui	3,378	5%
Ngati Manawa – Ngati Whare	1,083	2%
Ngai Tai	873	1%
Ngati Pukenga	465	1%
Other Bay of Plenty iwi (not specified)	7,332	11%
Do not know their iwi	9,231	13%
Non-Bay of Plenty iwi	28,761	42%
Not Elsewhere Included ³	3,702	5%
Total People identifying as having Maori Ancestry	69,294	29%

¹ Includes all of the people who stated each ethnic group, whether as their only ethnic group or as one of several ethnic groups. Where a person reported more than one ethnic group, they have been counted in each applicable group.

² Includes Te Arawa/Taupo (Rotorua/Taupo) Region, not further defined, Ngati Pikiako, Ngati Rangiteorere, Ngati Rangitihi, Ngati Rangiwewehi, Tapuika, Tarawhai, Tuhourangi, Uenuku-Kopako, Waitaha, Ngati Whakaue.

³ Includes "Refused to Answer", "Response Unidentifiable" and "Not Stated"

4.3 Age Structure

As Figure 4.3 shows, in 2001 the age structure of the Bay of Plenty population as a whole differs from that of New Zealand in that there are larger proportions of younger and older people. The 2001 Census shows the Bay of Plenty Region as having larger proportions of people in the higher age groups (45-64 years and 65 and over years) and in the younger age groups (0-4 years and 5-14 years). Conversely, there were smaller proportions in the 15-24 years and 25-44 years age groups. People aged between 36 and 56 years represent those cohorts born in New Zealand's baby-boom period (1945-1965).

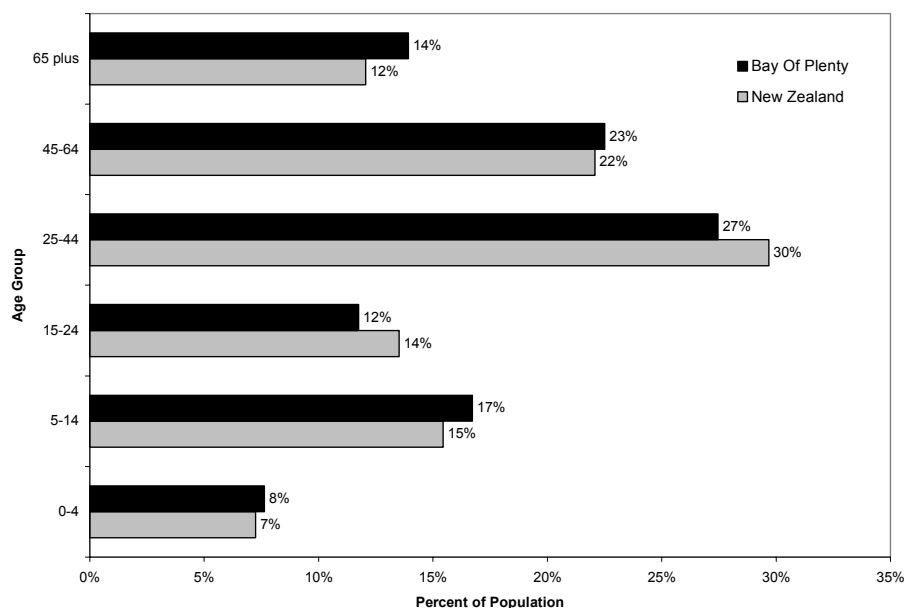


Figure 4.3 Age Structure, New Zealand and Bay of Plenty Region, 2001

The median age of a population is a useful summary measure of age-composition. There is usually a close relationship between median age and the proportion of the population aged 0-14 years, the children. In 2001, the median age of the Bay of Plenty resident population was 35 years (compared with 32 years in 1996), the same as the national median age. In 1996 the national median age was slightly lower at 33 years.

Table 4.3 Median Age, New Zealand, Bay of Plenty Region and Districts, 2001

New Zealand, Bay of Plenty Region and Districts	Median Age
Western Bay of Plenty District	39
Tauranga District	37
Whakatane District	33
Kawerau District	30
Opotiki District	34
Rotorua District [whole]	33
Bay of Plenty Region	35
New Zealand	35

As Table 4.3 shows, there was considerable variation in median age across the region in 2001. The ageing of the New Zealand population, reflected in the increased national and regional median ages discussed above, is also evident in the districts. In all the Bay of Plenty districts the median ages were higher in 2001 compared with 1996. As in 1996, the median age remains lower in Kawerau, which has the highest percentage of children under the age of fifteen (at 31%, slightly lower than 1996). Conversely, the median ages in the Tauranga and Western Bay of Plenty Districts were higher than other districts and New Zealand as a whole. These higher median ages reflect the higher proportions of residents over the age of 65 years living in these two districts, compared with the region and with the New Zealand population. Figure 4.4 shows the population age structures for the districts.

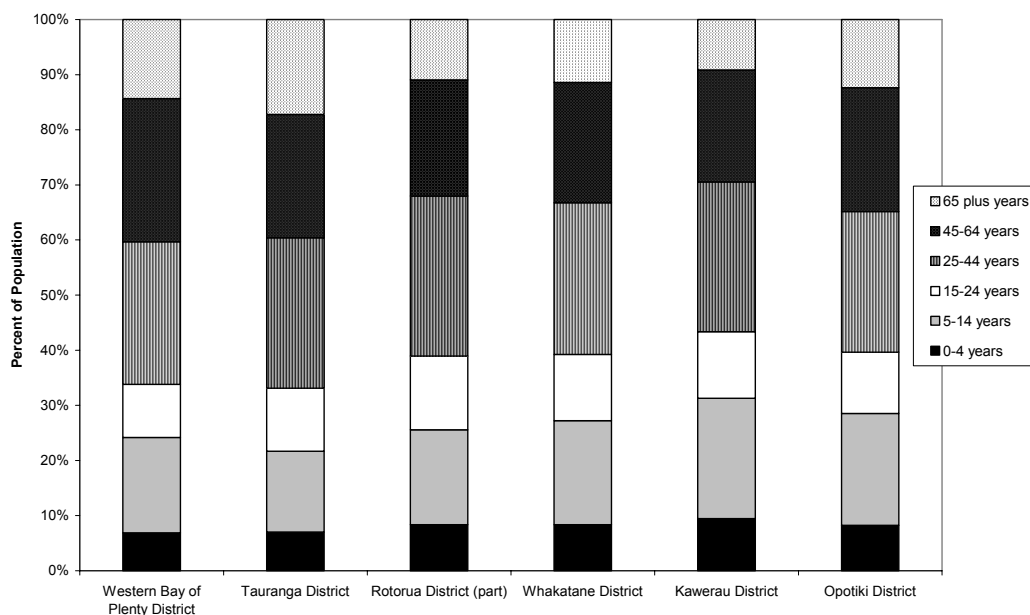


Figure 4.4 Age Structure, Bay of Plenty Districts, 2001

As Figure 4.4 shows, the age structure of the population varies across the districts. Some of the differences were noted in the discussion above, in the explanations of differences in median ages across the districts. Kawerau has the highest proportion of children under the age of 15 years (at 31%), followed by Whakatane (at 27%) and Rotorua (at 26%). Tauranga and Western Bay of Plenty Districts have much higher proportions of people over the age of 65 years (at 17% and 14% respectively) compared with other districts in the region and compared with the New Zealand population (at 12%).

4.4 Age and Ethnicity

The age structure of Maori in the Bay of Plenty Region is markedly younger than for NZ European in the region. As Figure 4.5 shows, 38% of Maori residents were under the age of 15 years (more often in the 5-14 years age group) compared with 22% for NZ European. In contrast, only 4% of Maori were over the age of 65 years compared with 16% for NZ European. In 2001 more than half the Maori population of the Bay of Plenty was under 25 years of age.

The Bay of Plenty population of Pacific Island, Asian or other ethnic groups has a similarly young age structures compared with NZ European (see Figure 4.5).

Divergence in Maori and NZ European age structures reflects ethnic variations in family formation and life expectancy. While fertility rates have steadily declined for both Maori and NZ European over the last two decades, Maori fertility rates are still higher. And life expectancy for Maori, while increasing, is still lower than for non-Maori (see Section 10.2).

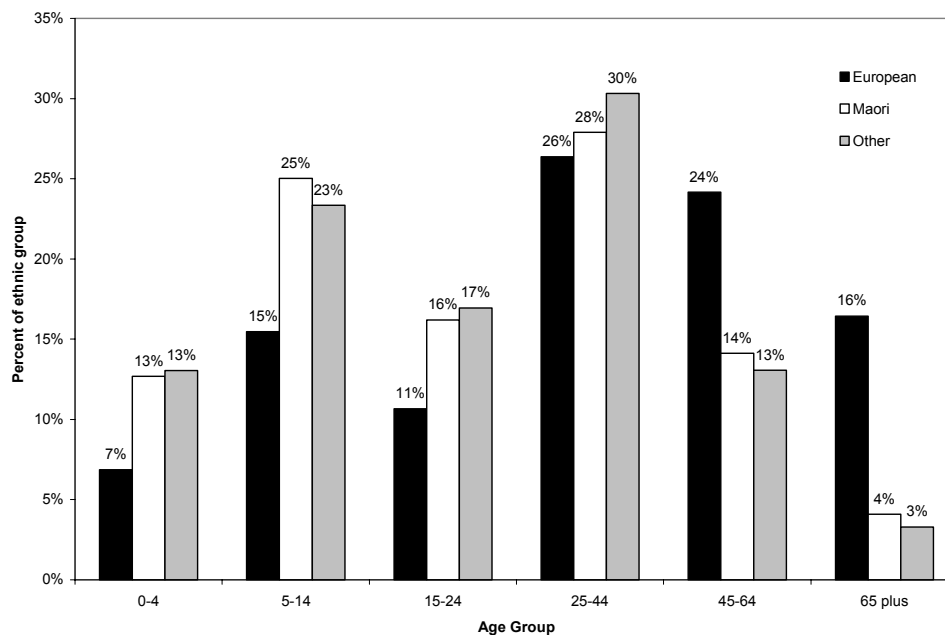


Figure 4.5 Ethnic Age Composition, Bay of Plenty Region, 2001

4.5 Changes in Age Composition, 1996-2001

New Zealand is presently in the middle of a transition from a relatively youthful population structure of the last few decades to a mature and ageing population of the early twenty-first century. This transition is commonly referred to as ‘population ageing’.

Population ageing incorporates two demographic components, ‘numerical’ and ‘structural’ ageing. Numerical ageing refers to an overall increase in the number of people aged over 65 years. This form of ageing has shown a continuous upward trend through increased survivorship to older ages. Structural ageing refers to the increasing proportion of older people (65 years and over) in relation to the young (0-14 years) and labour force age groups (16 years and over). The proportion and absolute numbers of older people will increase markedly as baby boomers reach old age.

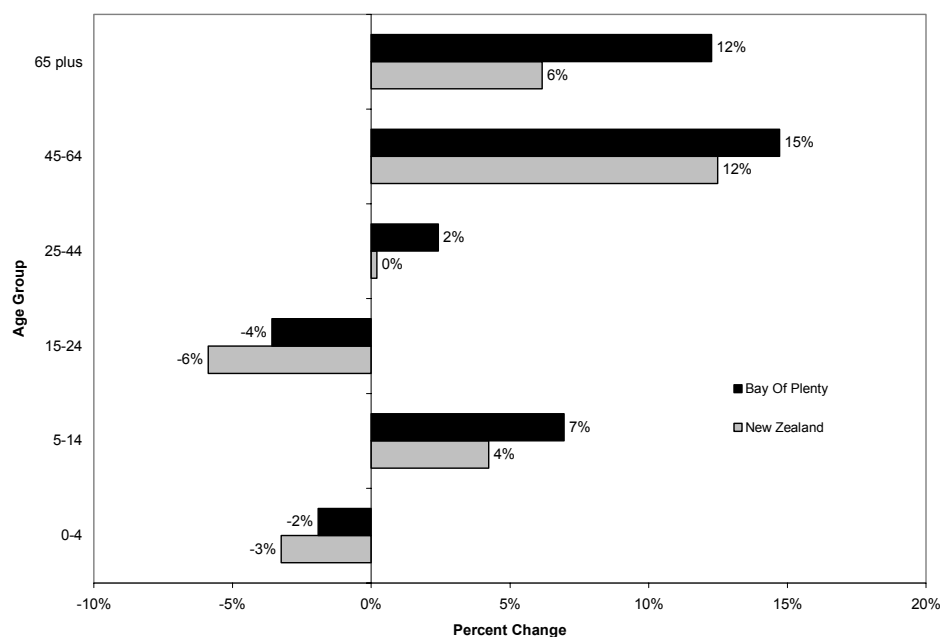


Figure 4.6 Changes in Age Composition, New Zealand and Bay of Plenty Region, 1996-2001

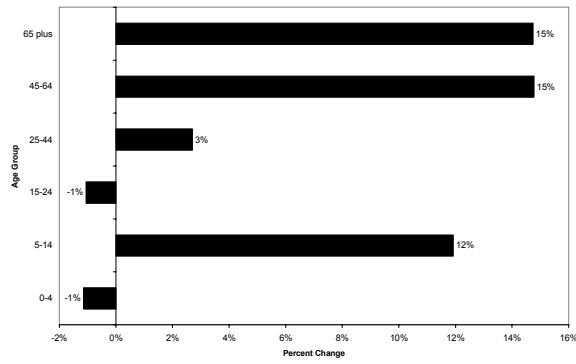
As the population ages, the proportions of young people diminish. The 1996 census showed a decrease in the proportion of young adults aged 15-24 years. Five years later (in 2001) that decrease is reflected in the very small increase in the proportion of 25-44 years age group in the Bay of Plenty (at 2%). However, this is still a greater proportion than for New Zealand as a whole where there was zero change. One explanation for the continuing net migration loss from the younger adult age groups is young people leaving the region to pursue tertiary level education and employment opportunities. The increase in the 4-14 years age group in the Bay of Plenty Region and in New Zealand reflects the increase in births in the early 1990s.

While there has been a trend towards an older population throughout New Zealand since 1981, shifts in age structure have been uneven across regions. An understanding of changing age structures is an essential component of planning and policy development, especially in relation to allocating future health, welfare and recreation resources.

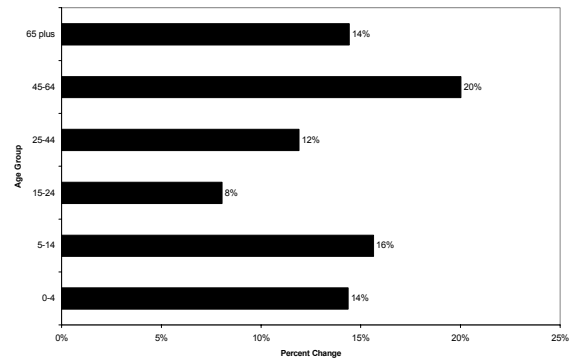
For this reason, the changing age compositions for Bay of Plenty districts are shown in Figure 4.7. Some notable trends are:

- Increase in the 65 years and over age groups in Kawerau, Western Bay of Plenty and Tauranga Districts;
- Decrease in the young working age populations (15-44 years) of Whakatane, Kawerau, Opotiki and Rotorua [part] Districts;
- The consequent decrease in proportions of children (0-5 years) in all districts other than Tauranga and of 5-14 years age group in Kawerau and Rotorua [part] Districts.

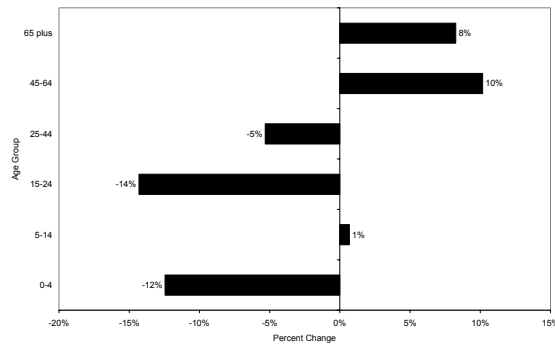
Western Bay of Plenty



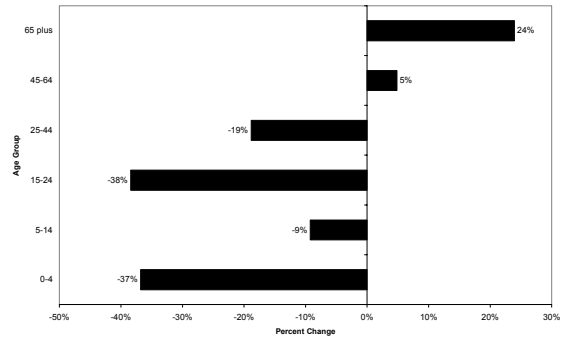
Tauranga District



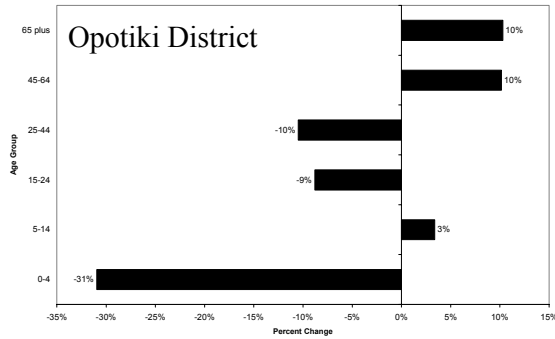
Whakatane District



Kawerau District



Opotiki District



Rotorua District [part]

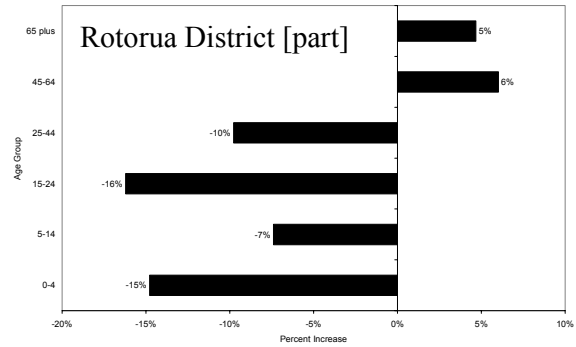


Figure 4.7 Changes in Age Composition, Bay of Plenty Districts, 1996-2001

4.5.1 Age by Sex

Table 4.4 shows the distribution of males and females in the Bay of Plenty Region and districts in 1991, 1996 and 2001 as well as for New Zealand. In general, there is little difference between New Zealand, the Bay of Plenty Region and the districts. The only exception is Tauranga, where there are more females, which has been the case for the three census periods. This reflects the older age distribution in the district: that females typically outnumber males in the older age groups (see Figure 4.7 below).

Table 4.4 Sex Distribution, New Zealand, Bay of Plenty Region and Districts, 1991-2001

New Zealand, Bay of Plenty Region and Districts	1991		1996		2001	
	Male	Female	Male	Female	Male	Female
Western Bay of Plenty District	50%	50%	50%	50%	50%	50%
Tauranga District	48%	52%	48%	52%	48%	52%
Rotorua District [whole]	49%	51%	49%	51%	49%	51%
Whakatane District	50%	50%	50%	50%	49%	51%
Kawerau District	51%	49%	51%	49%	50%	50%
Opotiki District	50%	50%	50%	50%	49%	51%
Bay of Plenty Region	49%	51%	49%	51%	49%	51%
New Zealand	49%	51%	49%	51%	49%	51%

As Figure 4.8 shows, there are differences in the distribution of males and females across different age groups. These differences have remained fairly constant over the three censuses, 1991, 1996 and 2001. In the younger age groups, males outnumber females. However, from 25 years and older the proportions change, with females equalling or outnumbering males. Some of these differences (particularly in the 65 years and over age group) can be explained by differences in life expectancy (discussed in more detail in Chapter 10).

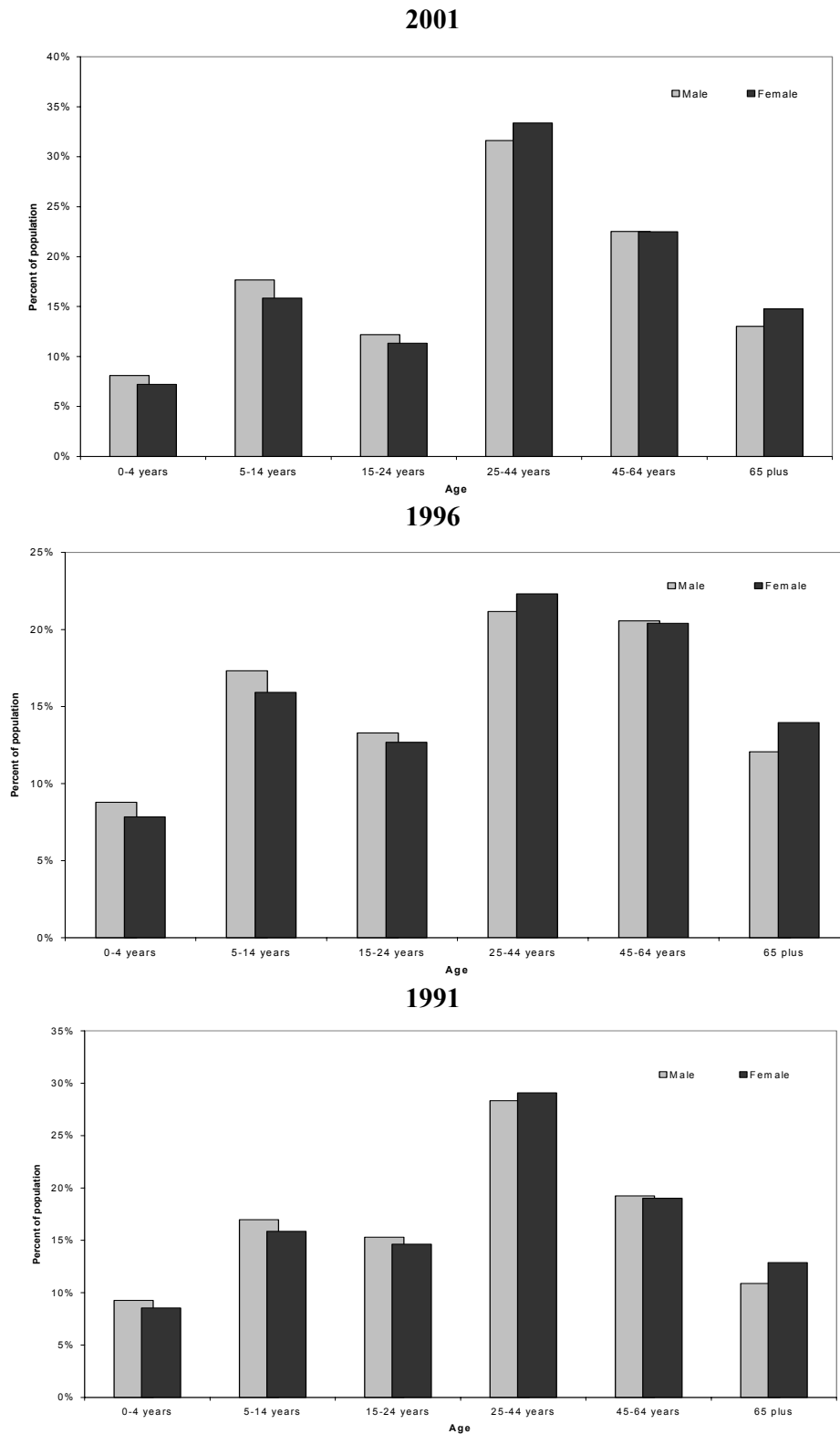


Figure 4.8 Age by Sex, Bay of Plenty Region, 1991-2001

PART THREE

SOCIO-ECONOMIC CHARACTERISTICS

Chapter 5: Households and Families

5.1 Private Dwellings

The total number of private dwellings in the Bay of Plenty on census night 2001 was 87,894. Private dwellings include separate and joined houses and flats, baches, cribs or huts, caravans, cabins or tents in a motor camp and others, such as yachts. Between 1996 and 2001 there was a 10% increase in the number of private dwellings in the region (i.e. 8,262 dwellings). This compares with an increase of 7% for the whole of New Zealand. As discussed in Chapter 3, the Bay of Plenty Region is one of the fastest growing in the country. Figure 5.1 depicts the total number of private dwellings enumerated at the last three census years for districts within the region and Table 5.1 presents these increases as percentages.

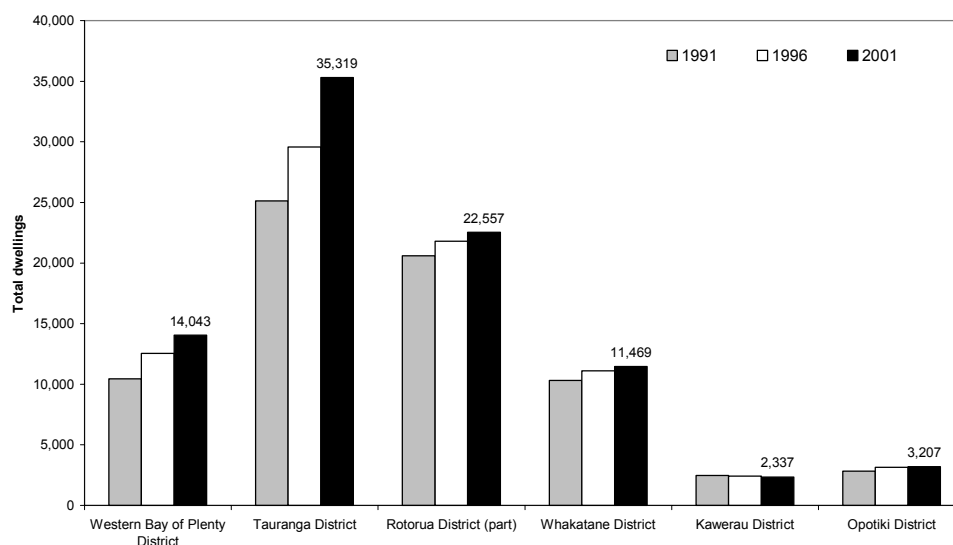


Figure 5.1 Total Number of Private Dwellings, Bay of Plenty Districts, 1991-2001

Over the most recent census period (1996-2001) the Tauranga District experienced the greatest percentage increase in private dwelling numbers (at 19%), followed by Western Bay of Plenty (at 12%). The large increase in dwelling numbers for this period, particularly in the Tauranga District, reflects the number of new houses built. These increases can be linked to the number of building consents approved by individual councils (see Section 9.5 for details).

The Kawerau District was the only area within the region to experience a decline in dwelling numbers. The 4% decline between 1996 and 2001 continues the decline of the previous census period (1991-1996). Between 1991 and 2001 the number of dwellings in the Kawerau District had declined by 6%.

