

Ruataniwha Water Storage Scheme: Social Impact Assessment

Report prepared for the Hawkes Bay Regional Investment Company Ltd.

Technical Report No. WI 12/06; HBRC Plan No.4357

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Final May 2013

Executive Summary

Potential Project Effects

This Social Impact Assessment reports on the social and socio-economic effects associated with the proposed Ruataniwha Water Storage Scheme (the Scheme).

Key land use changes anticipated with irrigation are

- Dairying and its associated dairy support
- Intensified horticultural operations
- Irrigated arable farming
- Some irrigated sheep and beef farming.

The assessment found that, based on analysis of the Scheme area and comparative areas of New Zealand, this level of land-use change will lead to a series of social changes driven by changes in land use, new farmers moving into the area with new or different approaches to debt and farming practices, and higher levels of employment with more intensive farming practices. While these changes will lead in turn to strengthening of local populations and communities through the employment created (on and off farm) and additional business activity, including in the towns of Waipukurau and Waipawa, potential social issues could arise with land use change around the integration of newcomers, loss of sense of place and possible values conflicts. With appropriate strategies in place to manage change, however, the proposed scheme should result in a significant net beneficial social effect for the people and communities of the district.

Assessment undertaken

The scope of this assessment was directed at the potential social effects of the scheme associated with:

- Changes in farming practices
- Changes in land ownership
- Demographic changes (numbers and composition of the population)
- Strengthening rural communities (education, health, commerce, clubs etc)
- Value conflicts associated with new / intensified land uses versus traditional dryland farming practices
- Wider regional socio-economic effects including construction effects.

A multi-method approach was used with the main phases being scoping of effects and profile of the assessment area, assessment of effects, feedback and validation of findings, and reporting. The main sources of information were:

- Analysis of data about the affected communities and social trends from census and other secondary data sources
- Use of a scenario of potential land use change and projection of likely changes in farm ownership, employment and populations
- Analysis of social infrastructure and likely changes in communities resulting from changes in numbers and characteristics of farmers, farm workers and their families
- Information from meetings with stakeholders and key-informant interviews to assist with understanding of social issues and trends and likely changes with irrigation.

Results of Assessments

There are approximately 470 farms greater than 10 hectares in irrigation zones A-D and M. Increased areas of irrigation and associated changes in land use on these farms will lead to the following effects:

- A reduced average age of farmers and new families coming into the area
- Some of the new farm workers are likely to live in the villages and main townships and some seasonal workers in on-farm accommodation camps
- A turnaround from negligible growth in population evident in the district over recent years – in both rural areas and the main towns
- A flow on effect of growth in numbers employed and population for any new processing plant associated with new or increased farm outputs
- A change in the composition of the population, especially of the rural areas, with younger families and children and consequent rises in school rolls
- Increased turnover of population and more overseas workers, with more ethnic diversity and a need to provide social support to new comers
- Increased participation in sport and recreation and community activities and greater demand for social services, including health services, although with the exception of health there are facilities and capacity to meet new demand.

Other potential effects identified included:

- New and increased health and safety risks around new waterways, increased traffic on rural roads and on farm with intensified activities. There may be a perception of risk around dam failure
- Consequences of residual bio-physical effects on local people and communities from construction activities, alleviated by suitable mitigation measures and management plans

- Changes in recreational and cultural values as identified in the recreation and cultural assessments with potential for community tensions and conflict in the shift to an inherently adversarial planning process.

Suggested Approach for Effects Identified

Experience with irrigation projects demonstrates the importance of a proactive approach to managing social and economic change to achieve desired social-economic outcomes. The net social-economic benefit of the scheme will depend on active management of change by the councils and key stakeholders, along with communication and consultation with the affected communities.