Table 5.1 Increase in Private Dwelling Numbers, New Zealand, Bay of Plenty Region and Districts, 1991-2001

New Zealand, Bay of Plenty Region and Districts	Percentage Increase		
	1991-2001	1991-1996	1996-2001
Western Bay of Plenty District	35%	20%	12%
Tauranga District	41%	18%	19%
Whakatane District	11%	8%	3%
Kawerau District	-6%	-2%	-4%
Opotiki District	13%	11%	2%
Rotorua District [part]	9%	6%	3%
Bay of Plenty Region	24%	12%	10%
New Zealand	15%	8%	7%

5.2 Occupied Dwellings

In 2001, 77% of occupied dwellings in the Bay of Plenty Region were separate houses. Occupied dwellings include private dwellings (as described above) and non-private dwellings. Non-private dwellings include hotels, motels or guest houses, boarding houses, homes for the elderly and others such as hostels, motor camps or hospitals. Kawerau (at 83%) and Western Bay of Plenty (at 82%) Districts had the largest proportions of separate houses.

Table 5.2 Occupied Dwellings, New Zealand, Bay of Plenty Region and Districts, 2001

Occupied Dwellings (total and type)	Total Occupied Dwellings 2001	Separate House	Other Private Dwelling	Total Private Occupied Dwelling	Total Non-Private Occupied Dwelling
Western Bay of Plenty District	14,085	82%	18%	99.7%	0.3%
Tauranga District	35,487	75%	24%	99.5%	0.5%
Rotorua District [part]	22,767	76%	23%	99.1%	0.9%
Whakatane District	11,538	77%	22%	99.4%	0.6%
Kawerau District	2,343	83%	17%	99.7%	0.3%
Opotiki District	3,237	75%	24%	99.1%	0.9%
Bay of Plenty Region	88,425	77%	23%	99.4%	0.6%
New Zealand	1,368,204	75%	24%	99.1%	0.8%

5.3 Home Ownership

In 2001, 65% of household occupiers in both the Bay of Plenty Region and New Zealand overall owned or partly owned their dwellings.

Table 5.3 Tenure of Private Dwellings, New Zealand, Bay of Plenty Region and Districts, 2001

New Zealand, Bay of Plenty Region and Districts	Dwelling Owned or Partly Owned	Dwelling not Owned by Usual Resident	Tenure Not Specified
Western Bay of Plenty District	70%	25%	5%
Tauranga District	65%	31%	4%
Rotorua District [whole]	62%	32%	6%
Whakatane	65%	30%	5%
Kawerau District	65%	28%	7%
Opotiki District	63%	31%	6%
Bay of Plenty Region	65%	30%	5%
New Zealand	65%	31%	5%

The Western Bay of Plenty District had the highest proportion of owner occupied homes within the region (at 70%). Opotiki and Rotorua [whole] Districts had the lowest proportions, at 63% and 62% respectively.

Table 5.4 Average Weekly Rent for Private Dwellings, New Zealand, Bay of Plenty Region and Districts, 2001

New Zealand, Bay of Plenty Region and Districts	Average Weekly Rent 1996	Average Weekly Rent 2001	% change between 1996 and 2001
Western Bay of Plenty District	\$123.00	\$144.00	17%
Tauranga District	\$160.00	\$175.00	9%
Rotorua District [part]	\$142.00	\$151.00 ¹	n/a
Whakatane District	\$123.00	\$133.00	8%
Kawerau District	\$126.00	\$119.00	-6%
Opotiki District	\$112.00	\$115.00	3%
Bay of Plenty Region	\$143.00	\$156.00	9%
New Zealand	\$161.00	\$174.00	8%

¹This is the total for Rotorua District [whole] as the partial figures are unavailable for 2001.

Over the Bay of Plenty Region the average weekly rent increased by 9% between 1996 and 2001. This compares with a national increase of 8%. As in 1996, the Opotiki District had the lowest average weekly rent in 2001, at \$115.00, which is an increase of 3% from the 1996 figure. The cost of rental accommodation was highest in the Tauranga District, where the average weekly rental of \$175.00 was similar to the national average (of \$174). It had increased by 9% since 1996. The largest increase in the region was Western Bay of Plenty, where average weekly rentals had increased by 17% between 1996 and 2001.

5.4 House Prices Within the Region

The average prices for freehold residential houses sold on the open market for the June quarters of 2000, 2001 and 2002 are shown in Table 5.5 for districts within the region. Rises in house prices were particularly pronounced in Opotiki, at 56%. However, the cheapest houses were still located within the Kawerau District with the average house price in 2002 below \$70,000. The cost of housing remains highest in the Tauranga District with average house sales in 2001 at around \$218,000.

Table 5.5 Average House Prices¹, Bay of Plenty Districts, 2000-2002

Bay of Plenty Districts	2000	2001	2002	% increase between 2000 and 2002
Western Bay of Plenty District	174,815	200,665	200,895	15%
Tauranga District	201,039	204,124	217,664	8%
Whakatane District	188,305	177,130	173,362	-8%
Kawerau District	56,553	52,045	66,600	18%
Opotiki District	102,977	127,000	160,636	56%
Rotorua District [whole]	144,265	148,685	151,307	5%

¹ These average prices are for the June quarter for each of the years.

House prices may not necessarily reflect the quality of housing. For instance, the lower average house prices in Kawerau and Opotiki Districts may reflect lower land values within these districts rather than indicate housing quality.

5.5 Household Size

There were 86,796 households in the Bay of Plenty Region in 2001. Table 5.6 shows their distribution across the districts. Forty percent of households are located in the Tauranga District.

Table 5.6 Housing Distribution, New Zealand, Bay of Plenty Region and Districts, 2001

New Zealand, Bay of Plenty Region and Districts	Total No. of Households	Percentage of Households
Western Bay of Plenty District	13,863	16%
Tauranga District	34,908	40%
Rotorua District [whole]	22,260	26%
Whakatane District	11,331	13%
Kawerau District	23,07	3%
Opotiki District	31,53	4%
Bay of Plenty Region	86,796	6%
New Zealand	1,344,267	

Consistent with national trends, these households are getting smaller. The proportions of one-person and two-person households increased in the census period between 1996 and 2001 and the proportions of three-person and four-or-more-person households decreased. As Table 5.7 shows, in 2001 most households in the Bay of Plenty Region were two-person households (36% compared with 35% in 1996). Twenty-two percent of the households are one-person households, a larger percentage than the 20% of 1996. Conversely, the percentages of three-person households decreased from 17% in 1996 to 16% in 2001 and four or more person households from 28% in 1996 to 26% in 2001 (see Figure 5.2).

There is some variation in household size across the districts, particularly with respect to the larger households. The proportions of one-person households are fairly uniform across the districts with the highest proportion in Tauranga District (at 23% up from 22% in 1996) and the smallest in Opotiki District (at 21%). There is less consistency in the proportions of two-person households, ranging from 31% in Western Bay of Plenty to 39% in Kawerau Districts (see Table 5.7). As Figure 5.2 shows, the largest proportion of households of four or more occur in Kawerau District, at 31%, but this is a decrease from 1996, when they accounted for 38% of the total. The smallest proportion of these larger households occurred in the Tauranga District (at 22%).

Despite the variations in household size, the mean (or average) number of people per household was 3. This figure was the same in all districts, the region as a whole and New Zealand.

Table 5.7 Proportion of Households with Between One and Three People, New Zealand, Bay of Plenty Region and Districts, 1996, 2001

New Zealand, Bay of Plenty Region and Districts	Household Size 1996			Household Size 2001		
	One Person	Two People	Three People	One Person	Two People	Three People
Western Bay of Plenty District	18%	39%	16%	20%	31%	17%
Tauranga District	22%	39%	16%	23%	32%	16%
Whakatane District	18%	32%	17%	21%	33%	18%
Kawerau District	16%	28%	18%	20%	39%	15%
Opotiki District	21%	30%	16%	21%	33%	17%
Rotorua District [whole]	19%	32%	18%	24%	39%	15%
Bay of Plenty Region	20%	35%	17%	22%	36%	16%
New Zealand	21%	33%	17%	23%	34%	17%

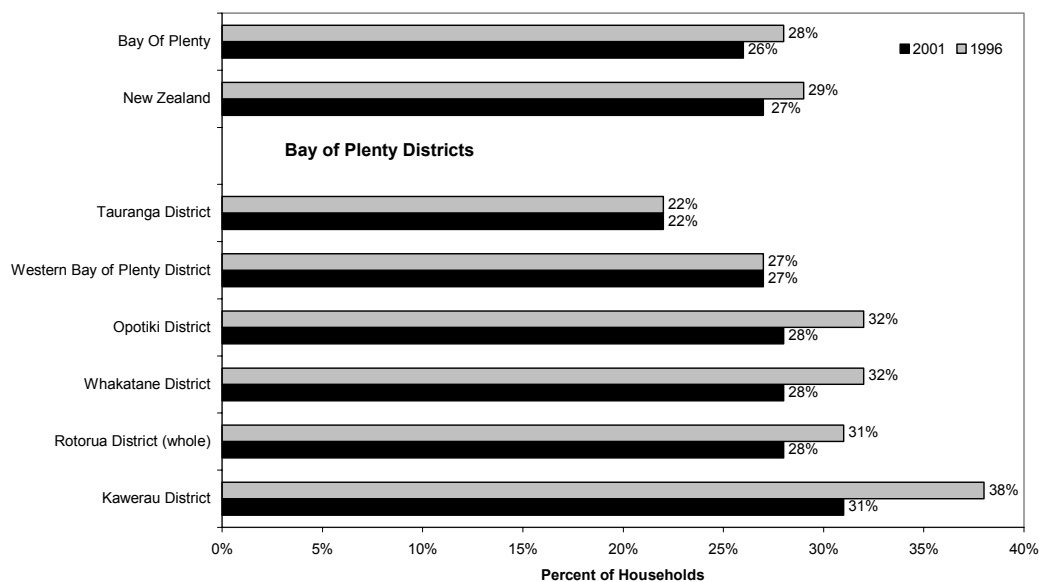


Figure 5.2 Proportion of Households with Four or More People, New Zealand, Bay of Plenty Region and Districts, 2001

5.5.1 Number of Bedrooms

The distribution of house sizes in the Bay of Plenty Region, indicated by the number of bedrooms, is similar to that of New Zealand as a whole. Most houses have three bedrooms (49% in the region compared with 45% nationally) and few have five or more bedrooms (5% in the region compared with 6% nationally). The most notable difference is in the Kawerau District, where 62% of houses have three bedrooms. As Figure 5.2 above shows, Kawerau also has the largest proportion of households with four or more people.

Table 5.8 Number of Bedrooms, New Zealand, Bay of Plenty Region and Districts, 2001

Bay of Plenty Region and Districts	Number of Bedrooms				
	1 room	2 rooms	3 rooms	4 rooms	5 or more
Western Bay of Plenty District	6%	15%	45%	23%	7%
Tauranga District	4%	19%	51%	17%	4%
Rotorua District [whole]	5%	17%	48%	19%	6%
Whakatane District	5%	16%	48%	21%	6%
Kawerau District	2%	8%	62%	18%	3%
Opotiki District	7%	19%	44%	18%	6%
Bay of Plenty Region	5%	17%	49%	19%	5%
New Zealand	5%	20%	45%	19%	6%

5.6 Family Type and Household Composition

Census household data are used to construct Household Composition and Family Type classifications. Both of these constructs are useful for analysing family and household relationships at a more macro level of analysis.

5.6.1 Family Type

For census purposes the 'family' is defined as two or more people, who are members of the same household, and who comprise either a couple, or at least one parent-child relationship. Three categories are used to describe the family: One-Parent, Two-Parent, and Couple-Only families.

The most common type of family in the Bay of Plenty is *Couple-Only* (at 41%) which is greater than the New Zealand proportion of 39%. Their higher occurrence can be explained by the family profiles of Western Bay of Plenty and Tauranga Districts, where *Couple-Only* dominates (at 45% in each district).

While the most common family type in New Zealand is *Two-Parent*, this is not the case in the Bay of Plenty. Also, in both the Bay of Plenty and New Zealand, the proportion of Two-Parent Families has decreased significantly. In 2001, 42% of New Zealand families were of this family type (compared with 60% in 1996). The proportion of couples with children is lower in the Bay of Plenty (at 38%), having fallen from 55% in 1996.

In 2001, the percentage of One-Parent families in the region was higher (at 21%) than for New Zealand overall (16%). This proportion had increased from 1996, when they accounted for 19% of families. One-Parent families were most common in Kawerau (at 32%) and Opotiki (at 28%) and least common in Western Bay of Plenty (at 15%). The proportions of people living in each family type are shown below in Figure 5.3.

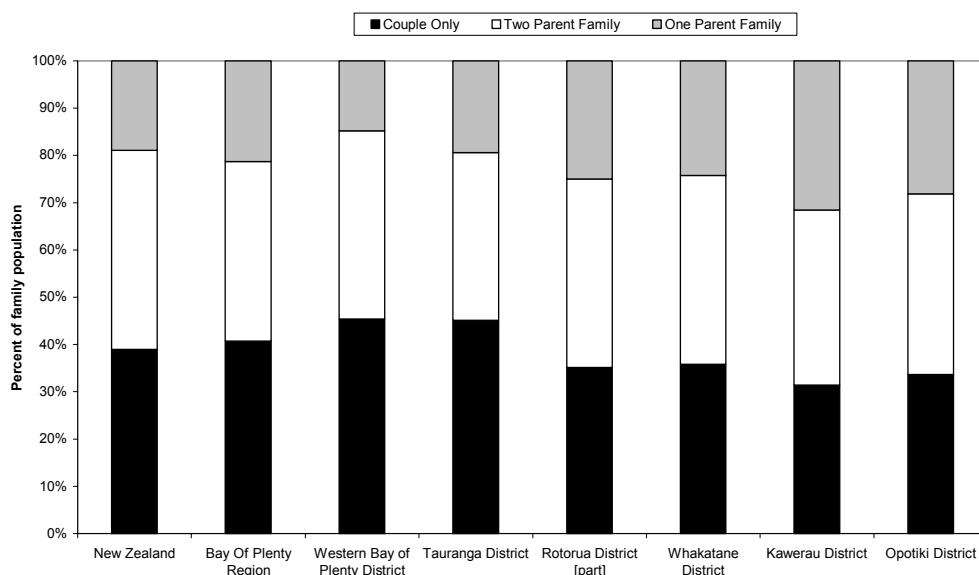


Figure 5.3 Family Type, New Zealand, Bay of Plenty Region and Districts, 2001

The rise in the number of One-Parent families over recent decades has been of concern amongst social and political analysts. Single parenthood is often cited as an indicator for low socio-economic status or considered a family type which is potentially more vulnerable in terms of requiring greater support. There is some consistency between the family type data and 2001 data from the Index of Deprivation, summarised in Chapter 13.

When constructing the family type categories, Statistics New Zealand extracts the One-Parent, Two-Parent and Couple-Only family types from data relating to households. As a result, information on the complex living arrangements of multiple family households is lost. For this reason, it is also useful to examine household composition data.

5.6.2 Household Composition

The broad household composition categories used by Statistics New Zealand are:

- One family household (includes both the one parent and two parent family-types);
- Two or more families;
- Non-family household (e.g. flatting situation); and
- One-person household (i.e. living alone).

In 2001, the One-Family household was by far the most common form of household in the Bay of Plenty (at 70% down from 72% in 1996) and New Zealand (at 68% down from 69% in 1996). The proportion of people living in households of two or more families was 2% for both the Bay of Plenty and New Zealand populations (see Figure 5.4).

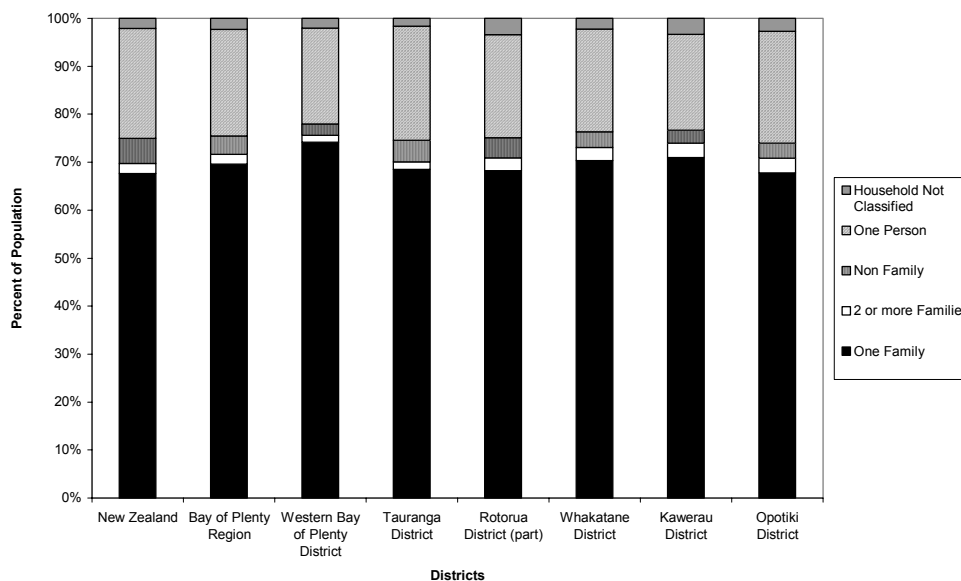


Figure 5.4 Household Composition, New Zealand, Bay of Plenty Region and Districts, 2001

Households with two or more families were more common in Whakatane, Opotiki and Kawerau Districts, which may reflect both the higher proportions of Maori in these districts (described in Section 4.1) and the lower household and personal incomes (described in Sections 8.1 and 8.2).

The proportion of people living in non-family households in the region (at 4%) was lower than the national average of 5%, partly reflecting the lack of a large urban centre in the region. In Wellington City, for instance, the proportion of non-family households was 10%. Variation across the region was slight, ranging from a low of 2% in the Western Bay of Plenty District to 4% in the Tauranga and Rotorua Districts, where the main urban centres are located.

5.7 Motor Vehicles Available to Households for Private Use

Nine percent of households in the Bay of Plenty Region did not have access to a motor vehicle for private use in 2001, compared with 10% of New Zealand households. In 1996, 11% of Bay of Plenty households did not have access to a motor vehicle. As Figure 5.5 shows, the distribution of households without access to cars shows a concentration in some districts, particularly Opotiki and Kawerau Districts. The average people: car ratio in the region, at 2.9 people, is the same as for New Zealand as a whole.

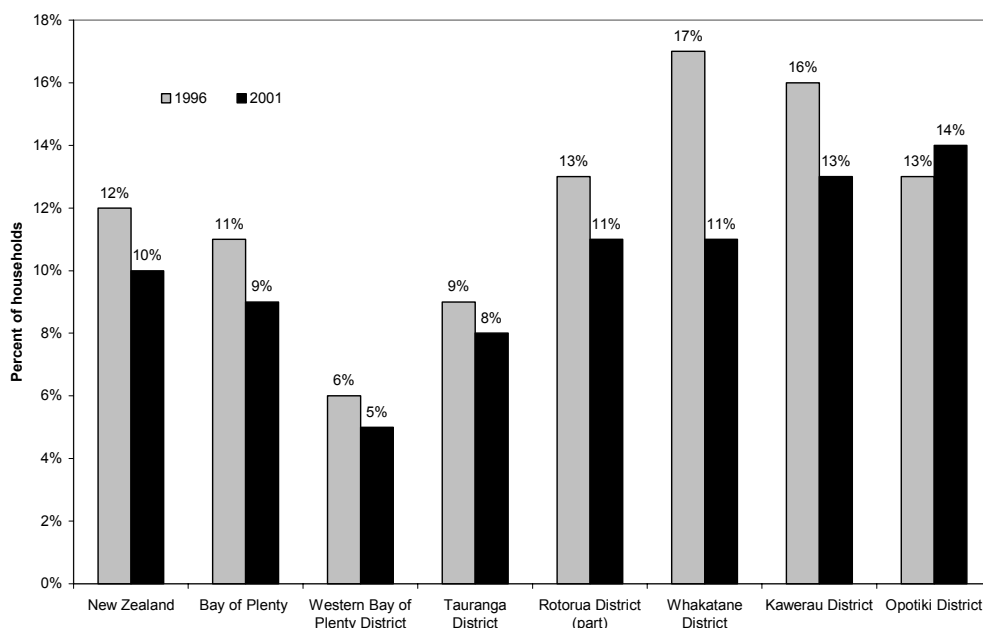


Figure 5.5 Proportion of Households Without a Motor Vehicle for Private Use, New Zealand, Bay of Plenty Region and Districts, 2001

Access to public transport has improved in the Bay of Plenty Region. Tauranga and Rotorua have comprehensive urban bus services that currently operate six days a week, except on public holidays. The expansion of the Tauranga service had been recognised as a priority, given the number of transport-disadvantaged people who live in the district. From December 2002, bus services have been established to link Tauranga, Whakatane, Kawerau, Ohope and Opotiki.

5.8 Access to Communications

Access to communications is often used as an indicator for measuring social well-being. Previously, the focus was on access to telephones as they were seen as an important medium for maintaining social relationships and for emergency management. However, with recent development and wide use of other telecommunications, it is now more appropriate to include access to internet and faxes in any consideration of access to communications.

Access to telephones is generally increasing across the country. Explanations for the increased use include decreasing telephone costs given an increased number of suppliers and the wider use of cell phones.

Despite wider coverage at a national level, access to telecommunications in the Bay of Plenty Region and districts has decreased in the period since the 1996 census. In 2001, the percentage of households in the Bay of Plenty Region that had a working telephone (89%) was slightly lower than the national percentage figure (92%). Within the region, the proportions of households with working telephones were lowest in the Opotiki (79%), Kawerau (82%) and Rotorua [part] (83%) Districts.

The proportions of households without access to any telecommunication showed similar patterns. In Opotiki and Kawerau Districts, where smaller proportions of households had working telephones, households were more likely to have no access to telecommunications of any sort. In Opotiki District, 13% had no access and in Kawerau District, 10% had no access, compared with 5% of households in the region and 3% nationally.

Table 5.9 Access to Telecommunications, New Zealand, Bay of Plenty Region and Districts, 2001

Access to communications	No access to telecommunications	Working telephone in household	Access to Fax	Access to Internet link
Western Bay of Plenty District	3%	91%	32%	33%
Tauranga District	3%	92%	23%	32%
Rotorua District [part]	5%	83%	20%	28%
Whakatane District	8%	86%	21%	27%
Kawerau District	10%	82%	13%	23%
Opotiki District	13%	79%	19%	18%
Bay of Plenty Region	5%	89%	23%	30%
New Zealand	3%	92%	24%	36%

Access to the internet is similarly poor in the Bay of Plenty, particularly in the districts where children under 15 years are concentrated. Of the total Bay of Plenty households, 30% had access to the Internet in 2001, compared with 36% of New Zealand households. Internet penetration is comparatively low in Opotiki (at 18%) and Kawerau (at 23%) Districts and higher in Western Bay of Plenty (at 33%) and Tauranga (at 32%) Districts.

The pattern of fax penetration in Bay of Plenty households is consistent with other telecommunications technology. Compared with New Zealand as a whole (at 24%), a slightly lower percentage of Bay of Plenty households had fax machines in 2001 (at 23%). The regional average was raised by the high penetration of faxes in Western Bay of Plenty households (at 32%) which compensated for the low penetration in Kawerau (at 13%) and Opotiki (at 19%) Districts.

5.9 Means of Home Heating

As the table below shows, Bay of Plenty households were less likely to use electricity for home heating compared with New Zealand as a whole. Instead, at a regional level, bottled gas and wood are more commonly used.

Variations at a district level suggest links between means of home heating and household income. In areas where the median household income is lowest, Opotiki and Kawerau Districts, the use of wood for heating is highest (see Chapter 8, Table 8.5 for details on household income).

Table 5.10 *Main Means of Home Heating, New Zealand, Bay of Plenty Region and Districts, 2001*

Method of Heating	New Zealand	Bay of Plenty Region	Western Bay of Plenty District	Tauranga District	Whakatane District	Kawerau District	Opotiki District	Rotorua District [part]
Electricity	41%	37%	34%	41%	36%	30%	33%	35%
Mains Gas	8%	5%	2%	7%	2%	6%	2%	7%
Bottled Gas	16%	22%	22%	25%	20%	18%	22%	17%
Wood	25%	28%	34%	19%	34%	38%	35%	30%
Coal	5%	2%	2%	2%	2%	2%	2%	3%
Solar Power	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%
Other Method	<1%	<1%	<1%	<1%	<1%	<1%	<1%	<1%
No Heating	2%	2%	2%	2%	1%	1%	2%	1%

Chapter 6: Employment and Unemployment

6.1 The Bay of Plenty Labour Force

In 2001, 100,746 Bay of Plenty residents were in paid employment, an increase of 10% from the 1996 figure of 91,770. These residents made up 56% of the total Bay of Plenty population aged 15 years and over, compared with 54% in 1996. As Table 6.1 shows, a slightly lower proportion (42%) of these people were engaged in fulltime work compared with New Zealand as a whole (46%). The increase from 41% in 1996 duplicates a small national increase (from 45% in 1996). The variation in the districts ranges from 44% of the working age population with full-time jobs in Western Bay of Plenty and Rotorua [part] to 34% in Opotiki and Kawerau Districts.

Part time work was considerably less common in 2001 compared with 1996. Fourteen percent of the Bay of Plenty working age population worked part time, compared with 22% in 1996. The equivalent figures for New Zealand are 14% in 2001 and 21% in 1996. As Table 6.1 shows, the rate of part time work was relatively similar across the districts, the lowest in Kawerau (at 12%) and the highest in Western Bay of Plenty (at 15%).

Table 6.1 Labour Force Status, Population Aged 15 Years and Over, New Zealand, Bay of Plenty Region and Districts, 2001

New Zealand, Bay of Plenty Region and Districts	Labour Force Status					Total Residents 15+ Years
	Employed Fulltime	Employed Part-time	Unemployed	Not in Labour Force ¹	Data not available	
Western Bay of Plenty District	44%	15%	4%	33%	3%	28,989
Tauranga District	40%	14%	5%	38%	3%	71,211
Whakatane District	41%	14%	8%	34%	3%	23,883
Kawerau District	34%	12%	11%	39%	3%	4,794
Opotiki District	34%	13%	9%	41%	4%	6,579
Rotorua District [part]	44%	14%	6%	31%	5%	45,459
Bay of Plenty Region	42%	14%	6%	35%	4%	181,077
New Zealand	46%	14%	5%	32%	3%	2,889,534

¹The labour force consists of people aged 15 years and over who regularly work for one or more hours per week for financial gain, or as an unpaid worker in a family business. Also included are people who are unemployed and actively seeking either full-time or part-time work.

Table 6.2 shows whether people in the labour force, working either full-time or part-time, were employers, employees, self employed or unpaid workers. Compared with New Zealand as a whole, people in the Bay of Plenty Region were less likely to be paid employees and more likely to be employers or self-employed.

Self-employment and employing others is more typical of rural districts in New Zealand overall. This is also evident in the Bay of Plenty Region, where the Western Bay of Plenty and Opotiki Districts have higher proportions of employers and self-employed. These districts also have higher proportions of unpaid workers.

Table 6.2 Gainfully Employed, New Zealand, Bay of Plenty Region and Districts, 2001

New Zealand, Bay of Plenty Region and Districts	Paid Employee	Employer	Self Employed	Unpaid Worker	Not Specified
Western Bay of Plenty District	58%	12%	21%	6%	3%
Tauranga District	74%	9%	13%	2%	3%
Rotorua District [part]	77%	8%	10%	2%	3%
Whakatane District	72%	9%	12%	4%	3%
Kawerau District	86%	4%	4%	2%	4%
Opotiki District	63%	12%	15%	6%	4%
Bay of Plenty Region	72%	9%	13%	3%	3%
New Zealand	75%	8%	12%	2%	3%

6.2 Hours Worked

The total number of weekly hours worked by the Bay of Plenty labour force is much the same as New Zealand. As Table 6.3 shows, in 2001 most people worked between 30 and 44 hours. Similar proportions worked 45-59 hours and 60 hours or more. As with the country as a whole, a third of the labour force worked for 45 hours or more.

There are differences at a district level. People in the Kawerau District are least likely to work for 45 hours or more (a total of 29%) and people in the Western Bay of Plenty are most likely to (at 38%).

Table 6.3 Total Weekly Hours Worked, Labour Force Aged 15 Year and Over, New Zealand, Bay of Plenty Region and Districts, 2001

New Zealand, Bay of Plenty Region and Districts	Part time		Full time		
	Less than 20 hours	20 – 29 hours	30-44 hours	45 – 59 hours	60 hours or more
Western Bay of Plenty District	13%	9%	34%	22%	16%
Tauranga District	15%	9%	38%	23%	9%
Whakatane District	15%	8%	35%	20%	13%
Kawerau District	14%	8%	40%	22%	7%
Opotiki District	17%	8%	34%	16%	15%
Rotorua District [part]	14%	8%	39%	22%	11%
Bay of Plenty Region	15%	9%	37%	22%	11%
New Zealand	13%	8%	39%	22%	11%

6.3 Employment by Industry Type

Census data on industry refers to the type of activity undertaken by the organisation, enterprise or business within which a person is employed. An individual business is assigned an appropriate industry category on the basis of its predominant income producing activity. For this analysis, industry has been categorised into seventeen main groups. These seventeen industry classifications are:

- (i) Agriculture, Forestry, Fishing (Primary sector)
- (ii) Mining (Primary sector)
- (iii) Manufacturing
- (iv) Electricity, Gas and Water
- (v) Construction
- (vi) Wholesale Trade
- (vii) Retail Trade
- (viii) Accommodation, Cafes, Restaurants
- (ix) Transport, Storage
- (x) Communication Services
- (xi) Finance, Insurance
- (xii) Property, Business Services
- (xiii) Government, Administration, Defence
- (xiv) Education
- (xv) Health, Community Services
- (xvi) Cultural, Recreational
- (xvii) Personal, Other Services
- (xviii) Industry not Specified

Employment within these seventeen industries is shown in Figure 6.1 for New Zealand and the Bay of Plenty. The patterns of employment by industry in the Bay of Plenty reflect the rural character of most of the districts, with economies based on intensive forestry, farming and horticultural activities.

In 2001, compared with New Zealand, a greater proportion of employment in the Bay of Plenty was located in the primary sectors, particularly Agriculture, Forestry and Fishing (11%). There was also proportionately less employment in Property and Business Services, which tend to be located in larger centres.

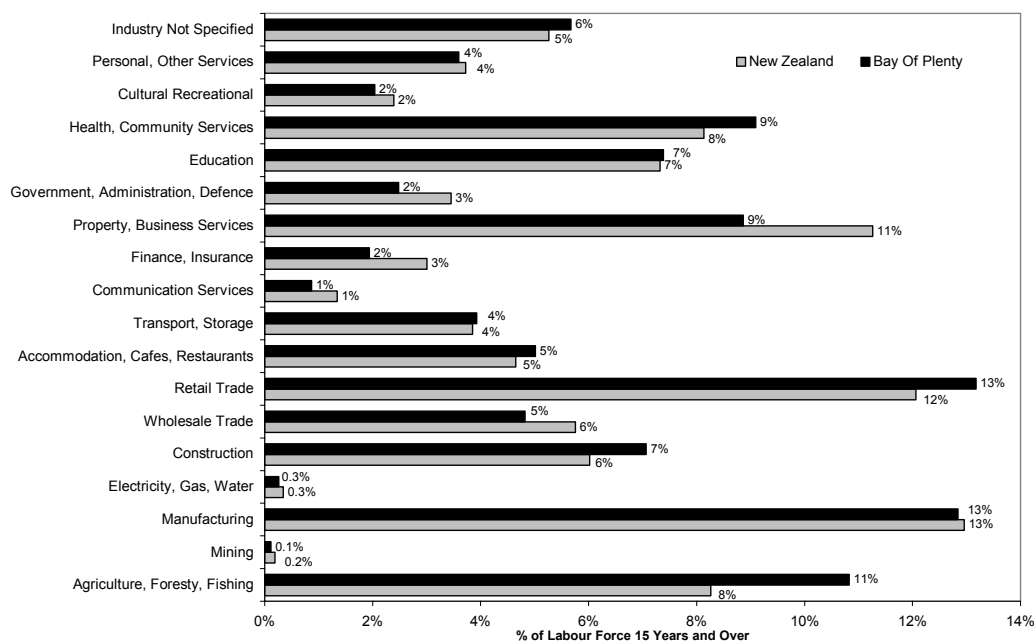


Figure 6.1 Labour Force by Industry Group, New Zealand and Bay of Plenty Region, 2001

Differences between New Zealand and the Bay of Plenty are more pronounced at the district level. Table 6.4 provides details, including the following highlights:

- The largest concentration of employment in any industry group is found in the Kawerau District, where 34% of the district's employment is located in Manufacturing. This reflects the importance of pulp and paper milling activities in the district.
- Employment in the Western Bay of Plenty and Opotiki Districts is concentrated in the Agriculture, Forestry, Fishing industry group (at 27% and 29% respectively) and reflects the intensive primary production activities cited above.
- The proportion of the region's employment in Retail Trade (at 13%) is higher than the national figure of 12%. The higher proportion in the Tauranga District (at 15%), the largest urban centre, contributes to this regional figure.
- Only small proportions of employment are located in the Property, Business Services group in the Whakatane, Opotiki and Kawerau Districts (at 6%, 5% and 4% respectively) compared with New Zealand (11%) and the region (9%). This reflects both the rural nature of these districts and, possibly, their lower socio-economic status.

Table 6.4 Labour Force Aged 15 Years and over by Major Industry Division, New Zealand, Bay of Plenty Region and Districts, 2001

Major Industry	New Zealand	Bay of Plenty Region	Western Bay of Plenty District	Tauranga District	Rotorua District [part]	Whakatane District	Kawerau District	Opotiki District
Agriculture, Forestry, Fishing	8%	11%	27%	4%	6%	16%	7%	29%
Mining	0.2%	0.1%	0.3%	0.1%	0.1%	0.1%	0.0%	0.0%
Manufacturing	13%	13%	11%	13%	13%	14%	34%	4%
Electricity, Gas, Water	0.3%	0.3%	0.1%	0.2%	0.4%	0.3%	0.0%	0.1%
Construction	6%	7%	7%	9%	6%	5%	5%	5%
Wholesale Trade	6%	5%	4%	6%	5%	3%	2%	2%
Retail Trade	12%	13%	10%	15%	13%	13%	11%	13%
Accommodation, Cafes, Restaurants	5%	5%	3%	4%	9%	3%	3%	4%
Transport, Storage	4%	4%	4%	5%	4%	3%	2%	2%
Communication Services	1%	1%	1%	1%	1%	1%	1%	0%
Finance, Insurance	3%	2%	1%	2%	2%	1%	1%	1%
Property, Bus Services	11%	9%	8%	11%	9%	6%	4%	5%
Government, Administration, Defence	3%	2%	2%	2%	3%	3%	2%	2%
Education	7%	7%	6%	6%	8%	9%	9%	12%
Health, Community Services	8%	9%	7%	10%	9%	9%	6%	7%
Cultural, Recreational	2%	2%	1%	2%	3%	2%	1%	1%
Personal, Other Services	4%	4%	3%	4%	4%	4%	3%	3%
Industry Not Specified	5%	6%	7%	5%	5%	6%	7%	8%

6.4 Unemployment

Levels of unemployment are often used as an indicator for gauging social and economic wellbeing. Unemployment levels are defined here as the number of persons who are unemployed and actively seeking work as a percentage of the total¹⁵ labour force aged 15 years and over.

On census night 2001, 10,692 Bay of Plenty people aged 15 years and over indicated that they were unemployed and actively seeking either full-time or part-time work. That gives an unemployment rate of 6%, which is higher than the 5% rate for New Zealand.

As with the country as a whole, unemployment rates in the region and in the districts have fallen in the ten-year period between 1991 and 2001, with the most significant fall occurring between 1996 and 2001. In New Zealand, unemployment has fallen from 10% to 5% and in the Bay of Plenty Region, it has fallen from 13% to 6%. The highest rates of unemployment, in Kawerau (11%) and Opotiki (9%) Districts, are significantly higher than the national and regional rates but lower than in 1996 (when they were 18% and 16% respectively) and 1991 when they were 17% and 20% respectively.

¹⁵ The total labour force includes persons who are unemployed and actively seeking work.

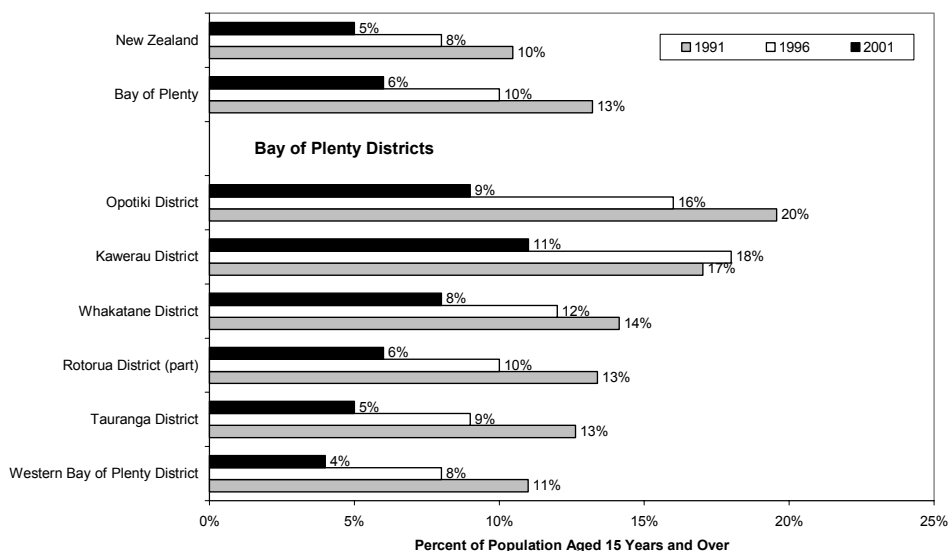


Figure 6.2 Unemployment Rates, Labour Force Aged 15 Years and Over, New Zealand, Bay of Plenty Region and Districts, 1991-2001

Maori are disproportionately represented in the unemployment statistics for the region. While Maori comprised 25% of the Bay of Plenty resident population in 2001, they comprised 49% of the region's unemployed. Although the overall number of unemployed in the region decreased, the total number of Maori who were unemployed in 2001 (5,247 people) is only a 1% decrease since 1996. As noted in the 1996 profile of the Bay of Plenty Region, the decline in unemployment is largely a decline in unemployment for non-Maori.

6.5 Means of Travel to Work

Table 6.5 summarises information about how people travel to work. Most people in the Bay of Plenty travel to work by private car, as they do in New Zealand as a whole. In 2001, 49% travelled by private motorcar, compared with 48% nationally. Proportions varied from a high of 53% in the Tauranga District to a low of 41% in Opotiki District. The lower percentage in Opotiki reflects the higher proportion of households in the district without access to a private motor car (see Section 5.7). The very low percentages of people who travel to work by public transport (bus or train) reflect the rural nature of the region and the lack of a public transport system in some of the centres until recently. Although the proportion who use public transport for the country as a whole is low (at 3% for buses and 0.9% for trains), the proportion in the region is even lower (at 0.4% for buses and 0.1% for trains). The higher use of buses in Rotorua and, to a lesser extent, Tauranga District (still only at 0.7% and 0.4% respectively) reflects the availability of buses in the centres (see Section 5.7).

Table 6.5 Means of Travel to Work by Labour Force Aged 15 Years and Over, New Zealand, Bay of Plenty Region and Districts, 2001

Means of Travel	New Zealand	Bay of Plenty Region	Western Bay of Plenty District	Tauranga District	Rotorua District	Whakatane District	Kawerau District	Opotiki District
Did not go to Work	11%	12%	12%	13%	11%	13%	14%	11%
Drove Private Car	48%	49%	43%	53%	51%	46%	51%	41%
Drove Comp. Car	10%	11%	9%	12%	12%	9%	6%	8%
Passenger	4%	4%	3%	4%	6%	4%	6%	5%
Public bus	3%	0.4%	0.2%	0.4%	0.7%	0.2%	0.3%	0.2%
Train	0.9%	0.1%	0.1%	0.1%	0.1%	0.1%	0.3%	0.1%
Motor Bike or Power Bike	1%	1%	1%	1%	1%	2%	2%	2%
Bicycle	2%	2%	1%	3%	3%	3%	5%	2%
Walked or Jogged	5%	4%	3%	4%	4%	6%	7%	7%
Other	0.7%	0.4%	0.3%	0.5%	0.5%	0.3%	0.3%	0.4%

Chapter 7: Education

7.1 Highest Qualification

The highest level of education attained by Bay of Plenty regional and district residents aged 15 years and over is shown in Figure 7.1. Highest qualifications have been grouped into four broad categories:

- (a) **University** – including graduate and undergraduate degrees
- (b) **Other Tertiary** including trade, teaching/nursing, technicians and other vocational certificates or diplomas;
- (c) **School** qualifications achieved from secondary school including school certificate, sixth form certificate or higher and qualifications from schools outside New Zealand;
- (d) **No qualification** attained at school and since leaving school.

The region has a higher proportion of people aged 15 years and over with no qualifications (27%) when compared with New Zealand as a whole (24%). However, consistent with national trends, the proportion has decreased since 1996, when it was 36%. In 1996 the national percentage was 32%.

Variations at the district level are in keeping with other indicators that point to the relative disadvantage of Kawerau and Opotiki Districts (these include personal and household income, which are detailed in Chapter 8). The proportion of the resident population with no formal qualification was considerably higher in the eastern Bay of Plenty, especially in the Kawerau (36%) and Opotiki (34%) Districts. However, these proportions are considerably lower than in 1996, when 46% of people 15 years and over had no formal qualifications.

Compared with New Zealand, the proportion of the Bay of Plenty Region's population of 15 years and over with university qualifications is low (6% compared with 10% nationally). As Figure 7.1 shows, the proportions across the districts are relatively similar except in Kawerau (2%) and Opotiki (3%) Districts. These districts also have comparatively lower percentages of people with other tertiary qualifications (at 16% in Kawerau and 14% in Opotiki), compared with 18% in New Zealand and 19% in the Bay of Plenty Region.

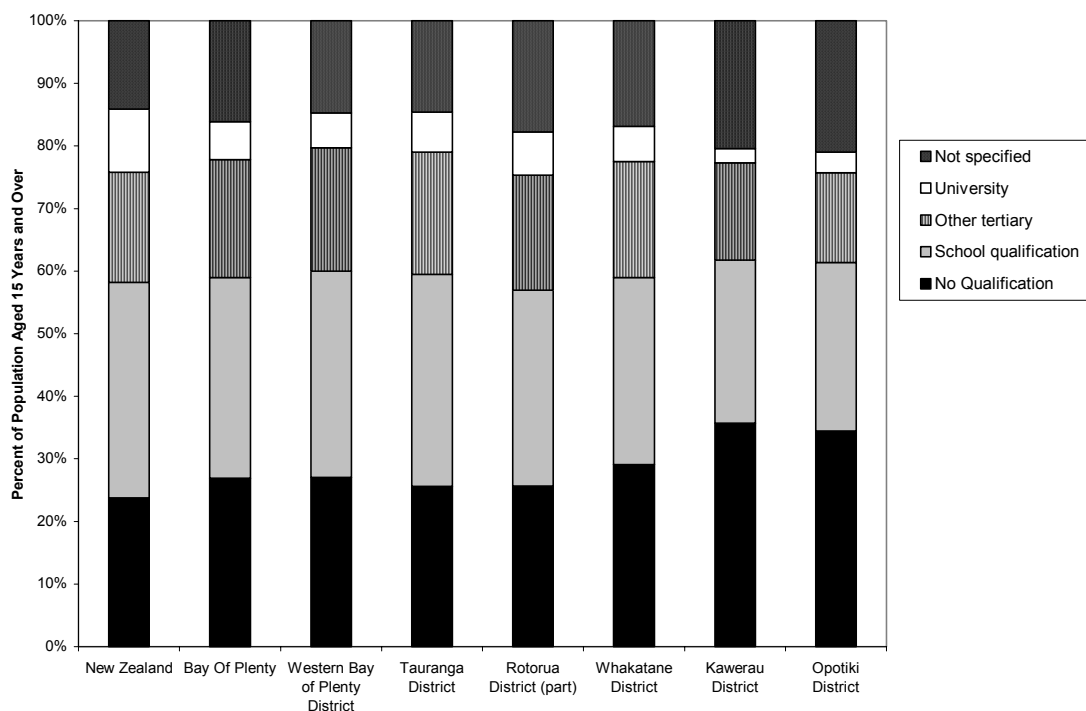


Figure 7.1 Highest Qualification Attained, Population Aged 15 Years and Over, New Zealand, Bay of Plenty Region and Districts, 2001

7.1.1 Highest Qualification by Ethnicity

Compared with NZ Europeans and Pacific Islands people over the age of 15 years, Maori in the Bay of Plenty Region are more likely to have no formal qualifications. As Figure 7.2 shows, 37% of the region's Maori over 15 years had no formal qualifications in 2001, compared with 24% of NZ European and 29% of Pacific Islands people. However, these percentages show an improvement since the last census when 50% of Maori over 15 years had no formal qualifications. While Maori are less likely to have other tertiary (14%) and university (4%) qualifications compared with NZ Europeans (20% with other tertiary and 11% with university) they are more likely to have these qualifications compared with Pacific Islands people. Twenty percent of those identifying as Asian in 2001 had university qualifications.

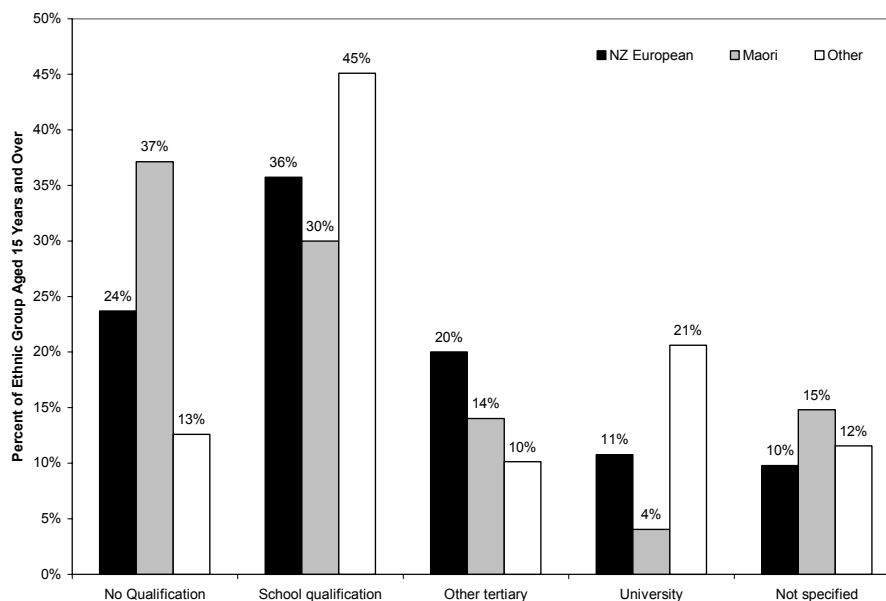


Figure 7.2 Highest Qualification, Population Aged 15 Years and Over by Ethnicity, Bay of Plenty Region, 2001

7.2 Educational Attainment of School Leavers

Bay of Plenty youth continue to leave school with fewer qualifications compared with the total New Zealand school leaving population. Figure 7.3 shows the highest qualifications attained by Bay of Plenty school leavers. In 2001, 3,423 students left the secondary school system, of whom the largest percentage (30%) had gained Higher School Certificate, University Entrance and/or Bursary qualifications. This compares with 37% of the New Zealand school leavers.

More young people in the Bay of Plenty Region leave school with no qualifications compared with New Zealand. However, consistent with national trends, the percentage has decreased since 1996. In 2001, 20% of Bay of Plenty school leavers had no qualifications (compared with 24% in 1996) and 17% of New Zealand school leavers had no qualifications (compared with 19% in 1996). These school leavers will find it very difficult to pursue tertiary level education programmes, especially university programmes that require Higher School Certificate and Bursary qualifications as minimum entry levels.

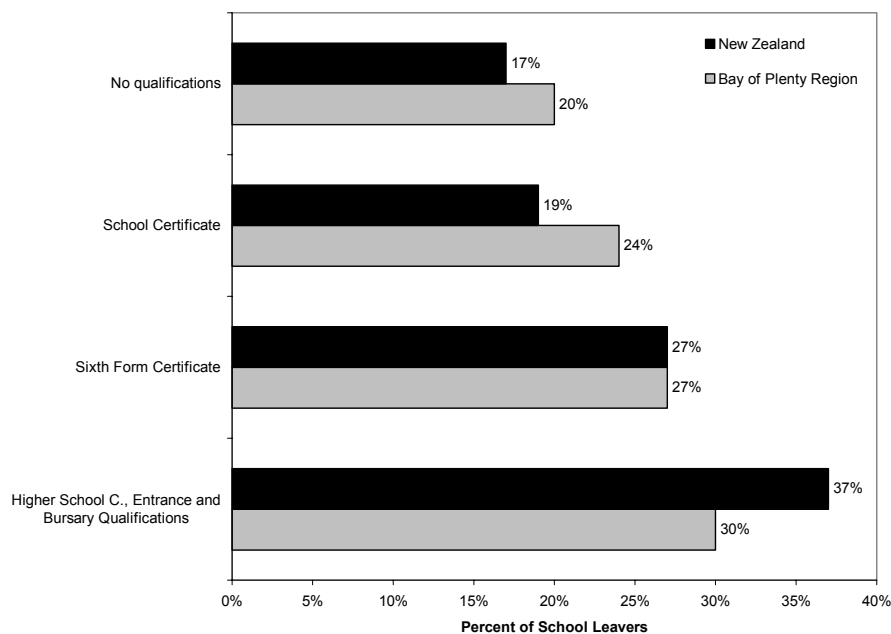


Figure 7.3 Highest Qualification of School Leavers, New Zealand and Bay of Plenty Region, 2001

7.3 Income and Educational Attainment

There is a strong link between educational attainment and income. Table 7.1 provides information about income levels and highest qualifications gained for New Zealand and Bay of Plenty populations over 15 years. For both populations, as the income levels increase, the proportions of people with university qualifications increase. Conversely, as income levels decrease, the proportions of people with no qualifications increase.

Table 7.1 Income by Highest Qualification, Population Aged 15 Years and Over, New Zealand and Bay of Plenty Region, 2001

Income	Bay of Plenty				New Zealand			
	Highest Qualification Attained (%)				Highest Qualification Attained (%)			
	None	School	Other Tertiary	University	None	School	Other Tertiary	University
Loss	34%	33%	16%	4%	32%	36%	13%	7%
\$0-\$15,000	35%	35%	14%	3%	31%	39%	13%	6%
\$15,001-\$30,000	28%	37%	22%	4%	23%	34%	24%	12%
\$30,001-\$40,000	19%	35%	29%	9%	18%	37%	26%	13%
\$40,001-\$50,000	16%	30%	34%	14%	14%	33%	31%	18%
\$50,001-\$70,000	14%	27%	34%	21%	10%	29%	30%	29%
\$70,001 plus	13%	27%	25%	30%	8%	28%	21%	40%

7.4 Access to Tertiary Education

The University of Waikato is the closest university to the Bay of Plenty Region. In the 2002 academic year approximately 2,250 students from the greater Bay of Plenty Region were enrolled at this university. The University's total student role is 13,678. The University of Waikato also offers satellite degree and certificate course through the Bay of Plenty Polytechnic in Tauranga.

The largest polytechnic in the region is based in Rotorua. As at August 2002, Waiariki Polytechnic had around 2,600 Equivalent Full Time Students (EFTS) and over 324 staff. This polytechnic offers educational programmes that reflect the unique social and economic characteristics of the Rotorua District, particularly in relation to forestry, tourism, and Maori cultural studies. The Waiariki Polytechnic has three satellite campuses located in Whakatane (163 students), Taupo (105 students) and Tokoroa (130 students) offering similar courses.

The Bay of Plenty Polytechnic in Tauranga provides certificate, diploma and degree courses to around 2,392 full time students and 92 conjoint students (as at September 2002). In total, there are 2,484 EFTS, 258 full time staff and 200 casual staff. This Polytechnic has one regional satellite campus based in Edgecumbe specialising in agricultural studies. The Bay of Plenty Polytechnic also offers programmes that reflect the region's unique natural and social environment, with specialist programmes in marine biology, aquaculture, horticulture and Maori studies.

Unique to the region is Te Whare Wananga o Awanuiarangi in Whakatane. Ngati Awa, through its Runanga (Maori Trust Board), first established this tertiary institution in 1990. Awanuiarangi provides degree and diploma studies especially for Maori people of Mataatua and other tribal groups offering courses in Maori language and tikanga (customs and traditions). The EFTS role as at the end of August 2002 was 568, with 38 staff.

Distance learning is available via a number of tertiary institutions such as Massey University and the Open Polytechnic of New Zealand. The Bay of Plenty and Waiariki Polytechnics also offer 'flexi-study' programmes that enable students to attend tutorial and workshops through audio conferencing and the Internet. Teacher training diplomas are also available through distance learning via the Christchurch and Wellington education colleges and the University of Waikato. Bethlehem Institute in Tauranga is another tertiary establishment providing early childhood, primary and secondary teacher training courses.

The Eastern Bay of Plenty Rural Education Activities Programme (REAP) provides educational resources to rural communities. REAP currently offers training in early childhood education and adult teaching.