Active involvement of the two councils along with the stakeholder group provides an opportunity to develop a change management strategy around the following initiatives:

- Develop a social impact management plan for the construction phase as part of the front-end engineering design of the headworks in order to maximise local employment benefits from construction and avoid adverse effects of an incoming workforce
- Develop a coordinated employment strategy with agencies and training providers for future land uses and off-farm opportunities including training and skills development, with an emphasis on local placement, including working closely with Maori
- Prepare a business development strategy working with regional and district business development agencies and sector groups
- Build on community, youth and sports and recreation development in the district to enhance community benefits from incoming population
- Establish a programme to assist the integration of newcomers into the community, including migrants from outside the district and overseas workers
- Establish a programme of technology transfer for the uptake of the latest land, water and nutrient management practices to enhance social, economic and environmental outcomes
- Develop a community strategy to identify and encourage retention of features that reinforce sense of place as land uses change.
- Undertake a comprehensive communications strategy for the scheme through the consenting and construction phases, with regular communications through multiple media, to support participation of interested and affected parties through the rest of the planning and design process.

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1 Introduction

1.1 Background

This assessment considers the social effects of the proposed Ruataniwha Water Storage Scheme (**the Scheme**) and irrigation on the Scheme's production land use areas in central Hawke's Bay. The Hawke's Bay Regional Council (**HBRC**) and in turn Hawke's Bay Regional Investment Company Limited (**HBRIC Ltd**) have investigated the potential for water storage in Central Hawkes Bay. In its investigations of the scheme HBRC and HBRIC Ltd have worked closely with the Central Hawke's Bay District Council (**CHBDC**). Since 2009 pre-feasibility studies and an analysis of eighteen sites possibly suitable for water storage have been completed, settling on a dam site on the Makaroro river (a tributary of the Waipawa River). A full feasibility study and a series of technical, economic and environmental studies are now complete and a full Project Description (Application Design) report has been prepared see (*Ruataniwha Water Storage Scheme: Project Description*, Tonkin & Taylor, 2013a).

The principal objectives of building the proposed Scheme are to develop a robust supply of water for irrigation, address wider sustainability issues and improve environmental flows in the Tukituki River. Depending on the final land use mix and irrigation efficiency the proposed Makaroro dam will have the potential to irrigate an estimated 25,000 hectares in five zones but the final area will depend on the eventual land uses, with an expected intensification of land uses overall. Importantly, this irrigation from stored surface water will have the principal benefits of relieving considerable pressure from farming on the ground water resource and improved surface flows. There will also be a small hydroelectricity generation capacity. A scheme overview is provided in Figure 1.

As part of the investigations for water storage, irrigation and intensified land uses, the HBRC has consulted with farmers and key stakeholders and established the Ruataniwha Stakeholder Group (**RSG**). The RSG represents a wide range of interests with members including the respective councils, Maori, land owners and water users, recreation, conservation and environmental interests.

The policy context for the scheme was developed by a Reference Group established by the HBRC to prepare the Hawke's Bay Land and Water Management Strategy in conjunction with council staff. This strategy outlines a vision for the region with strategic directions for future management of land and water. The strategy has involved the wider community through a series of forums recognising there are sometimes conflicting values around water use. The strategy recognises that "Hawke's Bay's competitive advantage lies in its temperate climate, availability of productive land and potentially abundant water supplies". The strategy also recognises the importance of land and water resources for a healthy lifestyle and environment,

and that while most of the waterways are high quality there is declining water quality in some systems.¹

The Tukituki is recognised as one of the key catchments in the region. Key issues for the catchment are:²

- Water quality does not meet community expectations –cultural, recreational, amenity
- The over allocation of ground water
- Minimum flows are not maintaining habitat health
- Irrigation demand currently exceeds supply
- Oxidation pond discharges to water from towns in the district.

1.2 Objectives and scope of the SIA

The purpose of the Social Impact Assessment is to report on the relevant social and socio-economic effects associated with the proposed Scheme, with the social assessment report forming an integral component of the overall Assessment of Environmental Effects (AEE) for the necessary resource consent applications.

The scope of the assessment was directed at the potential social effects of the scheme associated with:

- Changes in farming practices
- Changes in land ownership
- Demographic changes
- Strengthening rural communities (education, health, commerce, clubs etc)
- Value conflicts associated with new / intensified land uses versus traditional dryland farming practices.

The scope of the assessment also covered potential wider regional socio-economic effects associated with the scheme, including construction effects, with particular reference to the assessment of Regional Economic Impacts prepared by Butcher Partners (May 2013).

The scope included making recommendations on available and appropriate means to avoid, remedy or mitigate any adverse social effects and to enhance positive effects.