There are a large number of private training programmes operating in the region that provide skills-based training (e.g. Training Opportunities Programmes or 'TOPs'). Many of these training programmes are funded by Skill NZ and adhere to the New Zealand Qualifications Framework.

Chapter 8: Personal, Family and Household Income

8.1 Introduction

The personal and family income received by Bay of Plenty residents are examined in this section. Personal income refers to the gross total personal income received by an individual aged 15 years and over. Family¹⁶ Income is the combined, gross, total income that persons aged 15 years and over in a family receive. Household income is defined as the total income, including income support, before tax that members of a household aged 15 years and over receive from all sources.

8.2 Personal Income

There are two ways to indicate income levels at the aggregate level, the *mean* or average and the *median* or mid point. The latter median measure is usually the most reliable as the mean (worked out by dividing the sum of individual incomes by the number of individuals) can be distorted by a few very high or very low incomes.

In 2001, the median personal income per annum for the region's population of 15 years and over was \$16,800. This is lower than the New Zealand median of \$18,545. The mean income shows the region having a lower average per annum personal income (at \$23,294) than the country as a whole (at \$25,357).

Median and mean personal income levels were lowest (at \$12,899 and \$19,136 respectively) in Opotiki District and highest in Rotorua [whole] District (at \$18,558 and \$24,326 respectively) and Western Bay of Plenty District (at \$17,279 and \$24,073 respectively).

¹⁶ Family refers to two or more people, who are members of the same household, and who comprise either a couple, or at least one parent role/child relationship, or both.

Table 8.1 Mean and Median Personal Income, New Zealand, Bay of Plenty Region and Districts, 2001

New Zealand, Bay of Plenty Region and Districts	Mean Personal Income	Median Personal Income
Western Bay of Plenty District	\$24,073	\$17,297
Tauranga District	\$22,997	\$16,828
Rotorua District [whole]	\$24,326	\$18,558
Whakatane District	\$23,774	\$15,916
Kawerau District	\$21,633	\$13,528
Opotiki District	\$19,136	\$12,899
Bay of Plenty Region	\$23,294	\$16,800
New Zealand	\$25,357	\$18,500

The distribution of incomes for the Bay of Plenty Region shows why the median and average incomes were lower than for New Zealand as a total. There were smaller proportions of people in the higher income categories: for instance, 13% earned \$40,000 or more per annum compared with 17% of the total population over 15 years. At the same time, there was a slightly higher proportion of people in the lower income categories. Forty percent of the region's adult population earned between \$0-\$15,000 compared with 38% for New Zealand (see Figure 8.1).

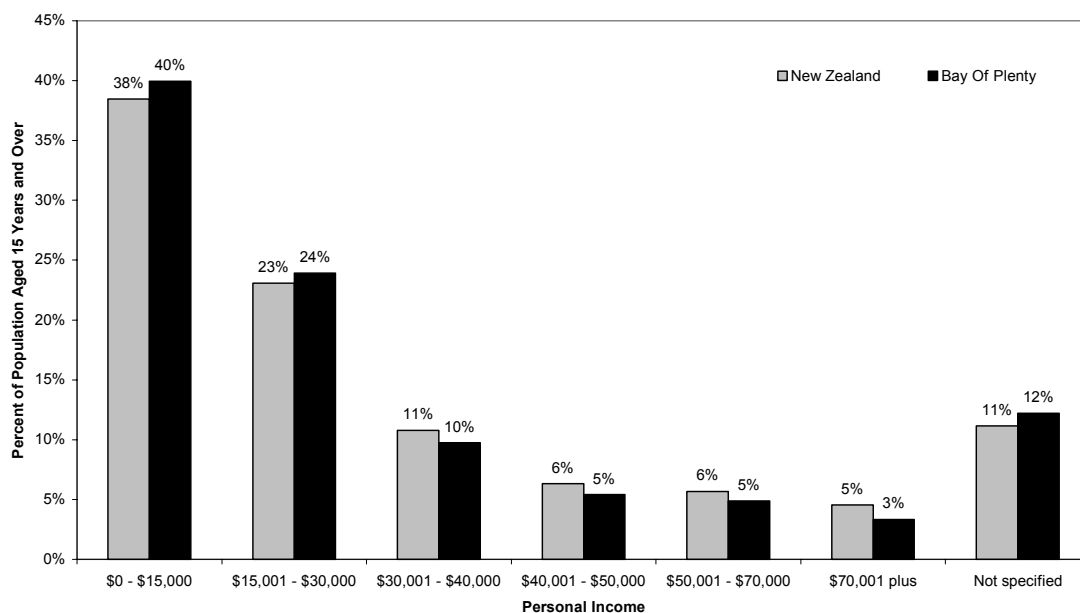


Figure 8.1 Total Personal Income, Population Aged 15 Years and Over, New Zealand and Bay of Plenty Region, 2001

Table 8.2 shows some differences in income levels at the district level. On the one hand, larger proportions of the working age populations in Opotiki and Kawerau Districts earn \$0-\$15,000 (49% and 46%) compared with the region (40%). And only a small proportion of the Opotiki District working age population earns \$40,000 or more (9% compared with 17% regionally).

As was the case in 1996, the Kawerau District still had a more skewed income distribution in 2001 than other districts. A disproportionately high percentage of people received \$15,000 or less. However, a higher percentage received \$50,000-\$70,000 (at 8% compared with 5% regionally and 6% nationally). These statistics reflect the large number of people in the district who are unemployed coupled with the high proportion working within the pulp and paper milling industry where remuneration levels are higher, especially for those employed on a shift-work basis.

Table 8.2 Total Personal Income, Population Aged 15 Years and Over, New Zealand, Bay of Plenty Region and Districts, 2001

Total Personal Income	Percent of Individuals							
	New Zealand	Bay of Plenty Region	Western Bay of Plenty District	Tauranga District	Whakatane District	Kawerau District	Opotiki District	Rotorua District [part]
\$0-\$15,000	38%	40%	39%	41%	41%	46%	49%	37%
\$15,001-\$30,000	23%	24%	25%	25%	21%	16%	20%	24%
\$30,001-\$40,000	11%	10%	10%	10%	9%	6%	6%	11%
\$40,001-\$50,000	6%	5%	5%	6%	5%	4%	3%	6%
\$50,001-\$70,000	6%	5%	5%	5%	6%	8%	3%	5%
\$70,001 plus	5%	3%	4%	3%	4%	3%	3%	3%
Not Specified	11%	12%	11%	10%	13%	16%	15%	14%

8.2.1 Personal Income by Sex

There is considerable difference in the personal income distribution of women and men living in the Bay of Plenty Region. In 2001, only 28% of those people earning over \$40,000 were female (compared with 20% in 1996). Conversely, 62% of those people in the nil or loss income bracket were women, slightly down from the 1996 68% (see Figure 8.2). In addition, 62% of those in the \$0-\$15,000 income category were women. Women in the low income brackets (\$0-\$15,000) are more likely to be a part of the non-labour force caring for children and other dependants or working in part-time paid employment.

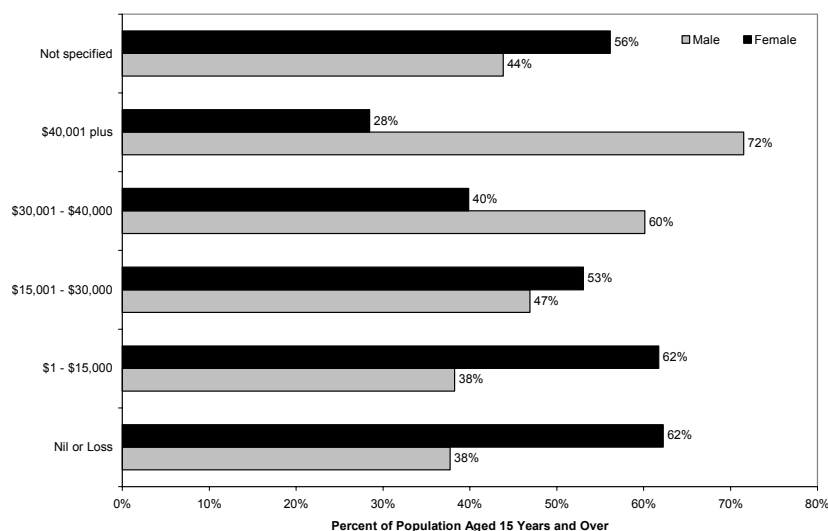


Figure 8.2 Proportion of Bay of Plenty Region Males and Females in Each Income Bracket, 2001

8.2.2 Personal Income by Ethnicity

Personal income levels varied across different ethnic groups in the Bay of Plenty. In 2001, Maori were most likely to be in the low income brackets. Seventy-two percent of Maori earned \$30,000 or less, compared with 67% of NZ European and 31% of other ethnicities. Amongst other ethnicities, 69% of Pacific Island people and 63% of Asians earned \$30,000 or less. NZ Europeans were more likely to be in the higher income brackets (see Figure 8.3). Ethnic groups other than NZ European were considerably less likely to divulge information relating to personal income.

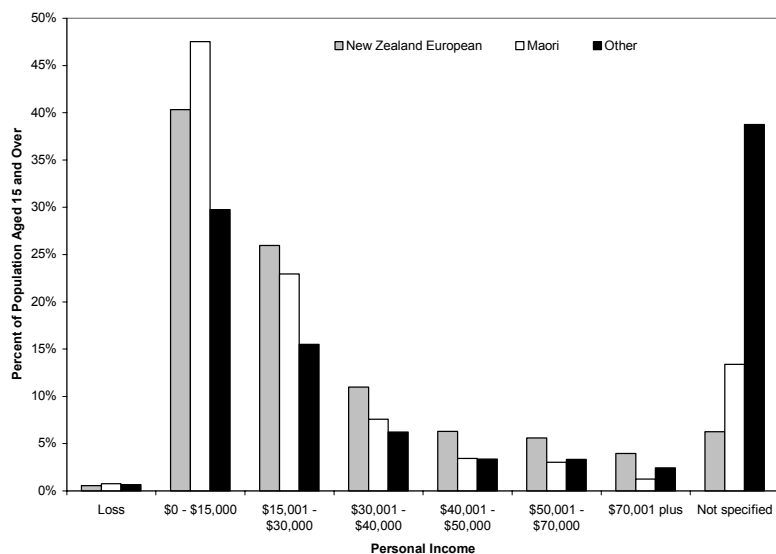


Figure 8.3 Personal Income by Ethnicity, Bay of Plenty Region, 2001

8.2.3 Source of Personal Income

Like New Zealand as a whole, wages and salaries were the most common source of personal income in the Bay of Plenty Region in 2001. However, the percentage of people receiving wages and salaries, at 49%, was slightly lower than the country as a whole, at 53%. This difference reflects the lower proportion of employees and higher proportion of employers or self-employed in the region (see section 6.1). Other notable differences between the Bay of Plenty Region and New Zealand include the higher proportions of people receiving superannuation and unemployment benefits in the region.

Table 8.3 Source of Personal Income, New Zealand, Bay of Plenty Region and Districts, 2001

Source of Income	New Zealand	Bay of Plenty Region	Western Bay of Plenty District	Tauranga District	Rotorua District [part]	Whakatane District	Kawerau District	Opotiki District
Wages, Salary, Commissions, Bonuses, etc. Paid by Employer	53%	49%	46%	49%	52%	47%	46%	38%
Self-employment or Business	16%	17%	28%	15%	14%	16%	5%	16%
Interest, Dividends, Rent, Other Investments	24%	24%	30%	28%	20%	22%	14%	16%
Regular payments from ACC or a Private Work Accident Insurer	2%	2%	2%	2%	2%	2%	2%	2%
New Zealand Superannuation or Veterans Pension	15%	18%	19%	21%	13%	15%	14%	17%
Other Superannuation, Pensions, Annuities	3%	3%	3%	4%	3%	3%	3%	3%
Community Wage – Job Seeker	6%	8%	6%	7%	7%	10%	12%	14%
Community Wage – Sickness Benefit	2%	2%	2%	2%	2%	2%	3%	4%
Domestic Purposes Benefit	4%	5%	4%	4%	6%	6%	9%	8%
Invalids Benefit	2%	2%	2%	2%	2%	2%	3%	3%
Student Allowance	3%	2%	1%	2%	2%	2%	2%	1%
Other Government Benefits, Government Income Support Payments, or War Pensions	4%	4%	4%	4%	4%	5%	6%	6%
Other Sources of income, Including Support Payments from People Living in Other Households	2%	1%	1%	2%	2%	1%	2%	1%
No source of Income	5%	4%	4%	4%	5%	5%	7%	5%

Variations in income sources are more evident at the district level. In 2001, Opotiki District had the smallest proportion of people receiving wages and salaries (at 38% compared with 49% regionally and 53% nationally) and the highest proportion receiving the Job Seeker (or unemployment) benefit (14% compared with 8% regionally and 6% nationally).

Western Bay of Plenty had 28% of its residents 15 years and over receiving income from self-employment or business, compared with 17% regionally and 16% nationally.

In 2001, the proportions of people receiving the Domestic Purposes Benefit in Opotiki and Kawerau Districts were twice that of New Zealand overall (at 8% and 9% respectively).

8.2.4 Income Support

Income support refers to government funded income supplements received from Work and Income. Figure 8.4 illustrates the percentage of residents, aged 15 years and over, from New Zealand, the Bay of Plenty Region and districts who received income support during the 12 months preceding the 2001 census.

Twenty percent of the Bay of Plenty resident population aged 15 years and over (or 35,442 people) had received some form of government income supplement in the twelve months prior to the 2001 census.

The information presented in Figure 8.4 is consistent with the data about personal income sources shown in Table 8.3. The figure shows that the percentage of people receiving income supplements in the Bay of Plenty in 2001 was greater than New Zealand overall. This regional percentage reflected the considerably greater proportions of Opotiki and Kawerau District residents in receipt of some form of income supplement. Western Bay of Plenty had a smaller proportion of people in receipt of income supplement compared with both the region and New Zealand.

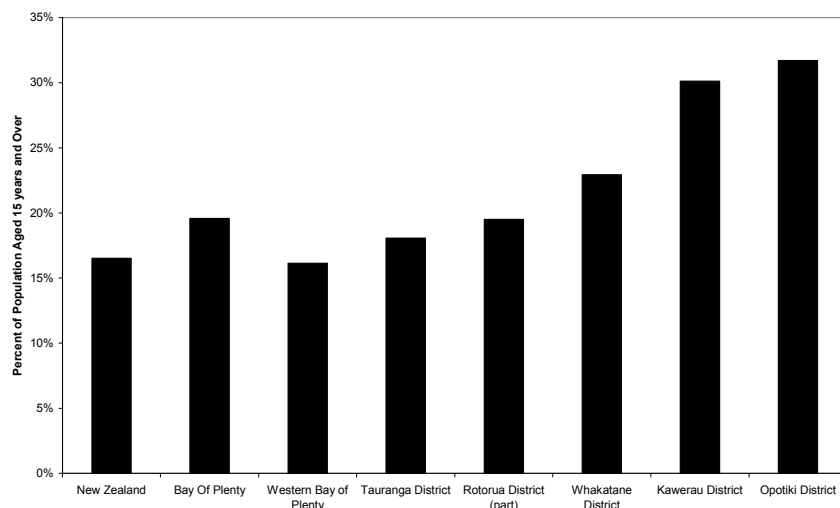


Figure 8.4 Proportion of Population Aged 15 Years and over Receiving Income Support, New Zealand, Bay of Plenty Region and Districts, 2001

The types of income supplements received by Bay of Plenty residents were generally similar to New Zealand. The only differences were the higher proportion of people on the Domestic Purposes Benefit in the region (26% compared with 22% nationally) and the lower proportion receiving Invalids Benefit (see Section 8.2.3 for related discussion).

There were more differences at a district level. In the Kawerau District, only 4% of those receiving income supplements received the Invalids Benefit, compared with 10% nationally and 8% regionally. In the Opotiki District, 59% of people receiving income supplements received the Job Seeker (or unemployment) benefit compared with 47% for both the region and New Zealand.

Table 8.4 Types of Benefits Received by People Aged 15 Years and Over, New Zealand, Bay of Plenty Region and Districts, 2001

New Zealand, Bay of Plenty Region and Districts	Community Wage – Job Seeker	Community Wage – Sickness Benefit	Domestic Purposes Benefit	Invalids Benefits	Other Benefits ¹
Western Bay of Plenty District	46%	13%	21%	9%	21%
Tauranga District	44%	11%	24%	10%	20%
Whakatane District	54%	10%	25%	7%	14%
Kawerau District	53%	10%	31%	4%	11%
Opotiki District	59%	11%	23%	6%	11%
Rotorua District [part]	44%	11%	30%	6%	17%
Bay of Plenty Region	47%	11%	26%	8%	17%
New Zealand	47%	12%	22%	10%	18%

¹ Other Government Benefits, Government Income Support Payments or War Pensions

The Kawerau and Rotorua District [part]s had higher proportions of people receiving the Domestic Purposes Benefit. The Kawerau District has a high proportion of one-parent families living in the district (see Section 5.5).

8.3 Family Income

Family income is often considered to be more useful than personal income for measuring social and economic well-being. This is because individual income does not show differences between one and two income families. Family income refers to the total combined income that all persons aged 15 years and over in a family unit receive. Figure 8.5 depicts the family income of Bay of Plenty and New Zealand families in 2001.

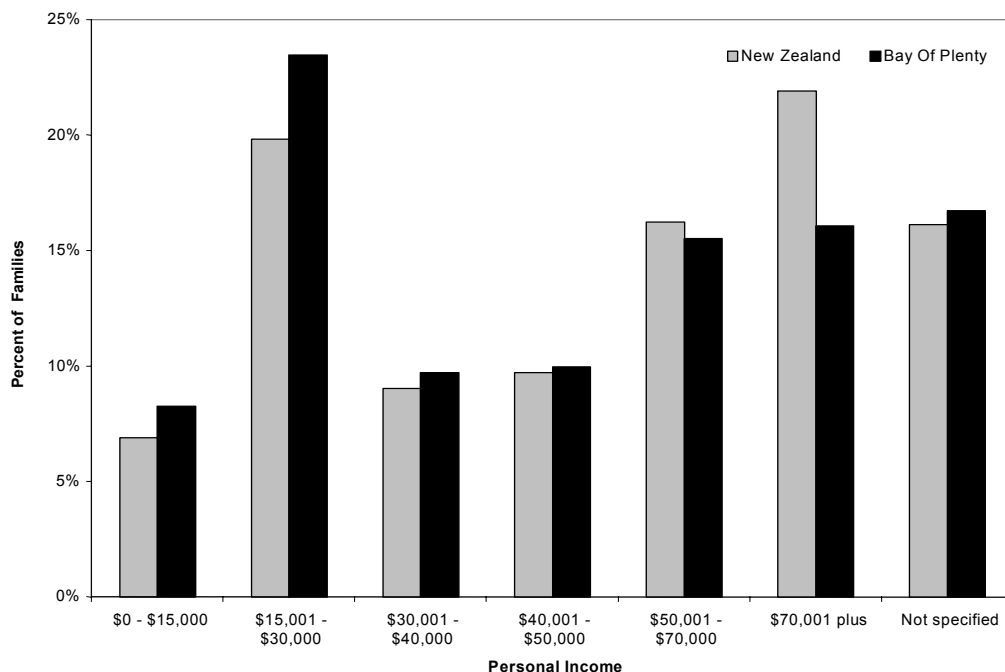


Figure 8.5 Family Income, New Zealand and Bay of Plenty Region, 2001

Family incomes are generally lower in the Bay of Plenty Region compared with New Zealand. The median family income for Bay of Plenty was \$39,896, compared with New Zealand as a whole at \$46,087.

Table 8.5 Mean and Median Family Income, New Zealand, Bay of Plenty Region and Districts, 2001

New Zealand, Bay of Plenty Region and Districts	Mean Family Income	Median Family Income
Western Bay of Plenty District	\$49,475	\$40,702
Tauranga District	\$46,930	\$39,601
Rotorua District [whole]	\$49,828	\$43,054
Whakatane District	\$48,562	\$40,161
Kawerau District	\$42,058	\$32,108
Opotiki District	\$38,747	\$28,130
Bay of Plenty Region	\$47,633	\$39,896
New Zealand	\$50,896	\$46,087

As Table 8.5 shows, the median and mean family incomes of Opotiki and Kawerau Districts were considerably lower than other districts and New Zealand as a whole. Thirty-two percent of families in the region earned under \$30,000 per annum,

compared with 27% nationally. Around 32% of families in the Bay of Plenty Region earned over \$50,000 compared with 38% for New Zealand overall (Table 8.6.).

Table 8.6 Family Income, New Zealand, Bay of Plenty Region and Districts, 2001

Total Family Income	New Zealand	Bay of Plenty Region	Percent of Families					
			Western Bay of Plenty District	Tauranga District	Whakatane District	Kawerau District	Opotiki District	Rotorua District [part]
\$0-\$15,000	7%	8%	7%	7%	10%	13%	15%	9%
\$15,001-\$30,000	20%	23%	24%	25%	22%	24%	28%	20%
\$30,001-\$40,000	9%	10%	11%	10%	8%	8%	8%	10%
\$40,001-\$50,000	10%	10%	10%	11%	9%	6%	7%	10%
\$50,001-\$70,000	16%	16%	16%	16%	14%	14%	9%	16%
\$70,001 plus	22%	16%	17%	15%	18%	12%	10%	17%
Not Specified	16%	17%	15%	15%	19%	22%	22%	18%

Differences in family income levels become more acute at the district level. Families in Opotiki District were considerably more likely to earn under \$30,000 than other districts. Forty-three percent were in this category in 2001 compared with 31% regionally and 29% in Rotorua [part]. As Table 8.6 shows, the percentages of families receiving more than \$30,000 ranged from a low of 35% in the Opotiki District (where there are generally larger families) to a high of 54% in the Western Bay of Plenty District. Figure 8.6 shows the relatively lower percentage of families earning over \$30,001 in the Bay of Plenty Region and districts compared with New Zealand as a whole.

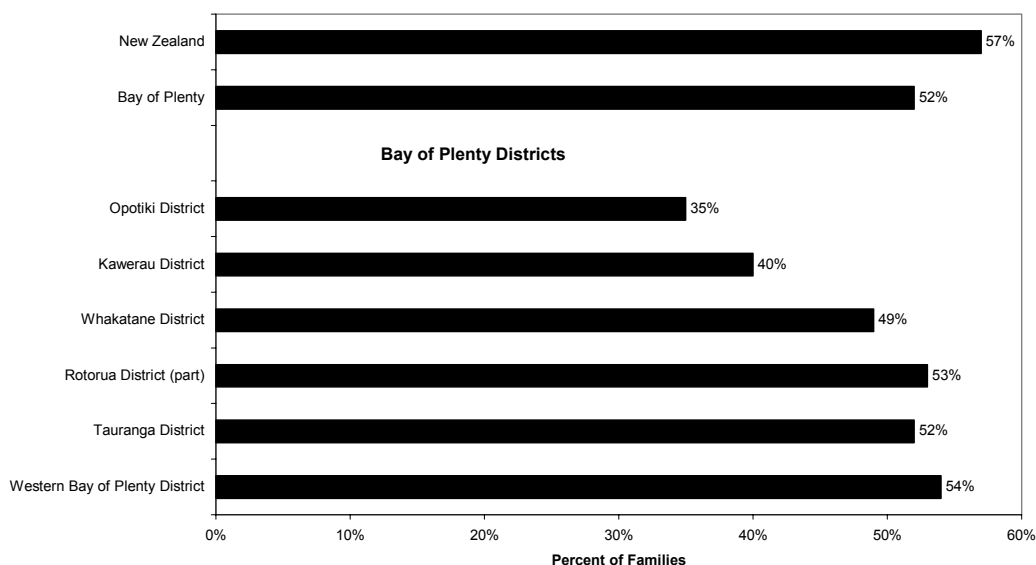


Figure 8.6 Family Income of \$30,001 and Over, New Zealand, Bay of Plenty Region and Districts, 2001

8.4 Household Income

The distribution pattern of household incomes at the regional level was similar to that of family incomes, as it was in New Zealand overall. That is because the great majority of households comprised single families (one-parent or two-parent families or couples only). However, the median and mean family incomes in the Bay of Plenty Region (\$43,683 and \$34,429) were lower than for New Zealand (\$46,350 and \$39,588). All of the districts had lower median and mean family incomes compared with New Zealand. The lowest median incomes occurred in Opotiki and Kawerau Districts, which also had the highest proportions of larger families (see Table 8.7). Overall, household incomes were lower than family incomes.

Table 8.7 Mean and Median Household Income, New Zealand, Bay of Plenty Region and Districts, 2001

New Zealand, Bay of Plenty Region and Districts	Mean Household Income	Median Household Income
Western Bay of Plenty District	\$45,082	\$35,495
Tauranga District	\$42,501	\$33,302
Rotorua District [part]	\$46,369	\$38,178
Whakatane District	\$45,188	\$35,223
Kawerau District	\$40,530	\$30,704
Opotiki District	\$35,429	\$26,095
Bay of Plenty Region	\$43,683	\$34,429
New Zealand	\$46,350	\$39,588

There were more households with incomes of \$30,000 or less in the Bay of Plenty (at 36%) than in New Zealand (at 32%). Conversely, there were fewer (45%) households in the Bay of Plenty with incomes of \$30,001 or more compared with New Zealand (at 50%). Forty-five percent of households in Opotiki had incomes of \$30,000 or less (see Table 8.8).

Table 8.8 Household Income, New Zealand, Bay of Plenty Region and Districts, 2001

Total Family Income	Percent of Households							
	New Zealand	Bay of Plenty Region	Western Bay of Plenty District	Tauranga District	Whakatane District	Kawerau District	Opotiki District	Rotorua District [part]
\$0-\$15,000	13%	13%	12%	14%	14%	15%	20%	13%
\$15,001-\$30,000	19%	23%	24%	24%	20%	21%	25%	20%
\$30,001-\$40,000	9%	9%	10%	9%	8%	8%	8%	9%
\$40,001-\$50,000	9%	9%	9%	9%	8%	5%	6%	9%
\$50,001-\$70,000	13%	13%	13%	13%	12%	13%	8%	13%
\$70,001 plus	19%	14%	14%	13%	15%	11%	8%	14%
Not Specified	18%	19%	18%	17%	21%	26%	24%	22%

8.4.1 Source of Household Income

The lower household incomes of the Bay of Plenty overall and of particular districts can be attributed, at least in part, to the sources of household income. Compared with the country as a whole, a greater proportion of Bay of Plenty households received income from income support in 2001. Within the region, there were differences at district level in household sources of income. These differences echo those already discussed with regard to personal and family incomes (see Sections 8.2 and 8.3). For instance, in Kawerau and Oportiki Districts there were greater proportions of households receiving income support (especially Domestic Purposes Benefit and Job Seeker). On the other hand, in the Western Bay of Plenty District there were greater proportions of households receiving income from self employment and business. In both Western Bay of Plenty and Tauranga Districts there were greater proportions of households receiving income from interest, dividends, rent and other investment (see Table 8.9).

Table 8.9 Household Source of Income, Bay of Plenty Region and Districts, 2001

Source of Income	Bay of Plenty Region	Western Bay of Plenty District	Tauranga District	Rotorua District [part]	Whakatane District	Kawerau District	Oportiki District
Wages, Salary, Commissions, Bonuses, etc. Paid by Employer	59%	57%	57%	64%	59%	58%	49%
Self-employment or Business	24%	37%	22%	21%	22%	8%	21%
Interest, Dividends, Rent, Other Investments	32%	38%	36%	28%	30%	20%	21%
Regular payments from ACC or a Private Work Accident Insurer	3%	4%	3%	3%	4%	3%	3%
New Zealand Superannuation or Veterans Pension	24%	24%	28%	19%	21%	18%	23%
Other Superannuation, Pensions, Annuities	6%	5%	7%	5%	5%	4%	5%
Community Wage – Job Seeker	11%	9%	10%	11%	13%	16%	19%
Community Wage – Sickness Benefit	3%	3%	3%	4%	4%	5%	6%
Domestic Purposes Benefit	9%	7%	8%	11%	11%	15%	14%
Invalids Benefit	3%	3%	3%	3%	3%	4%	5%
Student Allowance	3%	2%	3%	4%	3%	3%	2%
Other Government Benefits, Government Income Support Payments, or War Pensions	7%	6%	7%	7%	8%	9%	9%
Other Sources of income, Including Support Payments from People Living in Other Households	3%	2%	3%	3%	2%	3%	2%
No source of Income	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%

Chapter 9: Economic Activity

9.1 Industry

The Port of Tauranga is a major component of the region's economy. A 1998 economic impact report estimated that the port generated \$1.5 billion to the Bay of Plenty Region, which is equivalent to 23,074 jobs (that study is currently being updated). It is the largest export port in New Zealand and the major international link for the region.

Cargo throughput for the port continues to increase, from 4.1 million tonnes in 1989, to 8.7 million tonnes in 1997 and 11.4 million tonnes in the year ended March 2002. A large proportion of this throughput was in log or forestry related exports (69% of the total), which reflects the importance of this sector to the region. A growing proportion of that throughput is also container traffic, which grew by 13% over the year. A record number of 37 cruise ships also came to the port that year. Other exports that go through the port include dairy products, kiwifruit and steel.

The major dairy-processing factory in the region is situated in Edgecumbe with its catchment almost matching the region. There is a two-chain meat processing plant located at Rangiuru, east of Te Puke, as well as a number of smaller plants in the region. Fertiliser is manufactured in a plant at Mount Maunganui, which typically produces some 400,000 tonnes of single superphosphate based products per year.

The major industrial enterprises in the region include pulp and paper and board mills. These mills processed approximately 3 million tonnes of logs in the year ended March 2002.

Logging and wood processing provide the two primary forms of employment in the region. In the year to March 2002, there were twenty sawmills operating in the region, producing in excess of 1 million cubic metres of sawn timber. Nine of these mills produced in excess of 25,000 cubic metres of sawn output.

The direct and indirect impact of tourism on the region's economy should not be underestimated. This impact can be measured in the number of visitor arrivals, the number of visitor days and the amount of visitor expenditure, and the employment and added value generated both directly and indirectly from this expenditure. In 2001, total visitor spending (excluding day trips) across all the regions in New Zealand amounted to \$9.5 billion (including GST), of which \$4.3 billion was generated by domestic visitors. In the Bay of Plenty, domestic and international visitors collectively spent 1,024,041 nights in the region.

9.2 Agricultural Activity in the Region

The region is an area of native forest and bush, plantation forestry, pastoral agriculture, and horticulture. The more intensive land uses (e.g. horticulture and dairying), are located on fertile land in the western Bay of Plenty and low lying coastal plains, while the extensive forestry uses dominate the less fertile areas in the south and south-east (Map 3).

Plantation forestry is of major importance to the region's economy. The region contains the biggest concentration of plantation forests in New Zealand, totalling 222,700 hectares.¹⁷

While the Bay of Plenty has about 73% (8892 hectares) of the total number of hectares of kiwifruit in New Zealand (12,144 hectares), the region produces around 80% of national kiwifruit production. Production is centred in the Western Bay of Plenty District.

In addition to kiwifruit, the region has approximately 289 hectares in citrus fruit production, which comprises approximately 13% of New Zealand's total land in citrus production (at 2166 hectares). It is also one of the dominant regions with regard to nashi, avocados, feijoas, passionfruit and subtropical fruits.

Dairying in the region is predominately located on fertile, mid-coastal lowlands. There are approximately 1,346 dairy farm units within the region. Sheep and beef grazing is a common form of land use in the highland, steep sloped areas (Table 9.1). Beef and sheep farming have been steadily decreasing. Declines have been attributed to the growth in plantation forestry, dairy conversions and the subdivision of farmland into lifestyle units.

Table 9.1 Number of Farm and Stock Units, Bay of Plenty Districts, 1998

Bay of Plenty Districts	Total Farms	Number of Stock Units				
		Beef	Dairy	Deer	Sheep	Goats
Western Bay of Plenty District	3,105	33,801	76,698	16,458	95,208	8,907
Kawerau District	2	313	nil	Nil	Nil	Nil
Opotiki District	541	10,651	23,580	2,793	21,377	1,317
Rotorua District [whole]	1,358	29,943	118,008	17,016	120,694	1,917
Tauranga District	223	2,422	2,872	403	183	132,
Whakatane District	1,340,	19,118	87,937	10,220	46,071	2,404
Totals	6,569	96,248	309,095	46,890	283,533	14,677

¹⁷ See the National Exotic Forest Description Report.

Map 3 Bay of Plenty Region Landcover

9.3 Business Activity

The business statistics presented in this section have been compiled from the Statistics New Zealand 2001 Business Directory Update Survey which gathers information from GST registered businesses. Table 9.2 shows changes in the number of business units in the Bay of Plenty Region between 1997 and 2002 across seventeen industry classifications. The most notable increased business activity has been in the Property and Business Services, Mining and, to a lesser extent, Finance and Insurance industries. The largest decrease occurred in the Electricity, Gas and Water industry, which reflects the restructuring of this sector at the end of the 1990s.

Table 9.2 Number of Business Units in the Bay of Plenty Region by Industry Type, 1997-2002

Industry	1997	1998	1999	2000	2001	2002	% Change 1997-2002
Agriculture, Forestry, Fishing	793	905	890	1,009	1,053	1,100	39%
Mining	13	15	14	19	17	20	54%
Manufacturing	1,160	1,238	1,262	1,365	1,358	1,379	19%
Electricity, Gas, Water	47	48	38	25	27	29	-38%
Construction	2,010	2,327	2,410	2,637	2,529	2,458	22%
Wholesale Trade	864	909	943	1,005	1,003	989	14%
Retail Trade	2,309	2,514	2,464	2,566	2,506	2,493	8%
Accommodation, Cafes, Restaurants	588	623	639	691	682	713	21%
Transport, Storage	690	707	724	786	787	771	12%
Communication Services	182	202	198	199	190	174	-4%
Finance, Insurance	357	401	426	469	490	525	47%
Property, Business Services	3,453	4,101	4,192	4,958	5,064	5,418	57%
Government, Administration, Defence	122	123	125	113	113	119	-2%
Education	462	471	481	494	494	488	6%
Health, Community Services	756	848	887	911	942	958	27%
Cultural, Recreational	434	476	488	525	518	533	23%
Personal, Other Services	687	722	780	834	815	817	19%
Total	14,927	16,630	16,961	18,606	18,588	18,984	27%

Much of the growth in the number of business units occurred between 1999 and 2000, particularly in the Property, Business Services (with an increase of 18% in the number of business units) and Construction (with an increase of 9%).

Between 1997 and 2002 there was a 27% increase in the total number of businesses within the region, from 14,927 in 1997 to 18,984 in 2002.

9.4 Regional Economic Indicators

The information presented in this section has come from National Bank summaries of regional economic activity. Figures 9.1 and 9.2 represent a summary index that comprises the following economic indicators:

- Business and consumer confidence
- Retail sales
- Residential construction
- Commercial construction

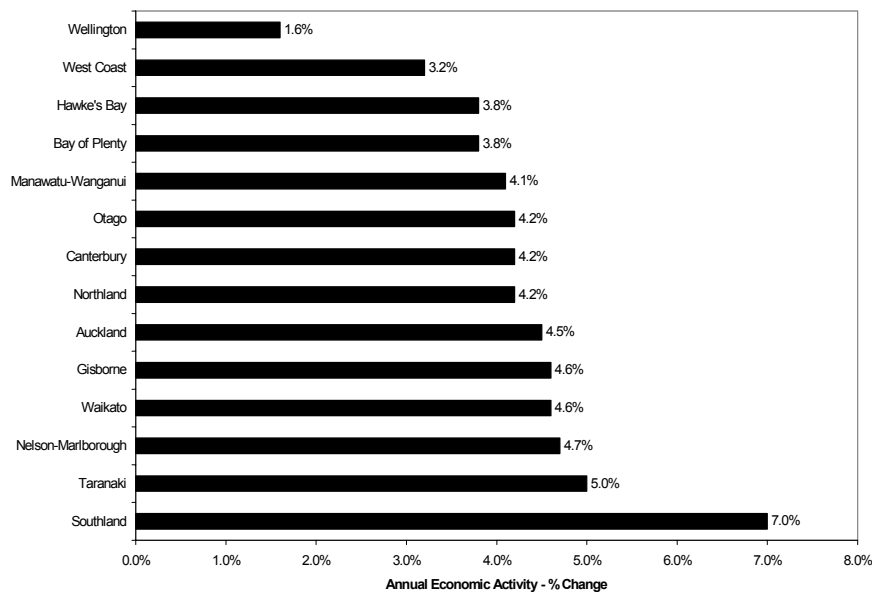


Figure 9.1 Regional Economic Activity Index, July 2001 - June 2002

According to this index, the Bay of Plenty registered a 3.8% growth in the year June 2001- June 2002. As Figure 9.1 shows this was the fourth lowest growth rate in the country.

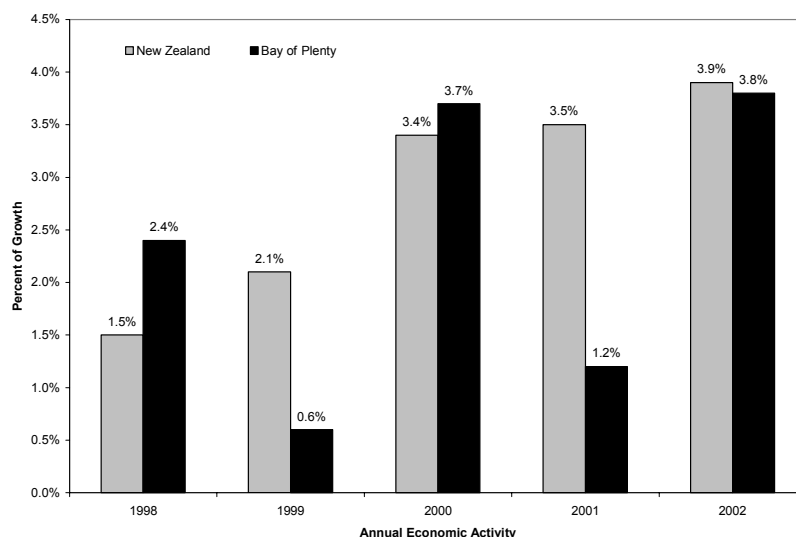


Figure 9.2 *Regional Economic Activity, New Zealand and Bay of Plenty Region, 1998-2002*

Between June 1998 and June 2002, economic activity in the Bay of Plenty Region has fluctuated. In the 1998 and 2000 years, the economic activity of the region compared favourably with New Zealand overall (Figure 9.2). However, in 1999 and 2001 economic activity in the region was considerably lower than that of New Zealand overall. In 2002, economic activity was slightly lower.

9.5 Building Consents

Building consent data are commonly used as an economic indicator due to the sensitivity of the building industry to economic growth or downturn. A total of 4,455 (4,246) building consents were issued in the Bay of Plenty for the year ending September 2002, which is 12% lower than the 5,086 consents issued 5 years earlier (in the 1996-1997 financial year). Of these consents, 47% were issued for new residential (1,809) and non-residential (456) buildings, compared with 56% in 1996-7.

The total number of residential and commercial building consents issued by district councils between 1998 and 2002 (years ending in September) are shown in Figures 9.3 and 9.4.

9.5.1 Residential Building Consents

The number of residential building consents issued in the Bay of Plenty Region has been decreasing, as Table 9.3 shows. However, as with New Zealand as a whole, the number of consents increased in the 2002 year. In 2002, 48% of building consents issued were for new residences.

At the same time, the numbers of residential building consents in the region have been decreasing as a percentage of residential building activity in the country as a whole. As Table 9.3 shows, in 1998, residential building consents issued in the Bay of Plenty Region accounted for 9% of the total for New Zealand. The proportion has steadily decreased since then, to 7% by September 2002.

Table 9.3 Residential Building Consents Issued, New Zealand and Bay of Plenty Region, 1998-2002

Area	1998	1999	2000	2001	2002
New Zealand	49,213	54,169	49,172	46,431	53,672
Bay of Plenty	4,433	4,414	3,704	3,249	3,490
Bay of Plenty Consents as % of New Zealand Consents	9%	8%	8%	7%	7%

Most of the residential building activity has occurred in the Tauranga District, as Figure 9.3 shows. In 2002, 49% of residential building consents in the Bay of Plenty Region were issued in the Tauranga District. Of all Tauranga District's building consents in the year ended September 2002, 63% were for new residences. Across all of the districts there has been a decrease in the number of new residential building consents issued over the period 1998 to 2002.

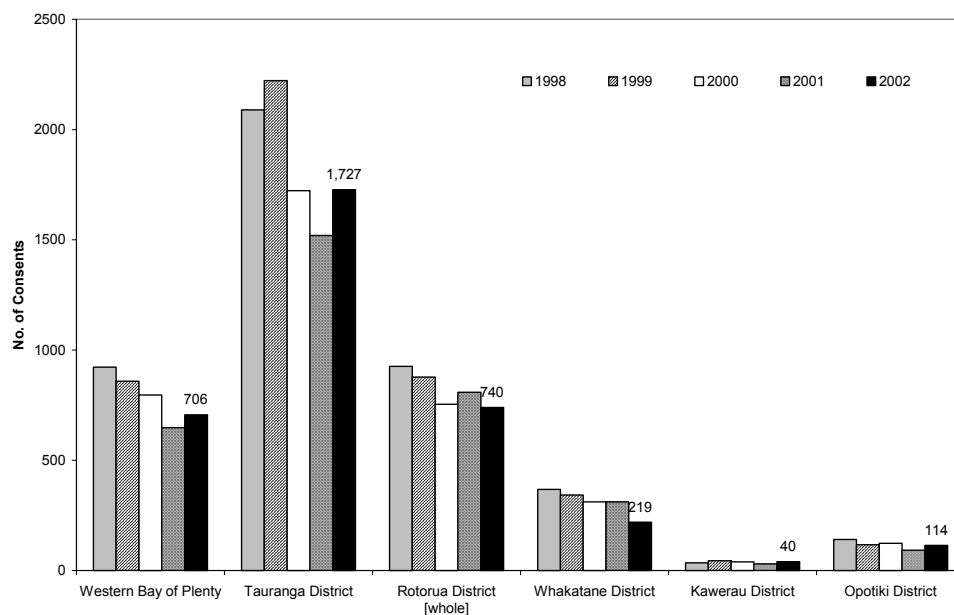


Figure 9.3 Residential Building Consents Issued, Bay of Plenty Districts, 1998-2002

9.5.2 Non-residential Building Consents

Compared with residential building consents, the Bay of Plenty Region's non-residential building consents form a smaller proportion of the total number of non-residential building consents in New Zealand. Non-residential building consents in the Bay of Plenty comprise around 6-7% of consents for New Zealand as a whole (compared with 7-9% of residential consents). At a regional level, the number of non-residential building consents has been steadily increasing (except for a slight fall in 2002), but the proportion they fill of all non-residential building consents in the country has fallen slightly (from 7% to 6%). In 2002, 44% of all non-residential building consents issued in the region were for new buildings.

Table 9.4 *Non-residential Building Consents Issued, New Zealand and Bay of Plenty Region, 1998-2002*

Area	1998	1999	2000	2001	2002
New Zealand	14,871	15,155	15,130	16,680	17,143
Bay of Plenty	971	903	994	997	965
Bay of Plenty Consents as % of New Zealand Consents	7%	6%	7%	6%	6%

The steady increase in the number of non-residential building in the region can be largely explained by building activity in the Tauranga District, where steady growth has occurred, although the number of consents decreased in 2002. In other districts, the numbers have been steady or decreasing. The Whakatane District has experienced a steady decline in consent numbers.

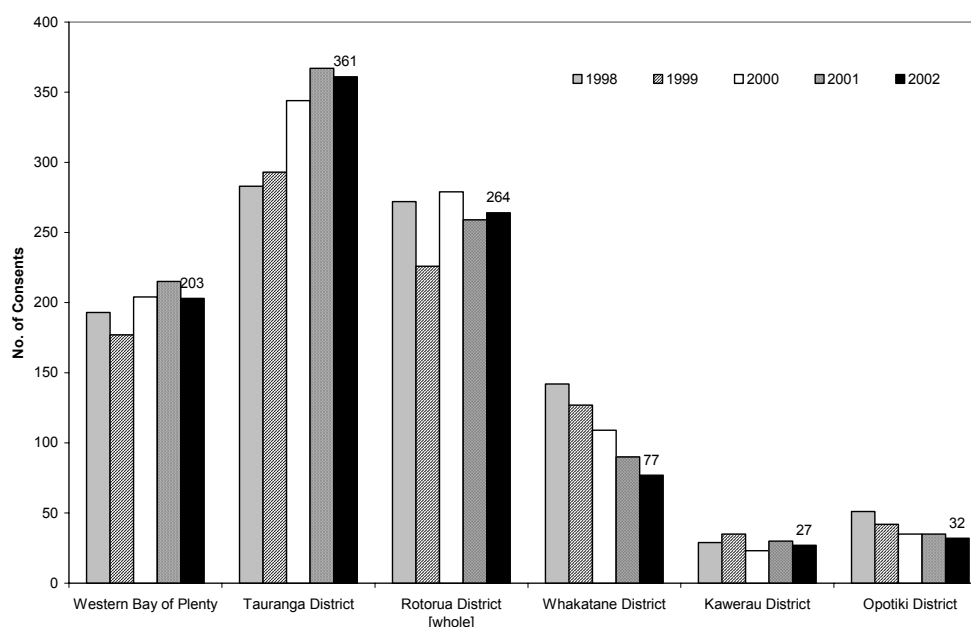


Figure 9.4 *Non-residential Building Consents Issued, Bay of Plenty Districts, 1998-2002*

Chapter 10: Health Status

10.1 Introduction

There is no single measure of health status. Traditionally, health status indicators have focused on measures of mortality (death), morbidity (illness) and levels of health service usage. Over the last decade, broader measures of health have been emphasised in an attempt to understand the socio-cultural dimensions of health and illness. The Bay of Plenty District Health Board¹⁸ needs assessment (2001) is the primary source of information about the health status of the region. It reports on the health status of the region using a mix of basic demographic information, the main causes of death and hospitalisation and information about 13 priority population health objectives identified in the New Zealand Health Strategy. This information is supplemented by a report compiled by the Lakes District Health Board¹⁹ (2001). This needs assessment reports on the health status of Rotorua and Taupo Districts, using a mix of qualitative and quantitative data. These reports, in conjunction with the Index of Deprivation data included in Chapter 13, provide useful background information for this report.

10.2 Mortality

This mortality data refers to people who are usually resident in the Bay of Plenty District Health Board area, regardless of where the death occurred, and report on the primary cause of death. Some data is provided at a sub-regional level.

According to the 1995-1997 life tables, a newborn Maori girl can expect to live 71.6 years, and a newborn Maori boy can expect to live 67.2 years. For non-Maori, life expectancy at birth is higher than Maori for girls (at 80.6 years) and boys (at 75.3 years).

¹⁸ The Bay of Plenty District Health Board covers the Western Bay of Plenty, Taruranga, Whakatane, Kawerau and Opotiki District Council areas.

¹⁹ The Lakes District Health Board covers the Rotorua and Taupo District Council areas.

10.2.1 Death by Age

Table 10.1 shows deaths in the Bay of Plenty District Health Board area between 1996 and 1998, by age and ethnicity. The rate of premature death is high in the Bay of Plenty, particularly for Maori. A basic measure of premature death is the proportion of deaths that occur before 75 years of age. Table 10.1 shows that there is a higher rate of premature death among Maori, with 83% of Maori deaths occurring before the age of 75 years. In contrast, 42.3% of non-Maori deaths were of people aged 75 years or less. Maori death rates were higher for all of the younger age groups. There were some differences in premature death across the region. Between 1996 and 1998, there were higher rates of premature deaths for Maori and non-Maori in the eastern Bay of Plenty compared with the western Bay of Plenty.

Table 10.1 Maori and Non-Maori Death by Age Group, Bay of Plenty District Health Board, 1996-1998

Age	Maori deaths as % of total Maori deaths	Non-Maori deaths as % of total non-Maori deaths
Less than 5 years	8.4%	1.1%
5-14 years	1.6%	0.4%
15-24 years	5.2%	1.2%
24-44 years	13.3%	3.9%
45-64 years	31.5%	12.7%
65-74 years	23.0%	23.0%
75-84 years	12.9%	32.3%
85+ years	4.1%	25.3%
Total number	752	3446

Overall, a higher percentage of the Bay of Plenty District Health Board population die before the age of 75 years (at 49.5%) compared with New Zealand as a whole (at 46.1%). The difference is mainly attributed to the higher rates of premature deaths in the eastern Bay of Plenty where 62.1% of the population die before the age of 75 years.

10.2.2 Main Causes of Death

The five main causes of death for approximately 90% of all mortality for residents of the Bay of Plenty District Health Board area are similar to the New Zealand population as a whole, the percentages for which are in brackets. The main causes were:

- 40.4% from diseases of the circulatory system (40.9% for NZ)
- 28.6% from cancer (neoplasms) (27.4% for NZ)
- 8.9% from diseases of the respiratory system (10% for NZ)
- 7.2% from injury and poisoning (6.1% for NZ)
- 3.6% from endocrine, nutritional and metabolic diseases (3.3% for NZ).

The five main causes of death for Maori are similar to the total New Zealand population. They were:

- 31.4% from diseases of the circulatory system (32.7% for NZ)
- 25.9% from cancer (neoplasms) (24.7% for NZ)
- 14.9% from injury and poisoning (13% for NZ)
- 8.5% from endocrine, nutritional and metabolic diseases (6.9% for NZ)
- 6.3% from diseases of the respiratory system (6.3% for NZ)

The five main causes of death for non-Maori residents in the Bay of Plenty District Health Board area were:

- 42.4% from diseases of the circulatory system
- 29.2% from cancer (neoplasms)
- 9.4% from diseases of the respiratory system
- 5.5% from injury and poisoning
- 3.1% from endocrine, nutritional and metabolic diseases.

Overall, the leading causes of death for Maori are similar to non-Maori in that they share the same five leading causes of death. As with non-Maori, diseases of the circulatory system and cancer dominate Maori deaths. However, Maori are more than twice as likely to die from injury and poisoning and respiratory diseases than non-Maori are.

10.3 **Morbidity**

Hospital discharge data are often used as a summary measure for patterns of illness or morbidity. The causes of hospitalisation data in Table 10.2 relate to all people who are usually resident in the Bay of Plenty District Health Board area regardless of where they were hospitalised. The data includes hospital discharges from July 1999 to June 2000. As with the mortality data, only primary diagnosis is used so that, for instance, cancer numbers only include cases where cancer was the primary diagnosis.

Table 10.2 Cause of Hospitalisation, Bay of Plenty District Health Board Population, July 1999-June 2000

Cause of Hospitalisation	Bay of Plenty District Health Board population		
	Total	Maori	Non-Maori
Circulatory System	13.2%	8.8%	14.6%
Pregnancy, Birth	12.2%	17.5%	14.4%
Musculoskeletal	10.7%	8.8%	11.2%
Digestive System	10.5%	8.3%	11.2%
Respiratory System	8.5%	12.4%	7.3%
Ear, Nose, Mouth and Throat	6.7%	7.4%	6.5%
Nervous System	6.3%	6.1%	6.4%
Skin, Breast	6.2%	5.4%	6.5%
New Borns	4.1%	5.2%	3.8%
Kidney, Urinary	3.6%	3.6%	3.6%
Female Reproductive	3.2%	3.4%	3.1%
Injury, Poisoning	2.9%	3.1%	2.8%
Eye	2.2%	1.4%	2.4%

The hospital discharge data should be interpreted carefully due to the following limitations.

Hospital discharge rates:

- can be supply driven (e.g. an increase in discharge rates may be a reflection of increased service provision)
- relate to contact with tertiary health services and exclude contact with primary health care provider (e.g. GPs)
- exclude discharges from private hospitals.

The morbidity data presented above indicate differences between Maori and non-Maori. To some extent, the differences reflect the different age structures, mortality rates and life expectancy of the two populations. For Maori, the leading cause of hospitalisation is pregnancy. Some of the differences include:

- more non-Maori admissions for circulatory systems related illness
- more Maori admissions for pregnancy, birth and respiratory system problems
- more non-Maori admissions for musculoskeletal and digestive system problems.

10.4 Health Strategy Priorities

In 2000, the Government developed the New Zealand Health Strategy to identify priority areas for health care. The Bay of Plenty District Health Board and the Lakes District Health Board have reported on health status in the region against these health priorities. They are to:

- reduce smoking
- improve nutrition
- reduce obesity
- increase the level of physical activity
- reduce the rate of suicide and suicide attempts
- minimise harm caused by alcohol and illicit and other drugs to individuals and families
- reduce the impact and incidence of:
 - cancer
 - cardiovascular disease
 - diabetes
- improve oral health
- reduce violence in relationships, families, schools and communities
- improve the health status of people with severe mental illness
- ensure access to appropriate child health care services.

Some of the key issues for the Bay of Plenty (or New Zealand as a whole when local data is not available) are outlined under each of the priority areas.

Smoking: Rates are higher than New Zealand as a whole in the Bay of Plenty District Health Board and the Lakes District Health Board areas, especially amongst Maori generally and young Maori women. Highest rates are in Kawerau and Opotiki and lowest in Tauranga and Western Bay of Plenty.