In establishing the scope of the social assessment it was noted that there were separate assessments being undertaken of economic, cultural and recreation effects.

There is no specific health impact assessment for the scheme. However in framing this social

1 Land, Water Us: Hawke's Bay Land and Water Management Strategy, HBRC Plan No 4297, page 7.

2 Presentation by Helen Codlin, Debbie Hewett and Sam Robinson to the Hawke's Bay Land and Water Symposium, 30 November 2011.

assessment it was noted that there is considerable overlap between the framework for social wellbeing and the social determinants of health. In the Resource Management Act (1991) sustainable management means “managing the use, development, and protection of the natural and physical resources in a way or at a rate, which enables people and communities to provide for their *social, economic, and cultural well-being and for their health and safety ...*”.³ An interest in health of people and communities necessitates recognition of the social-economic factors that are determinants of the health status of a population as there is considerable overlap between the determinants of social wellbeing and the social determinants of health. To this extent the social assessment covers health.

1.3 Approach

The social assessment methodology utilized a multi-method approach, which is outlined in three phases as follows.

Phase 1 - scoping

Scoping of the scheme including meeting with Mr Butcher, staff of the regional and district councils and the Stakeholder Group, a site visit, definition of the study area utilizing maps provided by the council, confirmation of likely scheme components, review of documents and an initial assessment of the key social issues. Scoping also involved identification of any substantive data or procedural constraints (including timing of complementary technical analysis).

Central Hawke’s Bay District (**the district**) was used as the main area for analysis of secondary data to consider social and economic trends. Analysis of area units provided information on the main towns in the district and also the major farming areas (west and east). The irrigation zones have been developed and refined over the course of this assessment. The scheme production land use area as shown in Figure 1 is now defined as areas A-D and M.

A model of land-use change under irrigation developed by Taylor Baines was reviewed for its applicability to this case and to help determine key parameters for analysis, and obtain specialised data sets. The model was presented to the RSG.

Recreation uses and effects directly relating to water storage and irrigation, cultural issues, landscape and visual issues, and economic effects were subject to separate technical assessments and therefore did not part of the scope of the social assessment. Where relevant in this report reference is made to other draft assessments.

Phase 2 - main assessment

This phase of the assessment involved a detailed analysis of issues and effects identified during scoping. This analysis included:

3 section 5(2)

- Analysis of data about the current farmer population and social trends from census⁴ and Business Frame data, farmer and community interviews and secondary data sources to profile the district and potential irrigation areas.
- Demographic analysis of affected communities and projection of likely changes in farm ownership and employment based on the model of change from Phase 1 and projections of land use in the farm management analysis.
- Analysis of social infrastructure and trends and likely changes in communities from land-use change and changes in numbers and characteristics of farmers, farm workers and their families.
- Development of an understanding of community values in the study area associated with irrigation and land-use change and any possible conflicts that might arise, via in-depth interviews with key people as identified in Phase 1 and attendance at a regional symposium.