Nutrition: A 1992 Bay of Plenty health survey showed higher trim milk use amongst women and non-Maori. Thirty percent of the population use salt in food and men and Maori are more likely to add salt to food.

Obesity: Indicators that obesity is likely to occur in the Bay of Plenty Region are that it is more common in deprived areas and amongst Maori and Pacific Island people.

Physical activity: A 1992 Bay of Plenty health survey showed men exercise more than women, Maori exercise more than non-Maori and frequency of exercise generally decreases with age. The 1997 Hillary Commission Push Play survey showed that young people in the region exercise less than the national average but that adults exercise more.

Suicide and suicide attempts: New Zealand has one of the highest rates of suicide in the OECD. 1996-1998 statistics show that Bay of Plenty age-specific rates were higher than New Zealand age-specific rates for all age groups for males and for females except in the 0-14 years and 25-44 years age groups. Maori rates were greater than non-Maori in all age groups under 45 years.

Alcohol and illicit and other drugs: A 1992 Bay of Plenty health survey showed Maori men aged less than 45 years have the greatest risk of alcohol related health problems.

Cancer: Bay of Plenty male and female age-specific rates for cancer are higher than New Zealand for all age groups except 65 years and over. Maori rates are higher across all age groups except for females in the 0-14 years age group.

Cardiovascular disease: For men, the age-specific rates for heart disease are higher than New Zealand except in the 65 years and over group. Maori age-specific rates are higher for all age groups for males and females. Rates for stroke are similar to New Zealand.

Diabetes: Bay of Plenty age-specific rates are higher than New Zealand in men 45 years and over. Male and female Maori age-specific rates are higher, particularly in the 45-64 year age groups. In the Lakes area, rates for Maori are nearly three times higher than for non-Maori.

Oral health: There are indications of a drop in oral health in Bay of Plenty 5 year olds since 1997, particularly amongst Maori children. However, differences between eastern and western Bay of Plenty are diminishing.

Violence: Bay of Plenty male and female age-specific rates for purposeful injury admissions are greater than New Zealand in all age groups except 45 years and over for men and 0-14 years and 65 years and over for females. Female Maori rates are higher in all age groups, as are males in all but 0-14 years and 65 years and over age groups. Rates dropped in Rotorua between 1998-2000.

Severe mental illness: No regional data are available although national data suggests that the prevalence of mental illness is greater in the Maori population. These are generalisations only, however, and need to be substantiated. The 2002 epidemiological survey on mental illness, carried out by the Ministry of Health, with the New Zealand Health Information Service and the Health Research Council, will provide more information.

Access to appropriate child health care services: Information about immunisation and other child health status indicators is not available. The Ministry of Health toolkit stated that Maori children experience poorer health outcomes and immunisation coverage is poorer among Pacific Island children and those from low-income families.

10.5 Maori Health

Maori have the highest health needs of any ethnic group in the Bay of Plenty Region, as shown by health status and health determinant (socio-economic) statistics. The growing and ageing Maori population will lead to greater health needs in the future

unless resources and determinants of health status are redistributed. A hui held as part of the preparation of the Lakes District Health Board needs assessment (2001) highlighted the need for the development of other measures to better capture Maori health status. Suggested examples include Maori consumer satisfaction, the scope of Maori providers and shared services in DHBs, funding allocated to Maori health initiatives, Maori access patterns to health services and access to traditional Maori health services.

10.6 Health Service Availability and Access

The Bay of Plenty Region has a higher proportion of people living in small towns and rural settlements than for New Zealand overall. There are three hospitals operating in the Bay of Plenty Region: Pacific Bay Health in Whakatane, Pacific Bay Health in Tauranga, and Lakeland Health in Rotorua.

The eastern Bay of Plenty is one of the more sparsely settled areas within the Bay of Plenty and Lakes District Health Board areas. Many people living in remote coastal or inland areas are likely to experience practical and financial difficulty in accessing health services. Until December 2002, there had been no transport service for rural patients (and support people) to health services in either Whakatane or Opotiki.

The eastern Bay of Plenty has fewer general practitioners and dentists per head of population than other areas of the Bay of Plenty. The length of time it takes to reach health services is generally longer for those living in the eastern Bay of Plenty areas.

Since the 1991 health reforms, there has been a shift in focus from secondary to primary health care services, in the belief that significant health gains can be made through preventative and early intervention measures. Many of these health promotion and early intervention strategies are establishing partnerships with iwi in the development and delivery of culturally appropriate health services in the region.

A recent health care stock-take for the Lakes District Health Board area shows:

- 22 affiliated Maori providers across the Bay of Plenty;
- 56 GPs and 49 nurses in the Rotorua [whole] District. The GP : population ratio is similar to the average for the 12 DHBs;
- in the Lakes DHB, 884 nurses of whom 16% are Maori (compared with 34.7% of the population being Maori). The nurse : population ratio is 98 : 10,000 compared with 106 nationally;
- in the Bay of Plenty the ratio of medical specialists is 6.2 : 10,000 compared with 7 nationally;
- in the Lakes there is a 44: 10,000 ratio for dentists compared with 53 nationally.

Chapter 11: Participation in Community and Public Life

11.1 Introduction

Two indicators that are often used to measure the active inclusion of people in community networks and public affairs are:

- participation in voluntary work within the community
- voting participation at territorial, regional, and central government elections.

This chapter examines the extent and type of voluntary work undertaken in the region and voter turnout at the last local and central government elections.

11.2 Unpaid Work

Voluntary or unpaid work often supplies services in the community that would not otherwise be provided. It also helps to maintain social and economic networks. The importance of voluntary work has been recognised in the national census through the inclusion of questions that identify the extent and type of unpaid work that is undertaken throughout New Zealand.

Changes to the way that the relevant question was asked in the 2001 census mean that the vast majority of people report doing some sort of unpaid work. In the past, two separate questions were asked to differentiate between unpaid activities carried out in people's own households and in those carried out elsewhere. The 1996 data contained in Table 11.1 refers to the latter – unpaid work carried out elsewhere. The 2001 census addresses these activities in a single question. Therefore, the proportion of people who indicated they carried out unpaid work, including household work, cooking and gardening in their own household, was very high. Ninety percent of residents aged 15 years and over in the Bay of Plenty Region and 91% of New Zealanders carried out unpaid work in the four weeks before census night 2001 (see Table 11.1).

An analysis of the types of unpaid work that people carried out provides more useful information and is summarised in Figure 11.1.

Table 11.1 *Proportion of Population Aged 15 Years and Over Engaged in Unpaid Work, New Zealand, Bay of Plenty Region and Districts, 2001*

New Zealand, Bay of Plenty Region and Districts	Percent of Population 1996	Percent of Population 2001
Western Bay of Plenty District	52%	91%
Tauranga District	50%	91%
Whakatane District	57%	91%
Kawerau District	56%	89%
Opotiki District	58%	90%
Rotorua District [part]	54%	89%
Bay of Plenty Region	53%	90%
New Zealand	51%	91%

In New Zealand, as well as in the Bay of Plenty Region and districts, the vast majority of residents (more than 80%) had carried out cooking and gardening in their own household in the 4 weeks before 2001 census night. The percentages of people who had carried out childcare were also high, especially in the districts characterised by high percentages of family households.

The most common sort of unpaid activities people were involved in outside of their own homes was other helping or voluntary work for or through any organisation, group or marae. This was especially the case in Opotiki, Kawerau and Whakatane Districts, where the percentages of Maori are higher.

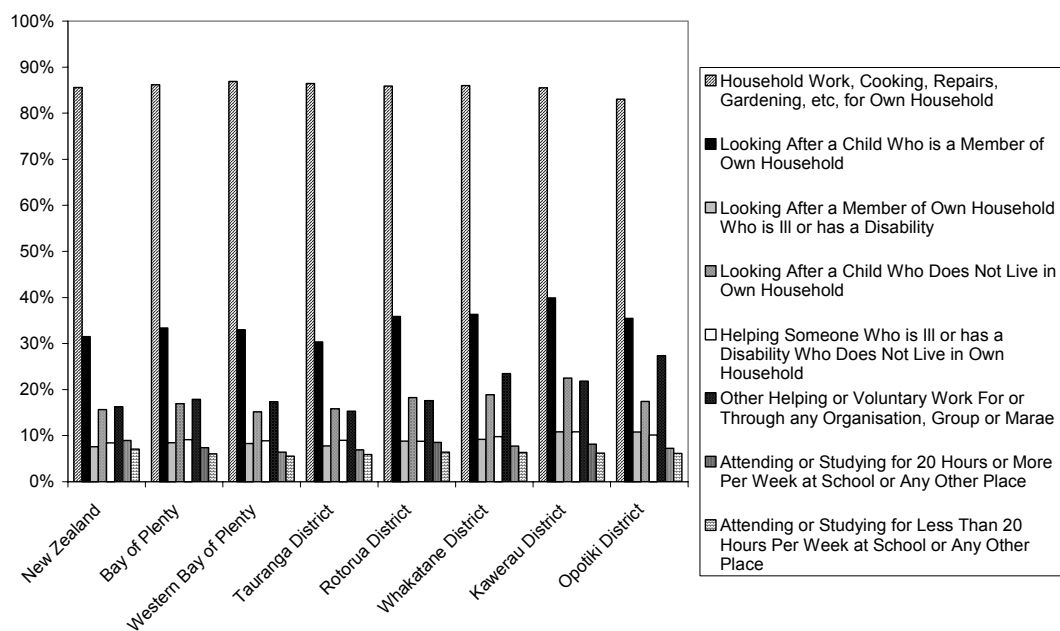


Figure 11.1 *Type of Unpaid Work Undertaken, Population Aged 15 Years and Over, New Zealand, Bay of Plenty Region and Districts, 2001*

11.3 Voting at Local and Central Government Elections

11.3.1 General Elections, 2002

The 2002 general election was the third to elect a Parliament under the MMP²⁰ voting system. There are usually 120 members of Parliament under the MMP system. In 2002, 69 Members of Parliament (MPs) were elected to represent the 62 General Electorates and seven Maori Electorates. The other 51 MPs were elected from lists of candidates nominated by registered political parties.

There are five general electorates that straddle the Bay of Plenty Region: the Rotorua, Tauranga, Coromandel, Bay of Plenty and East Coast electorates (Map 4). The Maori electorate, Waiariki, also encompasses the Bay of Plenty Region (Map 5). Table 11.2 summarises voter turnout for these six electorates at the 2002 general elections.

Table 11.2 Voter Turnout at General Elections, New Zealand and Bay of Plenty Region, 2002

Electorate			Total Enrolled Electors	Voter Turnout
Coromandel			41608	83%
Tauranga			41214	81%
Rotorua			37401	77%
Bay of Plenty			38972	79%
East Coast			37573	77%
Waiariki (Maori electorate)			28270	58%
Combined	N.Z.	Maori	194114	58%
Electoralates				
New Zealand Overall			2670030	77%

The average voter turnout at the five general electorates was similar to the national average (79%) and varies between 77% and 83%. These turnouts were lower than for the previous election. Voter turnout for the Maori electorate, Waiariki, was lower than for the general electorates (at 58%), but the same as the overall turnout for the combined Maori electorates.

11.3.2 Regional Council Elections, 2001

Regional councils are directly elected local authorities. Environment Bay of Plenty has twelve councillors who are elected from four constituencies: Tauranga, Western Bay of Plenty, Rotorua and Eastern Bay of Plenty (Map 6). Figure 11.2 shows the average voter turnout at regional and national levels for the 2001 regional council elections.

²⁰ A Mixed Member Proportional (MMP) voting system was adopted in New Zealand after a binding referendum held in 1993.

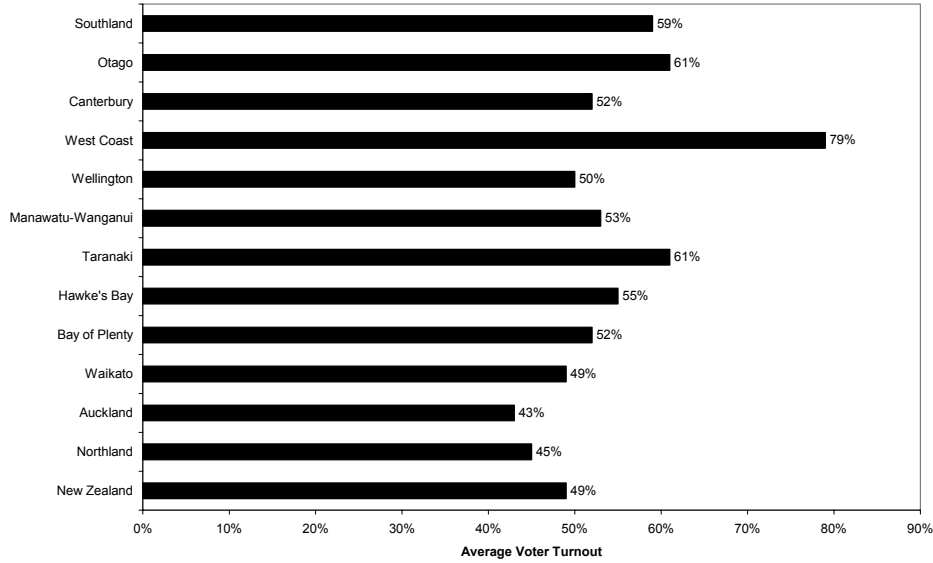


Figure 11.2 Voter Turnout at Regional Council Elections, 2001

The average voter turnout at the 2001 Bay of Plenty Regional Council election was higher (52%) than the national average (49%), as was the case for the last election. The Auckland Region again had the lowest average voter turnout of all regional councils (43%).

11.3.3 District Council Elections, 2001

Average voter turnout for district councils that fall within the Bay of Plenty Region are shown in Figure 11.3. The Opotiki and Whakatane Districts had higher voter turnouts than the national average (57%). Rotorua District had the lowest voter turnout in the region (49%).

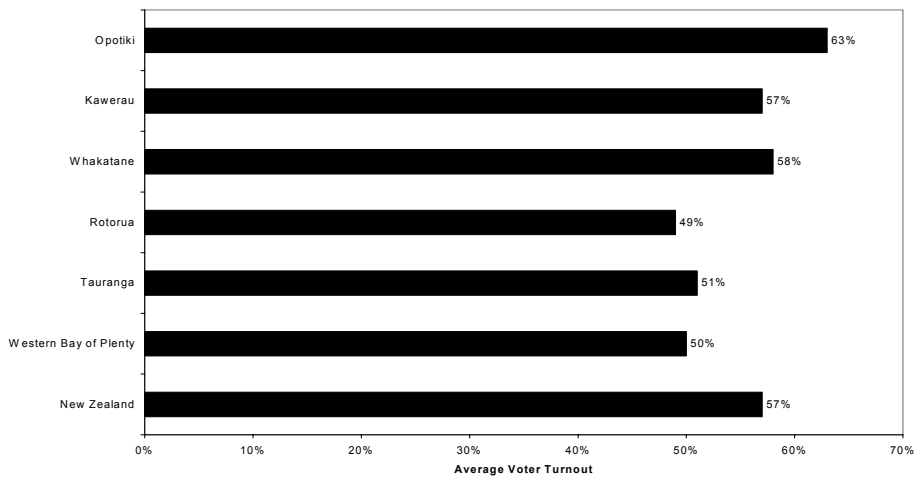


Figure 11.3 Voter Turnout at District Council Elections, New Zealand, Bay of Plenty Districts, 2001

Map 4 Bay of Plenty Region and General Electorates in the Bay of Plenty Region

Map 5 Bay of Plenty Region and Maori Electorates

Map 6 Bay of Plenty Regional Constituencies

Chapter 12: Attitudes Toward the Environment

12.1 Introduction

In 2000, Environment Bay of Plenty conducted region wide research based on a random sample telephone survey and a series of focus groups. This research aimed to gain a better understanding of people's attitudes and perceptions towards the environment and Environment Bay of Plenty. This updated similar surveys carried out in 1992 and 1997. Information obtained from these surveys provides useful information for guiding environmental education, advocacy and policy development.

12.2 Overall State of the Bay of Plenty Natural Environment

When research participants were asked how they rated the overall state of the natural environment in the Bay of Plenty Region, only 11% considered it very good. Most (42%) considered it good and 7% considered it poor or very poor. As Figure 12.1 shows, compared with those from the 1992 and 1997 surveys, respondents were less likely to consider the state of the environment poor and more likely to consider it good or very good. This section of the profile examines public views about changes in the state of the natural environment, the degree of concern about particular environmental issues and perceived causes of harm to the land, coastline, lakes and rivers and air quality in the Bay of Plenty Region.

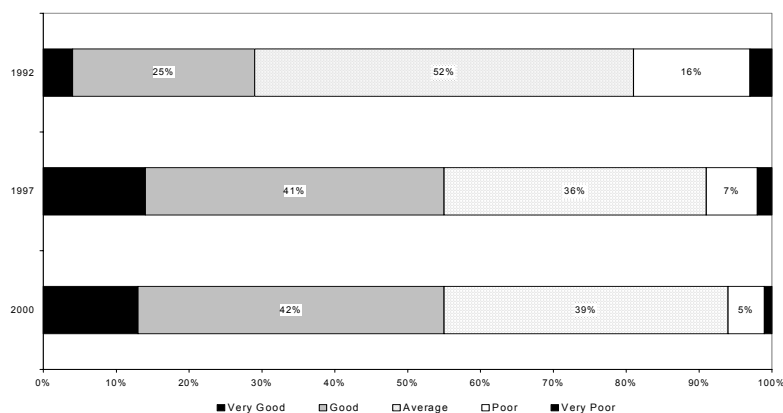


Figure 12.1 Perceived State of the Natural Environment in the Region

12.3 Perceived Change in the State of the Natural Environment

Respondents in the 2000 survey were asked whether they thought the natural environment in the Bay of Plenty had got better, stayed the same or got worse. Of the total, 28% considered the environment had improved, 38% thought it had stayed the same and 28% thought it had got worse. Those who considered it had got better were more often from the eastern Bay of Plenty. Those who thought it had stayed the same were slightly more likely to come from Rotorua and those who thought the environment was worse were more often from western Bay of Plenty.

12.4 Environmental Issues

Survey respondents were asked to indicate the extent to which they saw each of a list of issues as a problem. As Table 12.1 shows, the two environmental issues that people identified as big problems were roadside rubbish dumping and air quality problems from pollen. The issue considered least problematic was air quality problems from home fires.

Table 12.1 Extent that Environmental Issues are Problems

Environmental issue	Big problem	Some problem	No problem	Don't know
Roadside rubbish dumping	57%	30%	11%	2%
Air quality problems from pollen	47%	31%	20%	2%
Animal pests, like possums or rabbits	39%	37%	20%	4%
Noxious plants	38%	40%	16%	7%
Erosion of the coast	36%	38%	18%	8%
Water pollution from industry	34%	45%	12%	9%
Air quality problems from trucks	29%	46%	23%	2%
Water pollution from sewage	28%	38%	24%	11%
Air quality problems from spray drift	27%	41%	27%	5%
Air quality problems from cars	26%	50%	23%	1%
Air quality problems from industrial emissions	22%	38%	33%	6%
Erosion of the riverbanks	22%	38%	25%	15%
Water pollution from farming	20%	45%	22%	13%
Erosion of the hills	20%	43%	28%	9%
Water pollution from storm water	18%	43%	27%	11%
Air quality problems from home fires	9%	41%	49%	2%

12.5 Perceived Cause of Damage

12.5.1 The Land

Around 51% of survey respondents believed that certain activities were damaging the land for future generations, with higher percentages in western Bay of Plenty. Maori, women, people in rural areas, people in the middle income brackets and people in their middle years were slightly more likely to perceive problems. Respondents were asked to give examples of damaging activities. The responses to this question are summarised in Table 12.2.

Table 12.2 *Activities Damaging the Land*

Damaging Activities	% of responses
Subdivisions	25%
Illegal dumping of rubbish	24%
Timber mills/forest processing industries	13%
Clearing land/logging	13%
Agricultural or horticultural spraying	12%
Farming practices	12%
Pollution/industrial pollution	10%
Erosion	8%
Landfills	6%
Motor cycles on sand dunes	6%

12.5.2 The Coastline

Fifty percent of research participants thought the Bay of Plenty coastline was being spoiled by human activity, with higher percentages in eastern Bay of Plenty. As with people who were concerned about damage to the land, Maori, women and people in their middle years were slightly more likely to perceive problems. In contrast to those concerned about land issues, people concerned about coastline issues were slightly more likely to live in the cities and be in the higher income bracket. The activities seen to have a damaging effect on the coastline are summarised in Table 12.3.

Table 12.3 *Activities Damaging the Coastline*

Damaging Activities	% of responses
Pollution from boats or ships	26%
General pollution	22%
Pollution from sewage or septic tanks	14%
Overfishing	11%
Polluted water in general	11%
Rubbish Dumping	10%
Run-offs/fertiliser misuse	9%
Vehicles on the beach	6%
Building dwellings too close to beaches	5%
Litter	5%
Shellfish depletion	5%

12.5.3 Lakes and Rivers

Just over 53% of the research sample perceived damage to rivers and lakes in the region. People in eastern Bay of Plenty (at 68%) and Rotorua (at 75%) were far more likely than people in western Bay of Plenty (at 34%) at to perceive such damage. People who were concerned were more likely to be Maori, male, in their middle years and live in rural areas. Industrial pollution into the Tarawera River was of particular concern. The perceived causes of pollution to lakes and rivers are summarised in Table 12.4.

Table 12.4 Causes of Freshwater Lake and River Pollution

Damaging Activities	% of responses
Timber mills	34%
Industrial waste	26%
Sewage	19%
Farming practices	18%
Run-off from hills	16%
Weeds/lake weed/algae bloom	13%
General human irresponsibility	11%
Effluent (unspecified)	9%
Chemicals	8%
Household refuse/littering	6%

12.5.4 Air Quality

People in the region were most concerned about air quality. Sixty-two percent of those surveyed perceived damage to air quality in the region. These people were slightly more likely to live in western or eastern Bay of Plenty. Maori and females were slightly more likely to perceive damage. Common responses for identifying the source of air pollution are shown in Table 12.5.

Table 12.5 Sources of Air Pollution

Damaging Activities	% of responses
Vehicle emissions	40%
Industrial emissions	26%
Kawerau mills	26%
Chemical sprays	22%
Pollen	19%
Domestic fires	9%
Burn-offs	6%

PART FOUR**INDEX OF
DEPRIVATION**

Chapter 13: Index of Deprivation: District Analysis

13.1 Introduction

This section of the report is based on the index of deprivation, NZDep01, which is an academically rigorous integration of nine variables from the 2001 census, reflecting eight dimensions of deprivation (see Appendix 4 for details). The index was developed by researchers at the Health Services Research Centre, a joint venture between the Wellington School of Medicine, University of Otago, and the Institute of Political Studies, Victoria University of Wellington.

While *NZDep01* and its predecessors, *NZDep96* and *NZDep91*, were developed from a health sector perspective for three principle purposes, resource allocation, research and advocacy, they have application in other sectors. For example, they can be used as a basis for development of funding formulae and community advocacy. In environmental resource management, the index can assist the assessment of the social and economic well-being of people and communities, an element of sustainable management under the Resource Management Act 1991.

The information is presented in this section as a series of charts and maps.

13.2 Methods

It is important to understand the following points regarding the Deprivation Index.

- NZDep2001 deprivation scores apply to areas rather than individual people.
- The 1 to 10 scale is ordinal not interval. The distribution of the deprivation scores is skewed and the decile cut-points are not equal. For example, the difference between deciles 2 and 5 is not huge, unlike the differences between deciles 7 and 10.
- To create NZDep2001 for small areas with a population of at least 100 usually resident people, meshblocks have been agglomerated where necessary (and where possible). In general, the NZDep2001 small areas consist of one of two meshblocks. Some meshblocks have been omitted from the index (no data) as they contain very few people. Most of these meshblocks are sea or estuary located.

- At the meshblock level, *area comparisons* over time should not be attempted. The reasons for this are: small areas definitions are not always identical, NZDep distributions are not identical, at least one of the nine component variables is inevitably not identical and variables considered for the calculation of the index can be deliberately changed.
- Comparing *relationships* between deprivation and other variables, over time, may be less fraught, but we still urge caution regarding data interpretation.
- The profiles should refer to “areas that have the most deprived NZDep scores” rather than “the most deprived areas”.
- 10% of the areas will always fall into the most deprived decile of NZDep scores as NZDep is designed to measure relative socio-economic deprivation, not absolute socio-economic deprivation or affluence.
- There are a number of statistical limitations of the index of deprivation as a whole.

Documents related to the use and calculation of the Index can be found on the Ministry of Health website (www.moh.govt.nz/phi/publications) and from the following documents:

Salmond, C. and Crampton, P. (2002), *NZDep2001 Index of Deprivation* [Research Report], Department of Public Health, Wellington School of Medicine and Health Sciences, Wellington.

Salmond, C. and Crampton, P. (2002), *NZDep2001 Index of Deprivation – User’s Manual*, Department of Public Health, Wellington School of Medicine and Health Sciences, Wellington.

13.2.1 Charts

The meshblock deciles scale (NZDep2001) and the Usually Resident Population from the 2001 Census data (URPop2001) were used to produce the charts for the Bay of Plenty Region and districts. MapInfo SQL Queries functions were used to produce the datasets on which the charts were based. The Charts were produced in Microsoft EXCEL.

The charts show the percent population of the region or district in each of the 10 deciles. The Region and District charts include the data for only that part of Rotorua district that is located within the Bay of Plenty Region. The Region chart includes the small part of Taupo District that is located within the Bay of Plenty Region.

13.2.2 Deprivation Maps

The Index of Deprivation maps that follow this chapter were generated from the NZDep2001 values obtained from the Ministry of Health website (www.moh.govt.nz/phi/publications). The Rotorua District map includes only the meshblocks that are located within the Bay of Plenty Region.

The colour scheme used in the deprivation maps is the same as those used in the original atlas of deprivation in New Zealand (Crampton et al, 2000).

A Weighted Average formula based on the NZDepScores was developed to calculate the Index for Census Area Units. It is recommended that this formula is used only at Area Units and Meshblocks. NZDepScores are used in the equation and there is no specific methodology available to convert the Weighted Average values to NZDep scale values. It is likely that the results obtained, if the formula is used for areas greater in size than Area Units, would misrepresent the data since the distributions of the NZDepScores at meshblock level are skewed.

$$\text{Formula: Weighted-average} = \frac{\Sigma(\text{NZDepScore2001}) * (\text{URPop2001})}{\Sigma(\text{URPop2001})}$$

Territorial Authority (TA) scores (TA(NZDepScore)) were calculated using SQL MapInfo functions. The TA scores are the sum of the NZDepScore2001 from all meshblocks composing the TA. TA population (TA(URPop2001)) was calculated using SQL MapInfo functions. The TA population is the sum of the URPpop2001 from all meshblocks composing the TA. The Total TA Population is the sum of the URPpop2001 for each TA. It differs from the Total NZ Population because the *areas outside TAs* are not included in the calculations.