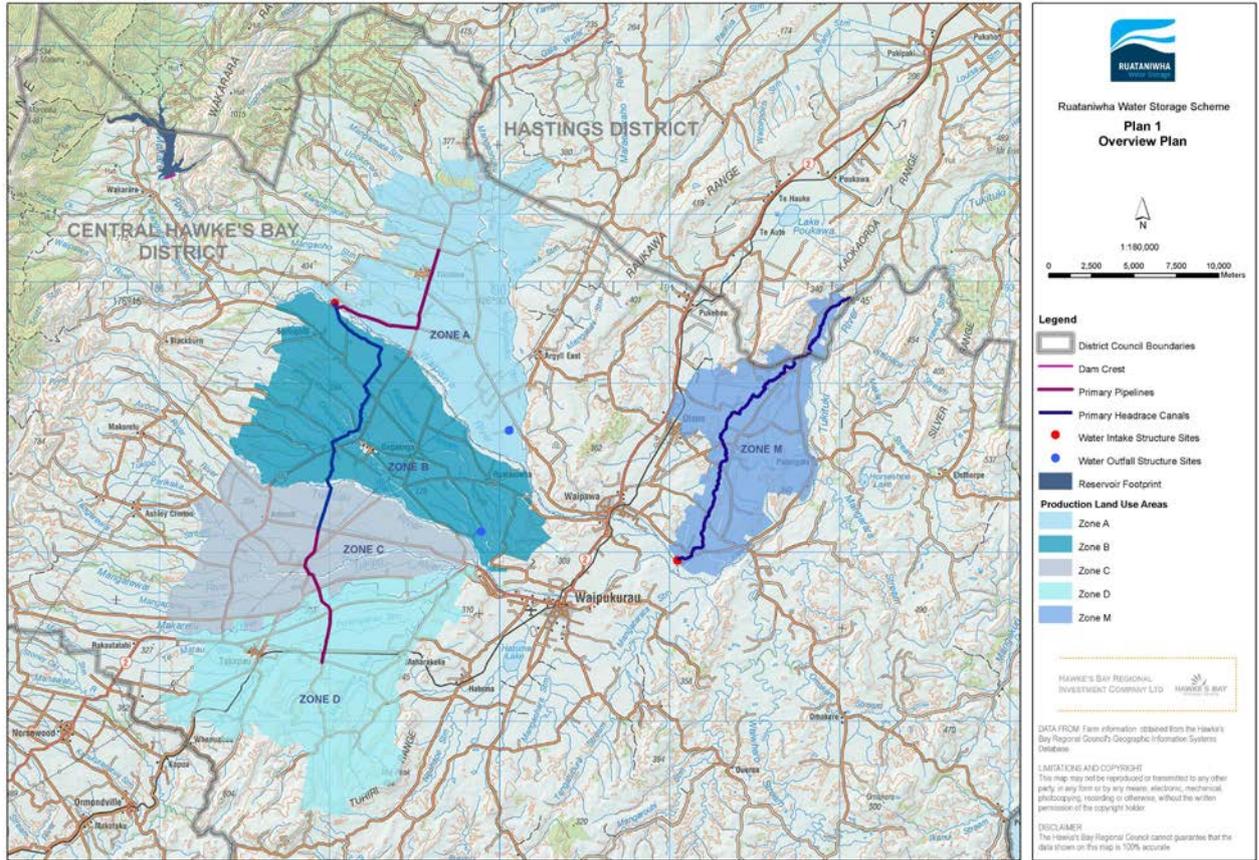
Phase 3 - validation and reporting

The tasks for the validation and reporting phase included:

- Presentation of the results of the social assessment to the Stakeholders Group for feedback.
- Discussion of draft mitigation proposals with the councils and key stakeholders as appropriate.
- Circulation of the draft report to the council and stakeholders for feedback.
- Completion of the final report.

4 Note the most recent census was in 2006 with no census undertaken in 2011.

Figure 1



2 Description of the social environment

This section of the social assessment report provides a description of the social environment, focusing primarily on Central Hawke's Bay District and the main settlements of Waipukurau, Waipawa and Takapau. In addition to these main settlements reference is made to the two census area units of Tikokino and Elsthorpe-Flemington. The Tikokino area unit covers much of the plains (not just the locality of that name) and therefore approximates scheme production areas A-D. Scheme area M is in the Elsthorpe-Flemington area unit.

Selected aspects of the economy, population and employment are provided in this section. Additional information is provided in the Appendix.

2.1 The Central Hawke's Bay District

Central Hawke's Bay District is located on the eastern coast of the North Island. It has an area of 3,200 square kilometres, and a temperate climate with moderate rainfall that averages 900mm per year. Rain falls primarily in the western ranges and there are three main rivers flowing east - the Tukituki, Waipawa and Porangahau. River flats and rolling country comprise much of the district, with the rugged Ruahine Ranges to the west and more rolling country to the east. Waipukurau and Waipawa are the main towns in Central Hawke's Bay, and there are a number of smaller townships including Otane, Takapau, Porangahau, Tikokino and Ongaonga.⁵

State Highways 2 and 50 connect the district southwards to Palmerston North and the Wairarapa, and northwards to Hastings and Napier. The closest cities to Waipukurau are Hastings (50 kilometres), Napier with its port and airport 70 to 75 kilometres away, and Palmerston North (108 kilometres). The main railway from Wellington, via Palmerston North, to Napier runs through Central Hawke's Bay, and there is a station at Waipukurau – although passenger services have ceased.⁶

Respondents⁷ noted the need for improvements in telecommunications, which are important to business activity today. The census (2006) found 53.1 percent of households in Central Hawke's Bay District had access to the Internet, compared with 60.5 percent of households throughout New Zealand. Only 66.4 percent of households had access to a cellphone, compared with 74.2 percent of households for New Zealand as a whole.⁸ Respondents commented that cellphone coverage in the area is variable.

5 Bell, F. (2010). CHB Solutions Project: Community Report.

Waiapu Anglican Social Services Trust Board and Te Whatuiapiti Trust, Napier.

6 Central Hawke's Bay District Council. <http://www.chbdc.govt.nz/wards/>
<http://www.chbdc.govt.nz/chbdc-elections/> downloaded 15 February 2012

7 In this report "respondents" refers to people interviewed as part of the assessment.

<http://www.stats.govt.nz/Census/2006CensusHomePage/QuickStats/AboutAPlace/SnapShot.aspx?type=ta&ParentID=1000006&tab=Phones,netfax&id=2000032>

The district is administered by the Central Hawke's Bay District Council which has its main office at Waipawa and a service centre at Waipukurau. It consists of two wards – Ruataniwha (urban) and Ruahine/Aramoana (rural) – both of which have four councillors. The mayor is elected by constituents of the whole district.

The economy of the district relies on primary production and its associated processing and support industries. Agriculture activities, such as sheep and beef farming, maize, grain cropping, dairy farming, and horticultural products such as pipfruit, vegetables and wine, contribute to the economic well-being of the district.⁹ A plant operated by Silver Fern Farms at Takapau processes lamb and mutton for national consumption and export, while Ovation New Zealand Ltd closed its meat processing (boning) operation at Waipukurau in June 2011. This 26-year-old boning plant was the second largest employer in the town and the Mayor described the closure as "another kick in the guts for rural New Zealand". The plant had 304 staff with \$7.5 million to \$10m paid in wages.¹⁰ Several respondents for this assessment commented on the negative effect of this plant closure on the employment and economy of the district, noting flow-on effects into retail and other businesses and the loss of skilled workers, although it was indicated some skilled workers were able to find new jobs.

Dairying¹¹ is a relatively small part of the agricultural economy, providing 180 on-farm jobs, or 3 per cent of district employment, and \$49.1 million value of production into the district economy in 2009.¹² Historically the district had a small amount of dairying on higher rainfall areas. More recently, statistics collected by the Livestock Improvement Corporation indicate significant growth in both herd size and the area of land devoted to dairy production in the district over the last eight years, as discussed in more detail below in section 3.1.

Statistics NZ data from 2007 shows the other farm types in the district were 351 sheep-beef cattle, 171 beef cattle, and 165 sheep units, while the area committed to arable production included 1,040 hectares of barley, 655 hectares of wheat, 112 hectares of herbage seeds and 57 hectares of vegetable seeds. There were also 12 apple and pear orchards, 9 vineyards, and 9 vegetable producers among the relatively small number of horticultural operations.¹³ There are also vineyards in Central Hawke's Bay District, located at altitudes up to 300 metres on

9 Central Hawke's Bay District Council nd: 8

10 Fairfax NZ News 29 June 2011.

11 The Agricultural Survey of 30 June 2007 recorded 33,536 dairy cattle, 157,794 beef cattle, 1,495,088 sheep, 38,373 deer, 4,420 pigs, and 2,326 goats on farms in Central Hawke's Bay.

12 Schilling et al. 2010: 36, 38

13 Statistics New Zealand (2007). http://www.stats.govt.nz/browse_for_stats/industry_sectors/agriculture-horticulture-forestry/2007-agricultural-census-tables Downloaded 4 November 2011

gravelly stony plains, argillite hills and plains, and limestone hills.¹⁴ Ministry of Agriculture and Forestry¹⁵ estimate the area of planted forest in Central Hawke's Bay is 15,105 hectares, and comprises 12 per cent of the area allocated to this type of land use in the region. There is also a substantial conservation estate, largely on the Ruahine ranges, and these areas provide for a range of outdoor recreation activities.