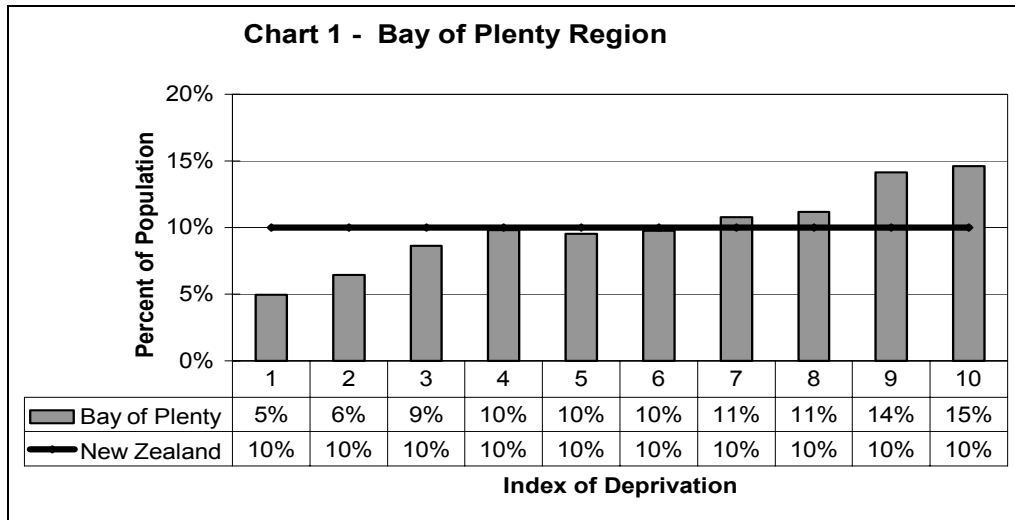
13.3 Results

13.3.1 New Zealand

There are 16 regions in New Zealand (see NZDep2001 Map 1). The Regions that have relatively more areas of deprivation include the Bay of Plenty, Northland and Gisborne Regions and, to a lesser extent, the Hawke's Bay Region. The regions that have relatively fewer areas of deprivation include Nelson and Canterbury. Wellington has relatively more people in decile 1.

13.3.2 Bay of Plenty Region

Twenty percent of the Bay of Plenty population are less deprived (that is, their Index of Deprivation scores range from 1-3 deciles) as opposed to 40% that are more deprived. Chart 1 shows that there are more people in the Bay of Plenty Region, compared with New Zealand as a whole, in deciles 7, 8, 9 and 10.



1 is least deprived, 10 is most deprived.

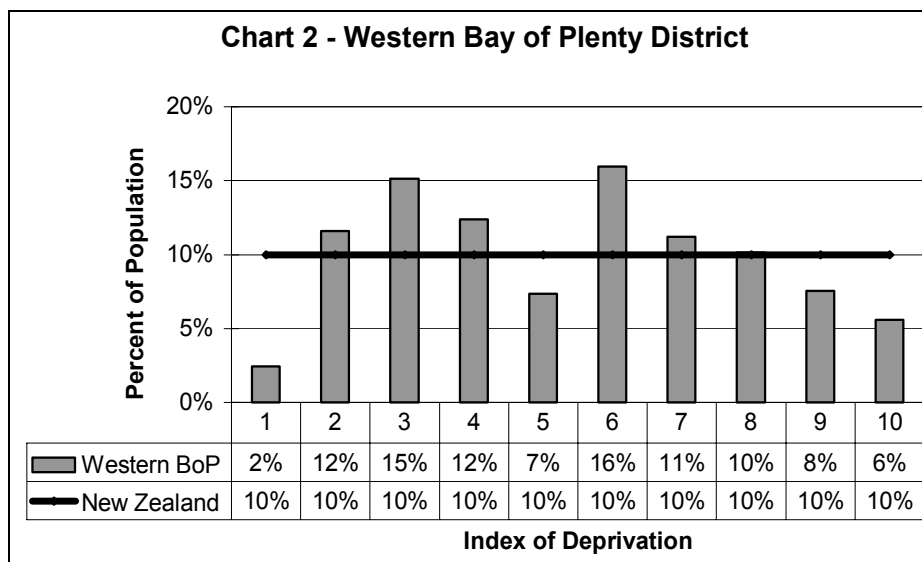
Chart 1 Bay of Plenty Region

NZDep scores vary widely in each district of the Bay of Plenty Region. These are discussed below.

13.3.3 Western Bay of Plenty District

Western Bay of Plenty generally has lower NZDep scores compared with other Bay of Plenty districts. Pockets of greater deprivation are at Maketu, Te Puke and Katikati.

The Western Bay of Plenty District has proportionally fewer people at the extreme Index of Deprivation levels 1 and 10 and more people in the low to middle levels 2, 3, 4 and 6 than the New Zealand average (see Chart 2).



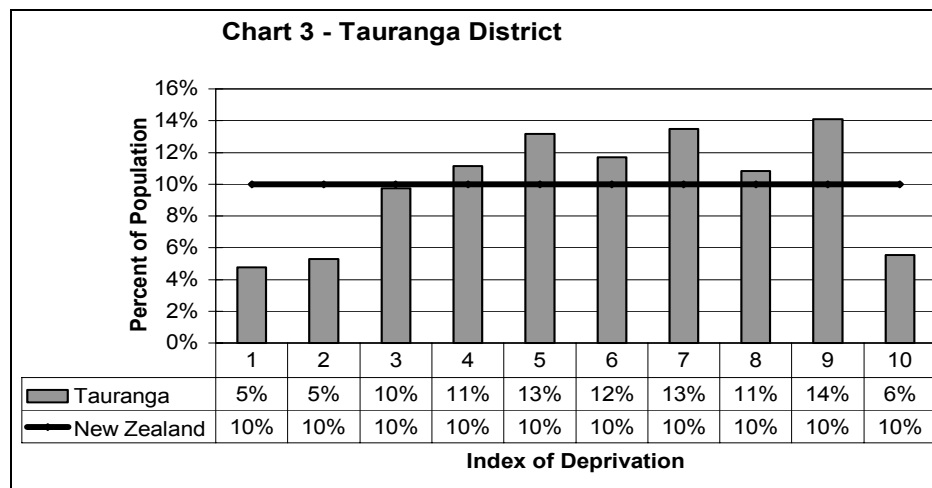
1 is least deprived, 10 is most deprived.

Chart 2 Western Bay of Plenty Region

13.3.4 Tauranga District

Meshblocks scoring at all Index of Deprivation levels are scattered throughout Tauranga District. Otumoetai has a concentration of less deprived meshblocks. Concentrations of more deprived meshblocks are found in Gate Pa, Greerton and Arataki.

Tauranga District has proportionally fewer people at the outer Index of Deprivation levels 1, 2 and 10 and more people in the middle levels 4 to 9 than the New Zealand average (see Chart 3).



1 is least deprived, 10 is most deprived.

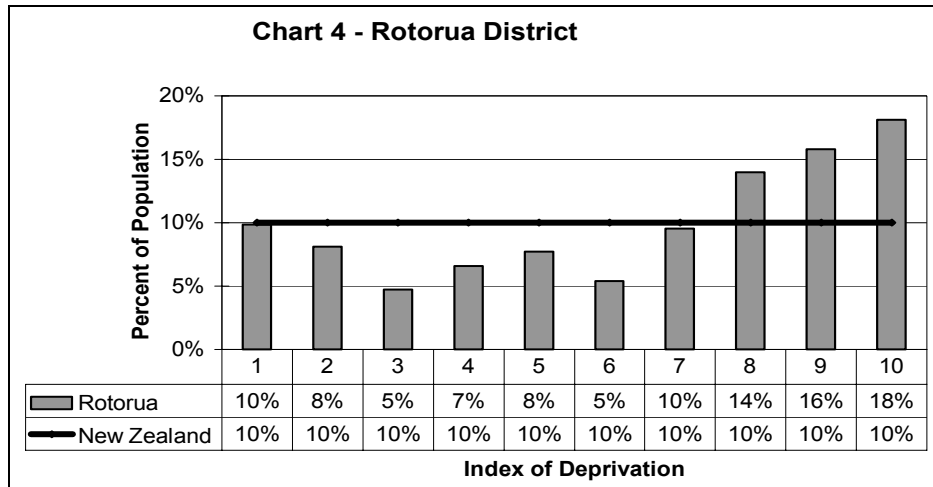
Chart 3 Tauranga District

13.3.5 Rotorua District²¹

Rotorua’s rural areas are less deprived except around Lake Rotoehu and Lake Rotoma, which are more deprived. Most of the urban areas are more deprived except for pockets of less deprivation e.g. Kawaha Point and Lynmore.

Rotorua District has a highly polarised population with proportionally more people at the outer Index of Deprivation levels 1, 8, 9 and 10 and fewer people in the middle levels 3, 4, 5 and 6 than the New Zealand average (see Chart 4).

²¹ Some of Rotorua District is outside the Bay of Plenty Region. The data included in this analysis is only for that part of the Rotorua District that is located within the Bay of Plenty Region.



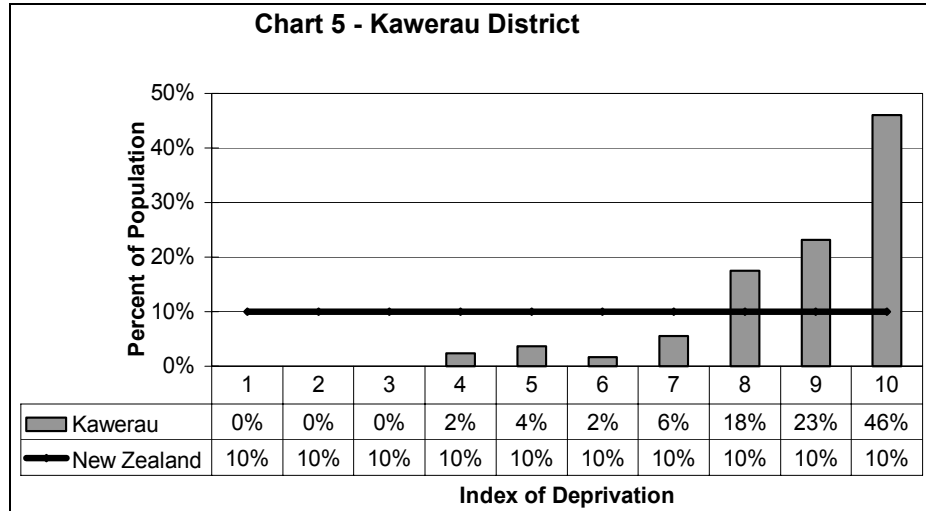
1 is least deprived, 10 is most deprived.

Chart 4 Rotorua District

13.3.6 Kawerau District

Kawerau is generally more deprived except for a small pocket of less deprivation.

Kawerau District has fewer people than the New Zealand average at all Index of Deprivation levels except the higher deprivation levels of 8, 9 and 10 (Chart 5). Kawerau has high NZDep scores.



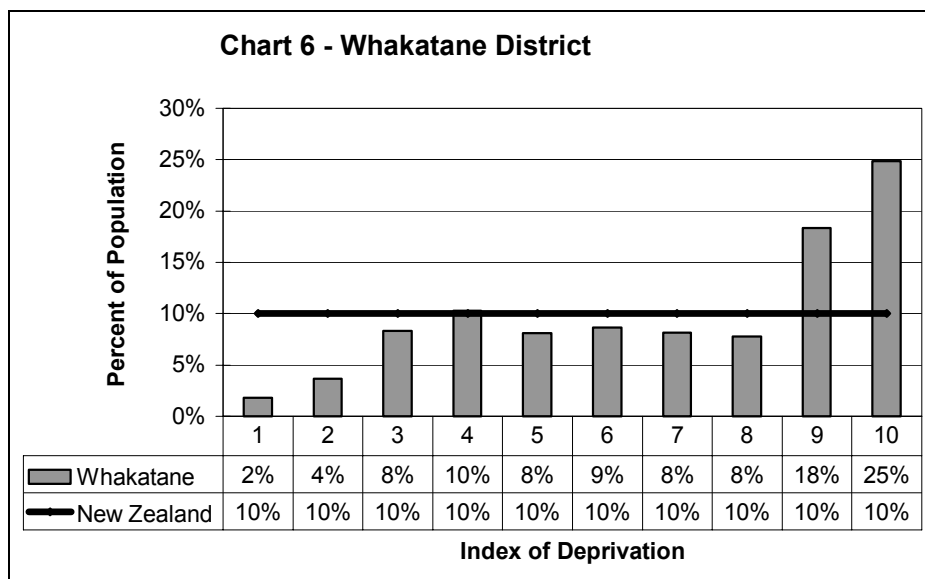
1 is least deprived, 10 is most deprived.

Chart 5 Kawerau District

13.3.7 Whakatane District

The rural southern two-thirds of Whakatane District is more deprived except for the less deprived area of Murupara. The rural northern third of the district varies widely from less deprived (1) to more deprived (10). Whakatane Township has areas of less deprivation, e.g. Hillcrest, Coastland, and more deprivation, e.g. Awatapu.

Whakatane District has fewer people than the New Zealand average in the less deprived Index of Deprivation levels 1 and 2, is slightly below average in levels 3 to 8 and scores far higher than average in more deprived levels 9 and 10 (see Chart 6).



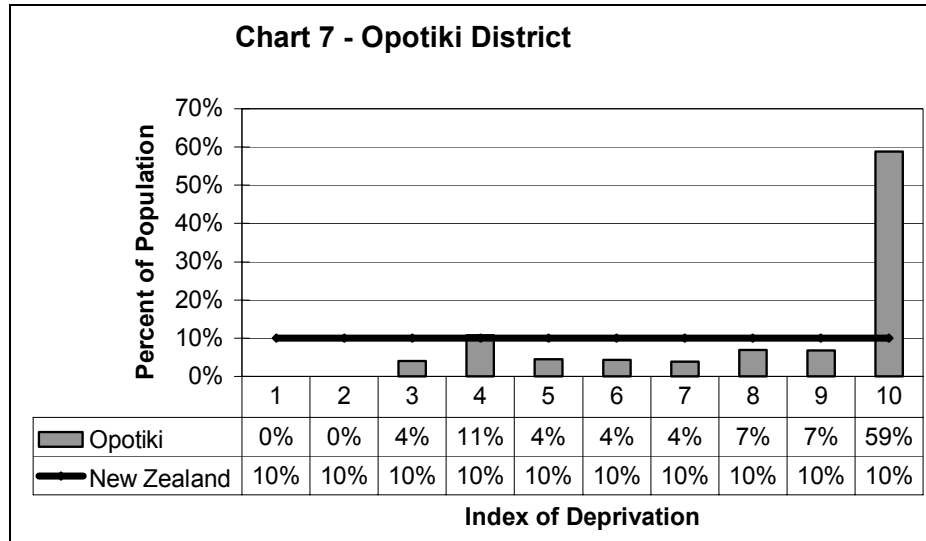
1 is least deprived, 10 is most deprived.

Chart 6 Whakatane District

13.3.8 Opotiki District

Rural Opotiki District is more deprived. The only less deprived rural area is Tablelands and Woodlands. There are no meshblocks less deprived than Index level 3. Opotiki township is more deprived. The only less deprived township area is Woodlands.

Opotiki District is exceptionally deprived. Opotiki has far fewer people than the New Zealand average in Index of Deprivation levels 1 to 9 and far more people than average in the most deprived level 10 (see Chart 7).



1 is least deprived, 10 is most deprived.

Chart 7 Opotiki District

13.3.9 Taupo District

Only a small, sparsely populated proportion of Taupo District is inside the Bay of Plenty Region. This part of Taupo District scores 9 on the Index of Deprivation scale.

Index of Deprivation: Maps

NZDep2001 Map 1 Spread of Deprivation Scores over Regional Councils

NZDep2001 Map 2 Western Bay of Plenty District

NZDep2001 Map 3 Tauranga District

NZDep2001 Map 4 Rotorua District (within Bay of Plenty Region)

NZDep2001 Map 5 Kawerau District

NZDep2001 Map 6 Whakatane District

NZDep2001 Map 7 Opotiki District

Bay of Plenty Region Degrees of Deprivation by Census Area Units

Bay of Plenty Region Degrees of Deprivation Cartogram by Census Area Units

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Table 1 *Usually Resident Population, New Zealand, Regions And Bay of Plenty Districts, 2001*

Geographic Area	Total 1991	Total 1996	Total 2001
Western Bay of Plenty District	29,871	34,968	38,232
Tauranga District	66,738	77,778	90,906
Rotorua District [part]	61,560	62,083	60,993
Whakatane District	32,091	33,126	32,814
Kawerau District	8,337	7,830	6,975
Opotiki District	8,667	9,375	9,201
Bay of Plenty Region	203,982	224,364	239,412
Northland Region	126,786	137,052	140,133
Auckland Region	943,776	1,068,657	1,158,891
Waikato Region	331,026	350,112	357,726
Bay of Plenty Region	203,982	224,364	239,412
Gisborne Region	44,265	45,786	43,974
Hawke's Bay Region	138,342	142,788	142,947
Taranaki Region	107,127	106,590	102,858
Manawatu-Wanganui Region	224,760	228,771	220,089
Wellington Region	400,284	414,048	423,765
West Coast Region	31,563	32,514	30,303
Canterbury Region	438,171	468,039	481,431
Otago Region	177,525	185,082	181,542
Southland Region	99,954	97,098	91,005
Tasman Region	34,026	37,971	41,352
Nelson Region	36,456	40,278	41,568
Marlborough Region	35,148	38,397	39,558
New Zealand	3,373,926	3,618,303	3,737,277

Table 2 Population Projections*, New Zealand, Bay of Plenty Region and Districts, 2001-2026

Geographical area	Years (ending June 30)					
	2001	2006	2011	2016	2021	2026
Western Bay of Plenty	39,300	43,100	46,700	50,200	53,600	56,800
Tauranga	93,300	107,900	117,400	126,600	135,800	145,000
Rotorua (part)	63,300	65,100	66,500	67,600	68,700	69,500
Whakatane	34,000	34,200	34,000	33,800	33,500	32,900
Kawerau	7,290	6,870	6,400	5,910	5,430	4,910
Opotiki	9,540	9,810	10,050	10,250	10,500	10,600
Bay of Plenty	246,900	267,200	281,300	294,600	307,700	320,000
New Zealand	3,880,500	4,109,300	4,248,300	4,378,600	4,505,900	4,622,100

*These population projections are calculated assuming medium fertility, medium mortality and medium migration.

Table 3 Population Projections*, Regional Councils, 2001-2026

Geographical area	Years (ending June 30)					
	2001	2006	2011	2016	2021	2026
New Zealand	3,880,500	4,109,300	4,248,300	4,378,600	4,505,900	4,622,100
Northland Region	144,400	148,900	152,400	155,400	157,900	159,600
Auckland Region	1,216,900	1,360,000	1,457,200	1,553,900	1,651,700	1,748,600
Waikato Region	369,800	383,800	393,200	401,600	409,700	416,500
Bay of Plenty Region	246,900	267,200	281,300	294,600	307,700	320,000
Gisborne Region	45,500	45,000	44,300	43,500	42,600	41,300
Hawke's Bay Region	147,300	147,900	147,600	146,700	145,500	143,500
Taranaki Region	105,700	104,100	101,600	98,700	95,400	91,300
Manawatu-Wanganui	227,500	228,900	228,200	226,900	225,500	223,000
Wellington Region	440,200	455,000	460,800	465,300	469,200	471,900
Tasman Region	42,400	46,300	47,900	49,300	50,400	51,400
Nelson Region	42,900	45,600	47,300	48,800	50,400	51,800
Marlborough Region	40,700	43,100	44,200	45,100	45,700	46,100
West Coast Region	31,100	30,400	29,400	28,400	27,400	26,200
Canterbury Region	496,700	517,400	529,500	540,000	550,200	559,300
Otago Region	188,300	194,400	195,400	196,100	196,500	196,200
Southland Region	93,300	90,500	87,200	83,500	79,400	74,700

*These population projections are calculated assuming medium fertility, medium mortality and medium migration.

Table 4.1 Projected* Age Composition, Western Bay of Plenty District, 2001-2026 (2001 – Base Population Projection)

Year (ending 30 June)	Age group					
	0 to 4	5 to 14	15 to 24	25 to 44	45 to 64	65 plus
2001	2,660	6,800	3,890	10,090	10,220	5,610
2006	2,620	6,790	4,780	9,720	12,180	6,990
2011	2,610	6,590	5,550	9,490	13,970	8,450
2016	2,770	6,530	5,540	10,050	14,930	10,330
2021	3,000	6,670	5,340	10,940	15,360	12,250
2026	3,150	7,080	5,290	11,810	15,040	14,470

*These population projections are calculated assuming medium fertility, medium mortality and medium migration.

Table 4.2 Projected* Age Composition, Tauranga District, 2001-2026 (2001 – Base Population Projection)

Year (ending 30 June)	Age group					
	0 to 4	5 to 14	15 to 24	25 to 44	45 to 64	65 plus
2001	6,620	13,680	10,760	25,340	20,930	15,910
2006	7,250	15,140	13,700	27,970	25,520	18,300
2011	7,440	15,790	14,810	28,760	29,660	20,900
2016	7,690	16,260	15,510	30,100	32,670	24,360
2021	8,170	16,680	16,180	31,840	34,780	28,200
2026	8,640	17,410	16,630	34,020	35,690	32,620

*These population projections are calculated assuming medium fertility, medium mortality and medium migration.

Table 4.3 Projected* Age Composition, Rotorua District [part], 2001-2026 (2001 – Base Population Projection)

Year (ending 30 June)	Age group					
	0 to 4	5 to 14	15 to 24	25 to 44	45 to 64	65 plus
2001	5,290	10,950	8,580	18,370	13,330	6,790
2006	4,830	10,680	9,320	17,330	15,370	7,590
2011	4,450	9,960	9,770	16,530	17,160	8,590
2016	4,380	9,140	9,490	16,510	17,940	10,180
2021	4,470	8,690	8,800	16,800	18,020	11,910
2026	4,470	8,710	7,980	17,250	17,070	14,010

*These population projections are calculated assuming medium fertility, medium mortality and medium migration.

Table 4.4 Projected* Age Composition, Whakatane District, 2001-2026 (2001 – Base Population Projection)

Year (ending 30 June)	Age group					
	0 to 4	5 to 14	15 to 24	25 to 44	45 to 64	65 plus
2001	2,870	6,430	4,180	9,310	7,400	3,800
2006	2,480	5,950	4,640	8,410	8,440	4,240
2011	2,250	5,200	4,890	7,730	9,260	4,700
2016	2,190	4,590	4,410	7,650	9,350	5,600
2021	2,190	4,300	3,680	7,660	9,110	6,540
2026	2,070	4,240	3,080	7,650	8,280	7,590

*These population projections are calculated assuming medium fertility, medium mortality and medium migration.

Table 4.5 Projected* Age Composition, Kawerau District, 2001-2026 (2001 – Base Population Projection)

Year (ending 30 June)	Age group					
	0 to 4	5 to 14	15 to 24	25 to 44	45 to 64	65 plus
2001	690	1,600	900	1,980	1,480	660
2006	580	1,410	1,020	1,710	1,450	690
2011	510	1,160	1,110	1,430	1,460	740
2016	490	980	920	1,350	1,390	780
2021	490	890	680	1,360	1,240	780
2026	440	870	510	1,300	990	810

*These population projections are calculated assuming medium fertility, medium mortality and medium migration.

Table 4.6 Projected* Age Composition, Opotiki District, 2001-2026 (2001 – Base Population Projection)

Year (ending 30 June)	Age group					
	0 to 4	5 to 14	15 to 24	25 to 44	45 to 64	65 plus
2001	800	1,930	1,090	2,430	2,110	1,180
2006	720	1,800	1,310	2,190	2,510	1,290
2011	690	1,570	1,440	2,060	2,810	1,460
2016	710	1,460	1,310	2,170	2,850	1,780
2021	730	1,450	1,090	2,360	2,790	2,050
2026	690	1,500	980	2,450	2,580	2,410

*These population projections are calculated assuming medium fertility, medium mortality and medium migration.

Table 4.7 Projected* Age Composition, Bay of Plenty Region, 2001-2026 (2001 – Base Population Projection)

Year (ending 30 June)	Age group					
	0 to 4	5 to 14	15 to 24	25 to 44	45 to 64	65 plus
2001	18,940	41,460	29,460	67,560	55,550	33,950
2006	18,500	41,780	34,820	67,410	65,550	39,130
2011	17,960	40,320	37,620	66,100	74,390	44,880
2016	18,240	39,000	37,220	67,940	79,190	53,060
2021	19,060	38,730	35,780	71,050	81,350	61,760
2026	19,480	39,830	34,480	74,550	79,710	71,950

*These population projections are calculated assuming medium fertility, medium mortality and medium migration.

Table 4.8 Projected* Age Composition, New Zealand, 2001-2026 (2001 – Base Population Projection)

Year (ending 30 June)	Age group					
	0 to 4	5 to 14	15 to 24	25 to 44	45 to 64	65 plus
2001	281,000	596,210	533,250	1,152,440	857,020	460,550
2006	269,590	592,260	610,810	1,140,360	985,740	510,580
2011	258,120	563,600	639,520	1,107,680	1,102,830	576,510
2016	258,080	536,350	625,760	1,112,880	1,162,950	682,620
2021	266,300	524,910	597,370	1,141,630	1,183,340	792,330
2026	269,860	533,130	570,330	1,176,990	1,149,130	922,690

*These population projections are calculated assuming medium fertility, medium mortality and medium migration.