2.2 Regional Economy

The economy of Hawke's Bay is based on the natural resources that enable the production of primary products and the provision of services. Traditional pastoral production of sheep and beef, the wine industry, fruit and vegetable production, forestry and tourism are major contributors to the region's income and employment. These sectors currently provide the best opportunities for economic growth in the region's districts such as Central Hawke's Bay.

The wine industry in Hawke's Bay, with a total value production of \$106 million in 2008, contributes about two per cent to the region's GDP. It directly provides 840 full-time equivalent jobs and supports a further 760 jobs by indirect and induced effects.¹⁶ A vineyard survey conducted by Black Box Spatial reports that the Hawke's Bay region had 79 wineries, 171 grape growers, and 4,921 hectares under cultivation by the wine industry in 2009. The number of wineries had risen from 44 in 2000, while the number of grape growers had grown from 136 in 2003.¹⁷ The planted area for grape and wine production in Hawke's Bay increased from 2,443 hectares in 2000 to 4,947 hectares in 2010, while production volumes grew from 23,886 to 38,869 tonnes over the same period.¹⁸

Hawke's Bay is also a major producer of other fruit and vegetables. In 2007 the region had 5,206 hectares planted in apples (top producer region in New Zealand), 895 hectares of summer fruit (second producer region), 3,117 hectares of squash, 2,411 hectares of sweet corn, and 1,062 hectares of peas and beans.¹⁹ The area of forest in Hawke's Bay in April 2010 was 127,382 hectares or about seven per cent of the total area of planted forests in New Zealand.²⁰

Tourism is another significant contributor to the economy of Hawke's Bay. Visitor nights for the region were 3,658,002 in 2009; an increase of 3.7 per cent (cf. 5.1% for New Zealand) from

14 Hawke's Bay Winegrowers Inc. (nd). Hawke's Bay: New Zealand's Premium Red Wine Region. Hawke's Bay Winegrowers Incorporated. Downloaded from <http://www.winehawke'sbay.co.nz/docs/HBWG%20Email%20version%20of%20Interactive.pdf> 25 October 2011.

15 Ministry of Agriculture and Forestry National Exotic Forest Description as at 1 April 2010. Downloaded from <http://www.maf.govt.nz/news-resources/statistics-forecasting/statistical-publications/national-exotic-forest-description-2010-release> 27 October 2011, pages 25-26.

16 Ballingal and Schilling 2009: 18

17 New Zealand Winegrowers 2010: 3, 16

18 Martech Consulting Group, nd: 8

19 Martech Consulting Group, nd: 26

20 Ministry of Agriculture and Forestry 2011: 25

3,527,628 in 2004. The Forecast of Regional Tourism indicated that over the same period tourism expenditure in the region grew from \$337 million to \$381 million. However, more recent statistics indicate that the number of guest nights (982,923) for all types of tourism accommodation in the region declined by 4.5 per cent for the year ended 31 August 2011.²¹

The working age population of the region was 161,000 in the year to September 2011. The participation rate in the labour force was 67 per cent (cf. 68% for New Zealand), and 7.4 per cent (cf. 6.6% for New Zealand) of people in the regional labour force were unemployed. The number of unemployed people in the region was estimated at 7,900 for the year to September 2011, and 3,621 of them received unemployment benefits from Work and Income.²²

2.3 Population

Population change

The usually resident population of Central Hawke's Bay District largely remained static between 1996 and 2006 and is estimated to have grown just three per cent in the next six years, while New Zealand grew by 11 per cent (Table 2.1). Two rural areas in the district experienced population decline in the 1996- 2006 period- Takapau (-11%), Elsthorpe-Flemington (-3%) and one experienced growth - Tikokino (+3%). Elsthorpe-Flemington is estimated to have grown by 7.2 per cent since 2006.

Statistics New Zealand project that the population of Central Hawke's Bay will decline by 700 persons (5%) to 12,500 by 2031 under a medium variant. By comparison it is expected that the population of the Hawke's Bay region (using the same variant) will increase by 4 per cent and the national population by 23 per cent (see the appendix Table A15 for the low and high variants of these population projections).