Table 5 Age Structure, New Zealand, Bay of Plenty Region and Districts, 2001

Geographic Area	0-4 yrs.	5-14 yrs.	15-24 yrs.	25-44 yrs.	45-64 yrs.	65 plus	Total
Western Bay of Plenty District	2,622	6,618	3,693	9,876	9,948	5,475	38,232
Tauranga District	6,387	13,308	10,401	24,798	20,346	15,663	90,903
Rotorua District [part]	5,094	10,506	8,163	17,718	12,867	6,663	61,011
Whakatane District	2,748	6,183	3,945	9,024	7,173	3,741	32,814
Kawerau District	660	1,524	843	1,896	1,419	639	6,981
Opotiki District	756	1,866	1,023	2,349	2,067	1,137	9,198
Bay of Plenty Region	18,285	40,050	28,119	65,748	53,886	33,324	239,412
New Zealand	270,801	576,942	505,065	1,109,259	824,787	450,426	3,737,280

Table 6 Ethnic Composition, New Zealand, Bay of Plenty Region and Districts, 2001

Geographic Area	NZ European	Maori	Other	Unspecified	Total
Western Bay of Plenty District	31,887	6,339	1,146	1,575	38,232
Tauranga District	76,776	14,112	3,762	3,393	90,906
Rotorua District [part]	40,393	20,970	4,509	3,621	61,047
Whakatane District	20,949	13,197	1,104	1,554	32,814
Kawerau District	3,426	3,915	342	441	6,975
Opotiki District	4,842	4,995	291	483	9,201
Bay of Plenty Region	178,420	63,579	11,157	11,079	239,415
New Zealand	2,868,009	526,281	494,184	150,546	3,737,277

Table 7 Ethnic Age Composition, Bay of Plenty Region, 2001

Ethnicity	0-4	5-14	15-24	25-44	45-64	65 plus	Total
NZ European	12,273	27,636	19,056	47,118	43,161	29,382	178,626
Maori	8,082	15,924	10,311	17,760	8,988	2,592	63,657
Other	1,455	2,604	1,890	3,381	1,458	366	11,154
Total	18,285	40,050	28,119	65,745	53,886	33,324	239,409

Table 8 Tenure of Private Dwellings, New Zealand, Bay of Plenty Region and Districts, 2001

Geographic Area	Dwelling Owned or Partly Owned	Dwelling Not Owned	Tenure Not Specified	Total
Western Bay of Plenty District	9,729	3,459	666	13,854
Tauranga District	22,536	10,842	1,533	34,911
Rotorua District [whole]	13,098	6,738	1,311	21,147
Whakatane District	7,332	3,444	546	11,322
Kawerau District	1,500	645	168	2,313
Opotiki District	1,986	978	192	3,156
Bay of Plenty Region	56,193	26,163	4,434	86,790
New Zealand	868,659	412,197	63,414	1,344,267

Table 9 Household Composition, New Zealand, Bay of Plenty Region and Districts, 2001

Geographic Area	One Family Only	Two Families	3 or more Families	Non Family	One Person	Household Not Classified	Total
Western Bay of Plenty District	10,278	192	9	324	2,769	285	13,857
Tauranga District	23,925	510	24	1,569	8,307	576	34,911
Rotorua District [part]	14,424	537	18	888	4,536	726	21,129

Whakatane District	7,968	297	15	369	2,421	258	11,328
Kawerau District	1,641	66	3	63	462	78	2,313
Opotiki District	2,139	93	3	99	735	87	3,156
Bay of Plenty Region	60,411	1,692	78	3,315	19,257	2,034	86,787
New Zealand	909,084	26,889	1,548	70,434	307,635	28,677	1,344,267

Table 10 Family Type, New Zealand, Bay of Plenty Region and Districts, 2001

Geographic Area	Couple Only	Two Parent Family	One Parent Family	Total
Western Bay of Plenty District	4,854	4,254	1,581	10,689
Tauranga District	11,292	8,862	4,863	25,017
Rotorua District [part]	5,460	6,210	3,885	15,555
Whakatane District	3,081	3,441	2,082	8,604
Kawerau District	561	660	564	1,785
Opotiki District	786	891	657	2,334
Bay of Plenty Region	26,055	24,348	13,644	64,047
New Zealand	376,905	407,793	182,916	967,617

Table 11 Motor Vehicles Availability for Private Use, New Zealand, Bay of Plenty Region and Districts, 2001

Geographic Area	No Motor Vehicles	One Motor Vehicle	Two Motor Vehicles	Three or More Vehicles	Motor Vehicles Not Specified	Total
Western Bay of Plenty District	708	4,998	5,592	1,983	573	13,854
Tauranga District	2,751	14,898	12,321	3,618	1,320	34,908
Rotorua District [part]	2,121	8,418	6,927	2,454	1,215	21,135
Whakatane District	1,212	4,623	3,792	1,194	507	11,328
Kawerau District	300	996	693	162	165	2,316
Opotiki District	426	1,401	888	249	186	3,150
Bay of Plenty Region	7,524	35,367	30,249	9,675	3,978	86,793
New Zealand	129,891	526,230	463,116	169,116	55,914	1,344,267

Table 12 Means of Home Heating, New Zealand, Bay of Plenty Region and Districts, 2001

Geographical Area	Electricity	Mains Gas	Bottled Gas	Wood	Coal	Solar Power	Other Means	No Heating	Heating Not Stated	Total
Western Bay of Plenty District	7,488	519	4,968	7,650	423	249	108	351	585	22,341
Tauranga District	21,471	3,657	13,446	10,191	846	444	240	1,281	1,323	52,899
Rotorua District [part]	12,450	2,667	6,183	10,920	1,047	147	528	399	1,524	35,865
Whakatane District	6,726	327	3,720	6,372	360	111	90	267	504	18,477
Kawerau District	1,185	231	702	1,467	96	15	21	33	150	3,900
Opotiki District	1,650	81	1,092	1,758	105	33	24	120	189	5,052
Bay of Plenty Region	50,994	7,491	30,135	38,403	2,880	1,014	996	2,454	4,278	138,645
New Zealand	937,719	175,419	368,118	582,267	121,170	12,318	14,127	36,207	57,126	2,304,471

Table 13 Unemployment Rates, Population Aged 15 Years and Over, New Zealand, Bay of Plenty Region and Districts, 2001

Geographic Area	Employed Full-time	Employed Part-time	Unemployed	Total Labour Force	Not in Labour Force	Labour Force Status Not Specified	Total Aged Over 15
Western Bay of Plenty District	12,879	4,299	1,236	18,414	9,666	912	28,989
Tauranga District	28,542	9,951	3,792	42,285	26,805	2,121	71,211
Rotorua District [part]	20,139	6,339	2,721	29,199	14,028	2,232	45,459
Whakatane District	9,774	3,417	1,833	15,024	8,130	729	23,883
Kawerau District	1,638	579	531	2,748	1,884	162	4,794
Opotiki District	2,208	882	588	3,678	2,670	231	6,579
Bay of Plenty Region	75,258	25,488	10,692	111,438	63,213	6,423	181,077
New Zealand	1,328,118	399,153	139,908	1,867,179	933,909	88,449	2,889,534

Table 14 Employment by Major Industry Division, Population Aged 15 Years and Over, New Zealand, Bay of Plenty Region and Districts, 2001

Labour Force by Industry Group	Western Bay of Plenty District	Tauranga District	Rotorua District [part]	Whakatane District	Kawerau District	Opotiki District	Bay of Plenty Region	New Zealand
Agriculture, Forestry, Fishing	4,641	1,473	1,509	2,148	162	903	10,908	142,758
Mining	45	33	18	15	0	0	117	3,357
Manufacturing	1,827	4,974	3,342	1,899	762	126	12,936	223,806
Electricity, Gas, Water	24	96	108	39	0	3	267	5,976
Construction	1,143	3,492	1,479	723	117	150	7,119	103,911
Wholesale Trade	681	2,271	1,443	366	39	57	4,860	99,444
Retail Trade	1,671	5,772	3,432	1,758	240	402	13,275	208,314
Accommodation, Cafes, Restaurants	453	1,677	2,274	453	66	126	5,055	80,355
Transport, Storage	630	1,911	960	351	54	60	3,954	66,498
Communication Services	108	426	222	84	21	9	876	23,151
Finance, Insurance	231	945	513	186	27	39	1,950	51,924
Property, Business Services	1,356	4,092	2,457	789	99	147	8,931	194,577
Government, Administration, Defence	282	861	810	423	45	72	2,499	59,631
Education	951	2,463	2,187	1,245	210	381	7,440	126,540
Health, Community Services	1,242	3,879	2,463	1,236	135	213	9,165	140,568
Cultural, Recreational	219	660	876	228	30	45	2,058	41,271
Personal, Other Services	489	1,542	948	477	57	105	3,624	64,317
Industry Not Specified	1,173	1,923	1,449	771	147	252	5,718	90,864
Total	17,166	38,490	26,490	13,191	2,211	3,090	100,752	1,727,271

Table 15 Highest Qualification Attained, Population Aged 15 Years and Over by Ethnicity, New Zealand, Bay of Plenty Region and Districts, 2001

Geographic Area	No Qualification	School Qualification	Other Tertiary	University	Not specified	Total
Western Bay of Plenty District	7,839	9,561	5,712	1,614	4,269	28,995
Tauranga District	18,210	24,135	13,941	4,539	10,389	71,214
Rotorua District [part]	11,673	14,193	8,370	3,120	8,073	45,429
Whakatane District	6,948	7,131	4,425	1,341	4,038	23,883
Kawerau District	1,713	1,248	744	111	978	4,794
Opotiki District	2,268	1,773	945	219	1,380	6,585
Bay of Plenty Region	48,705	58,086	34,164	10,941	29,184	181,080
New Zealand	686,226	995,895	507,891	292,086	407,439	2,889,537

Table 16 Highest Qualification Attained, Population Aged 15 Years and Over, Bay of Plenty Region, 2001

Geographic Area	No Qualification	School Qualification	Other Tertiary	University	Not Specified	Total
NZ						
European	34,308	45,234	28,107	8,394	14,259	130,308
Maori	15,147	11,118	5,775	1,215	6,393	39,651
Other	3,375	7,218	3,096	2,025	10,140	25,857
Total	48,705	58,086	34,155	10,941	29,181	181,077

Table 17 Total Personal Income, Population Aged 15 years and Over, New Zealand, Bay of Plenty Region and Districts, 2001

Geographic Area	\$0 - \$15,000	\$15,001 - \$30,000	\$30,001 - \$40,000	\$40,001 - \$50,000	\$50,001 - \$70,000	\$70,001 plus	Not Specified	Total
Western Bay of Plenty District	11,325	7,371	2,817	1,593	1,398	1,152	3,069	28,992
Tauranga District	28,989	17,808	7,263	3,957	3,234	2,172	7,425	71,217
Rotorua District [part]	16,671	10,926	4,779	2,631	2,136	1,422	6,582	45,399
Whakatane District	9,873	5,061	2,070	1,218	1,434	945	3,159	23,883
Kawerau District	2,202	789	273	192	378	150	780	4,791
Opotiki District	3,237	1,296	408	189	216	165	1,005	6,579
Bay of Plenty Region	72,357	43,302	17,631	9,801	8,817	6,012	22,077	181,083
New Zealand	1,110,966	667,185	311,598	183,246	163,524	130,938	322,080	2,889,537

Table 18 Total Personal Income, Population Aged 15 years and Over by Ethnicity, Bay of Plenty Region, 2001

Ethnicity	Loss	\$0 - \$15,000	\$15,001 - \$30,000	\$30,001 - \$40,000	\$40,001 - \$50,000	\$50,001 - \$70,000	\$70,001 plus	Not Specified	Total
NZ European	711	52,581	33,813	14,319	8,211	7,308	5,175	8,181	130,308
Maori	306	18,849	9,096	3,009	1,365	1,203	501	5,316	39,651
Other	171	7,692	4,011	1,611	870	858	627	10,023	25,857
Total People	1,086	72,351	43,302	17,631	9,801	8,817	6,015	22,077	181,077

Table 19 Family Income, New Zealand, Bay of Plenty Region and Districts, 2001

Geographic Area	Loss	\$0 - \$15,000	\$15,001 - \$30,000	\$30,001 - \$40,000	\$40,001 - \$50,000	\$50,001 - \$70,000	\$70,001 plus	Not Specified	Total
Western Bay of Plenty District	54	699	2,541	1,155	1,101	1,668	1,836	1,638	10,692
Tauranga District	72	1,749	6,369	2,532	2,652	4,053	3,813	3,774	25,014
Rotorua District [part]	42	1,362	3,177	1,494	1,605	2,544	2,613	2,772	15,609
Whakatane District	24	894	1,854	705	750	1,200	1,554	1,629	8,610
Kawerau District	3	228	435	138	111	255	219	399	1,788
Opotiki District	12	342	660	186	168	222	240	507	2,337
Bay of Plenty Region	207	5,277	15,033	6,210	6,375	9,936	10,290	10,719	64,047
New Zealand	2,886	66,747	191,625	87,465	93,807	157,068	212,034	155,976	967,608

Table 20 Types of Benefits Received by Population Aged 15 Years and Over, New Zealand, Bay of Plenty Region and Districts, 2001

Geographical Area	Community Wage - Job Seeker	Community Wage - Sickness Benefit	Domestic Purposes Benefit	Invalids Benefit	Other Income Support	Total People	Total Population Over 15 Years
Western Bay of Plenty District	1,773	582	1,059	537	1,116	4,680	28,989
Tauranga District	4,908	1,314	3,111	1,608	3,021	12,864	71,211
Rotorua District [part]	3,162	984	2,598	852	1,932	8,865	45,447
Whakatane District	2,271	543	1,413	525	1,140	5,478	23,883
Kawerau District	588	147	411	144	279	1,443	4,791
Opotiki District	909	246	501	201	405	2,085	6,576
Bay of Plenty Region	13,623	3,819	9,093	3,867	7,899	35,442	181,080
New Zealand	178,377	53,457	106,215	65,487	109,323	477,306	2,889,537

Table 21 Type of Unpaid Work Undertaken, Population Aged 15 Years and Over, New Zealand, Bay of Plenty and Districts, 2001

Type of Unpaid Work Undertaken	New Zealand	Bay of Plenty Region	Western Bay of Plenty District	Tauranga District	Rotorua District	Whakatane District	Kawerau District	Opotiki District
Household Work, Cooking, Repairs, Gardening, etc, for Own Household	2,258,148	141,186	22,989	56,274	34,566	18,708	3,651	4,893
Looking After a Child Who is a Member of Own Household	831,528	54,657	8,721	19,764	14,436	7,905	1,704	2,088
Looking After a Member of Own Household Who is Ill or has a Disability	200,616	13,917	2,196	5,061	3,552	2,004	462	636
Looking After a Child Who Does Not Live in Own Household	412,917	27,774	4,020	10,299	7,353	4,104	960	1,026
Helping Someone Who is Ill or has a Disability Who Does Not Live in Own Household	222,288	14,931	2,355	5,841	3,537	2,130	462	597
Other Helping or Voluntary Work For or Through any Organisation, Group or Marae	428,403	29,304	4,596	9,960	7,083	5,100	933	1,611
Attending or Studying for 20 Hours or More Per Week at School or Any Other Place	235,380	12,117	1,701	4,497	3,447	1,683	348	426
Attending or Studying for Less Than 20 Hours Per Week at School or Any Other Place	187,431	9,918	1,467	3,837	2,595	1,386	264	360
No Activities	258,849	16,098	2,493	6,399	3,930	2,133	429	696
Total People undertaking voluntary work	2,637,894	163,857	26,457	65,115	40,239	21,756	4,269	5,892

Appendix 2 - Glossary of Terms

COHORT

A group of individuals who experienced the same significant demographic event during a specified brief period, usually a year, and who may be identified as a group at successive later dates on the basis of this common demographic experience.

EMPLOYMENT STATUS

A respondent's employment status within the labour force. This applies to persons in full and part-time employment. Employment status categories are: paid employee; self-employed and without employees; employer; and unpaid family worker.

ETHNICITY

Ethnicity is the ethnic group or groups that people identify with or feel they belong to. Thus, ethnicity is self-perceived and people can belong to more than one ethnic group. Ethnicity is a measure of cultural affiliation, as opposed to race, ancestry, nationality or citizenship. An ethnic group is a social group whose members have the following four characteristics:

- share a sense of common origins;
- claim a common and distinctive history and destiny;
- possess one or more dimensions of collective cultural individuality;
- feel a sense of unique collective solidarity.

FAMILY INCOME

Family income is the combined gross total income that persons aged 15 years and over in a co-resident family receive.

FAMILY TYPE

For census purposes the 'family' is defined as two or more people, who are members of the same household, and who comprise either a couple, or at least one parent-child relationship. Three categories are used to describe the family: One-Parent, Two-Parent, and Couple-Only families.

HIGHEST QUALIFICATION

The highest completed educational award attained as the result of formally recognised learning gained by people aged 15 years and over.

HOUSEHOLD COMPOSITION

Refers to the nature of a household based upon usual composition. A household may consist of one or more families, or it may be a non-family household, or a one-person household.

INCOME SUPPORT

Refers to government funded payments, benefits and pensions received from either the department of Social Welfare or the Accident Compensation Corporation (ACC).

INDUSTRY

Industry is the type of activity undertaken by the organisation, enterprise, business or unit or economic activity within which a person is employed. Any individual business can be assigned an appropriate industry category on the basis of its predominant activity, which is the main income producing activity of a business.

IWI AFFILIATIONS

Refers to the connections a person of New Zealand Maori ancestry has with a tribe or tribes (iwi). Included are the main (primary) iwi to which a person of Maori ancestry belongs as well as any other (secondary) iwi with which such person has strong ties (i.e. tribes which are important to that person).

LABOUR FORCE

The labour force consists of people aged 15 years and over who regularly work for one or more hours per week for financial gain, or as an unpaid worker in a family business. Also included are people who are unemployed and actively seeking either full-time or part-time work.

LABOUR FORCE STATUS

Labour Force Status is the position of all people aged 15 and over in relation to the labour market.

MAORI ANCESTRY

People have Maori ancestry if they consider they have Maori ancestors no matter how distant.

MORBIDITY

Morbidity is a health status indicator that measures the level of illness among population groups. A common morbidity measure is the level of health service usage (e.g. hospital discharge rates).

MORTALITY

Mortality is a health status indicator that measures the rate and cause of death among population groups. Common mortality measures are life expectancy, survivorship rates, cause of death, and general mortality rates (i.e. rate of death per 100,000 population).

MOTOR VEHICLES

Number of motor vehicles is the number of motor vehicles which are mechanically operational, but not necessarily licensed or having a current Warrant of Fitness, and are available for private use by the usual residents of private dwellings.

OCCUPATION

An occupation is a set of jobs that involve the performance of a common set of tasks. It refers to the job, trade, profession or type of work in which a person is employed for financial reward or as an unpaid worker in a family business.

PERSONAL INCOME

Defined as the total income, including income support, before tax that a person aged 15 years and over received from all sources for the preceding financial year.

POPULATION DENSITY

The number of people relative to the space around them (e.g. number of residents per hectare).

POPULATION Projections

A type of estimate that calculates (predicts) changes in population characteristics in the future. This estimate makes certain assumptions about the future course of fertility, mortality and migration. Population projections are guidelines rather than exact forecasts. They ignore non-demographic factors (e.g. catastrophes, war, and major government and business decisions) which could have significant effects on future population growth.

PRIVATE DWELLING

A private dwelling is any dwelling, either permanent or temporary, which is occupied by a private household. Permanent private dwellings include houses and flats, residences attached to a business or institution, baches, cribs and huts. Caravans, cabins, tents and other makeshift dwellings that are the principal or usual residence of households are classified as temporary private dwellings.

ROHE

A territory or boundary which defines the areas within which a tangata whenua group claims traditional association and mana whenua (customary authority exercised by iwi or hapu in an identified area).

TELEPHONE ACCESS

Access to a telephone refers to the availability of a working telephone located in the dwelling. 'Telephones' include cordless telephones and some cell phones. Cell phones are treated as a telephone if they are predominately located in the household when members are at home.

TENURE

Tenure is the nature of occupancy of a permanent private dwelling, but not the land it stands on. Categories of private dwelling tenure are dwelling owned or partly owned and dwelling not owned by usual resident (i.e. rented).

UNEMPLOYED

Persons who are unemployed are not working in a paid job, business, farm or profession at census date, but had looked for either full-time or part-time work in the four weeks preceding the census.

URBAN AREA

Statistics New Zealand urban areas are comprised of whole area units. Urban areas are classified on the basis of population size and the presence of social and business services. These services are explained below:

Minor Urban Areas have populations ranging between 1000 and 9,999 and must provide five of the following eight services:

- (a) School
- (b) Community Facilities (e.g. hall, community centre, library)
- (c) Recreational amenities (e.g. sports ground, swimming pool)
- (d) Professional services (e.g. doctor, solicitor)
- (e) Specialised services (e.g. hairdresser, plumber)

- (f) Specialised retail businesses (e.g. chemist, clothing shop)
- (g) Financial services (e.g. bank branch or agency, insurance agency)
- (h) Visitor accommodation (e.g. motel, camping ground)

Main and Secondary Urban Areas are centred on a significant urban centre and include surrounding rural areas assessed as satisfying three of the following six criteria:

- (a) Strong economic ties
- (b) Cultural and recreational interaction
- (c) Serviced from the core for major business and professional activities
- (d) An integrated public transport network
- (e) Significant workplace commuting to and from the central core
- (f) Planned development within the next twenty years, as a dormitory area to, or an extension of, the central core.

Main Urban Areas have a minimum population of 30,000 people. Secondary Urban areas have a population between 10,000 and 29,999 people.

USUALLY RESIDENT POPULATION

Refers to all people counted during a census who usually live in New Zealand (and sub-regions of New Zealand) and excludes people usually resident overseas and New Zealand residents who usually live overseas. The definition is generally based on a person's self-identified usual address.

Appendix 3 - Technical Notes About Population Projections

Projections Method

A "Cohort-Component" method is used to derive the population projections. In this method, the base population is projected forward by calculating the effects of births, deaths, and migration within each age and sex group according to the specified fertility, mortality, and net migration assumptions.

Base Population

The base (or starting) population for the population projections is the estimated resident population at 30 June 2001. This population was calculated by adjusting the 2001 Census usually resident population for undercount and New Zealand residents temporarily overseas at that date. The populations were then updated for births, deaths, and permanent and long-term migration between 5 March 2001 and 30 June 2001.

Projection Assumptions

Assumptions are formulated regarding future levels of fertility, mortality, and migration. These assumptions take into account historical demographic trends and characteristics of each territorial authority. They also take into account the assumptions adopted by the 2001-base New Zealand population projections which were released on 24 October 2002.

Nature of Projections

The population projections are based on assumptions made about future fertility, mortality, and net migration. Although the assumptions are carefully formulated to represent future trends, they are subject to uncertainty. The projections should therefore be used as guidelines rather than exact forecasts. They measure the changes in the population size and age composition that will occur if the stated assumptions were to apply over the projection period. The projections ignore non-demographic factors (eg catastrophes, war, etc) which may invalidate the projections.

Appendix 4 - Choice of Variables for Inclusion in NZDep01²²

The *NZDep01* index of deprivation combines nine variables from the 2001 census reflecting eight dimensions of material and social deprivation. These dimensions reflect lack of income, communication, employment, transport, qualifications, support, living space and an owned home.

The index reflects a continuum from lack of deprivation to deprivation, rather than from affluence to deprivation. All the variables in *NZDep01* reflect a lack of something. Technically, the variables make sense. Deprivation scores in areas known to the researchers were as expected. There is no unexpected pattern to the geography or demography for the areas with the worst extreme values, that is the most and least deprived.

A list of the variables used in *NZDep01* is given in the following table and described in more detail below.

Table 1 Variables Included in NZDep01

<i>Variable (proportions in small areas) in order of decreasing weight in the index</i>	
1. Income	People aged 18-59 receiving a means tested benefit
2. Employment	People aged 18-59 unemployed
3. Income	People living in equivalised* households with income below an
4. Communication	People with no access to a telephone
5. Transport	People with no access to a car
6. Support	People aged <60 living in a single parent family
7. Qualifications	People aged 18-59 without any qualifications
8. Living space	People living in equivalised* households below a bedroom
9. Owned home	People not living in own home

*Equivalisation: methods used to control for family composition.

Means Tested Benefits

The means tested benefits included in the definition of this variable changed as a result of changes to the question in the 1996 census. Means tested benefits included in the *NZDep96* version of this variable are: domestic purposes benefit, sickness benefit, invalid's benefit, and other government benefits, income support payments or war pensions.

Unemployed

The unemployed variable refers only to the 18 to 59 year age group.

²² This appendix is based on extracts from Salmond et al. (1998).

Household Income

Equivalised household income was used for calculating the income variable so that, for example, the standard of living of a household consisting of a single person with an income of \$40,000 could be compared to that of a household consisting of two adults and six children on an income of \$40,000.

Equivalised annual household income was calculated using the median income for each of the income bands used in the 2001 census.

Access to a Telephone

This question was included for the first time in the 1996 Census of Population and Dwellings. The access to telephone variable is consistent with the theory of deprivation, and was included in the principal components analysis, and subsequently in *NZDep96* and *NZDep01*. The definition of the variable is the proportion of people without access to a telephone in their dwelling (private dwellings only).

Access to a Car

This variable was changed from proportion of adults with no access to a car, to proportion of people with no access to a car. The rationale for this change is that cars (access to transport) have relevance to children as well as adults.

Single Parent Families

The following are abbreviated versions of Statistics New Zealand definitions:

- a family consists of a couple (legal or defacto marriage) with or without children, or one parent with children (i.e. a brother and a sister is not a family);
- a household is a group of people who live together whether related or not; and,
- a dwelling is the physical structure occupied by a household.

If a three-generation family lives in a dwelling, Statistics New Zealand creates two families, *but each person is only counted once*.

Therefore:

- there may be more than one family per household (and therefore per dwelling); and,
- the sum of occupants of households equals the sum of all people in families and all people not in families.

Our definition of *the proportion of single parent families* variable is: *people less than 60 in a single parent family with dependent children as a proportion of all people under 60*.

To derive this we carried out the followings steps:

- 1 Assigned single parent family status (yes/no) to all people aged less than 60 in families by merging family information with personal information;
- 2 Calculated the numerator by summing the number of people aged less than 60 years in single parent families with dependent children only, and those in single parent families with

- dependent children and adult children (but not those in single parent families with adult children only);
- 3 Calculated the denominator by summing all people aged less than 60 years.

The denominator includes everyone aged under 60 years (i.e. those considered to be at risk of being in a single parent family). This variable is restricted to those aged under 60 years in order to avoid inflation of the denominator by large numbers of elderly people who are less likely to be in a single parent family.

No Qualifications

The no qualifications variable refers only to the 18 to 59 year age group. No qualification indicated that no qualification has been obtained from a completed course.

Occupancy

Occupancy describes the relationship between housing space available and persons usually resident in the house. For deprivation purposes, the extreme of an occupancy scale is used. It is usually called overcrowding.

The definition of occupancy used in deriving our indices was: any household with greater than one person-equivalent per bedroom. A person-equivalent was defined as: children age 10 and over are equivalent to one adult; children age under 10 are equivalent to half an adult. The threshold value, one, was determined by examining the national distribution of equivalent occupants per bedroom for the usually resident population in private dwellings with number of bedrooms specified.

Rooms other than bedrooms were excluded from the definition because anecdotal evidence suggested that census data relating to "other rooms" is less accurate than that relating to "bedrooms".

Dwellings Not Owner Occupied

The housing tenure variable is: proportion of people in dwellings not owner occupied. The "rented or leased" census variable value was used to capture not owner occupied. The census variable value "provided rent free" was treated as not specified since it was not possible to determine whether this represents an advantage or a disadvantage (for example, both a farm labourer and a multinational company executive could have accommodation provided rent free).