21 Commercial Accommodation Monitor, 2011

22 Department of Labour 2011a

Table 2.1: Changes in Usually Resident Populations of Central Hawke's Bay District 1996-2006

Area	1996	2001	2006	% change over 10 years	2012 estimate	Estimated % change over 6 years
Otane	513	543	516	0.6	560	8.5
Waipawa	1,917	1,827	1,926	0.1	2040	5.9
Waipukurau	4,002	3,909	4,008	0.1	4,070	1.5
Takapau	579	582	513	-11.4	490	-2.5
Tikokino*	2,637	2,715	2,715	3.0	2,710	-0.2
Esthorpe-Flemington	3,126	2,949	3,039	-2.8	3,260	7.2
CHB District	13,038	12,828	12,957	-0.6	13,350	3.0
HB Region	141,788	142,950	147,783	3.5	155,000	4.9

*Note: Here Tikokino refers to the census area unit that covers the plains and takes its name from the small settlement and locality of Tikokino to the north. No census was held in 2011 and the 2012 figures are estimates by Statistics NZ.

Population by age and sex

The two towns of Waipukurau (19%) and Waipawa (15%) had higher proportions of people aged 65 years and over among their residents in 2006, well over the proportions for New Zealand and the district, while Otane (7%), Tikokino (8%) and Elsthorpe-Flemington (10%) had lower proportions of older residents (Table 2.2). Importantly, the district population has shown a long-term trend from 1981 to 2006 with a “hollowing out” of population aged 15-24 years due to net migration.²³

Waipukurau, Takapau, Tikokino and Elsthorpe-Flemington had gender imbalances in their populations. The two towns had a surplus of females whereas the two rural districts had an excess of males. Waipukurau had the highest dependency ratio of the six areas because of the strong presence of seniors (19%) in its usually resident population, influenced by the facilities available for retired people in the town.

23 Pomeroy, Ann and James Newell (2011) page 46.

Table 2.2: Age structure of the populations of Central Hawke's Bay District - 2006

Area	0-14 years % of population	65 years & over % of population	Dependency ratio	Sex ratio M/F
Otane	23.3	7.0	0.43	1.04
Waipawa	22.3	15.1	0.60	0.94
Waipukurau	21.1	19.3	0.67	0.89
Takapau	23.4	12.9	0.57	0.87
Tikokino	24.4	8.1	0.48	1.18
Elsethorpe-Flemington	22.9	9.9	0.49	1.10
Central Hawke's Bay District	22.5	13.3	0.56	1.01
Hawke's Bay Region	23.0	13.9	0.58	0.94
New Zealand	21.5	12.3	0.51	0.95

Source: Statistics New Zealand

Ethnic composition

The District has two main population groups: Maori and European (Table 2.3). Maori live mainly in the towns, and comprised about a third of the responses on ethnic identity from residents of the towns of Takapau and Otane, but only 12 per cent of responses from residents of the two rural areas of Tikokino and Elsthorpe-Flemington. The sum of responses from Pacific Island and Asian peoples was less than three per cent of the district total. The youth population of Central Hawke's Bay is more ethnically diverse than the total population²⁴ as one third of 12-24 year old residents identified as Maori in 2006, and 3-4 per cent as Pacific peoples. In 2010 the ethnic composition of students at all of the schools of the district were 60 per cent European/Pakeha, 36 per cent Maori, 2 per cent Pacific Peoples, 1 per cent Asian and 1 per cent other ethnicities.

24 Data from the Community Response Forum 2011, pages 9 and 37.

Table 2.3: Ethnic composition of the populations of Central Hawke's Bay District- 2006

Area	European % of responses	Maori % of responses
Otane	58.2	31.4
Waipawa	65.1	21.1
Waipukurau	64.5	22.2
Takapau	53.0	35.0
Tikokino	72.1	12.4
Elsthorpe-Flemington	72.6	11.9
Central Hawke's Bay District	66.8	19.1
Hawke's Bay Region	61.6	21.1
New Zealand	61.2	13.3

Source: Statistics New Zealand

Ngati Kahungunu was the most prevalent iwi affiliation among Maori of the Central Hawke's Bay District in 2006, followed by Ngati Porou, Ngapuhi, Ngati Tuwharetoa, Tuhoe and Kai Tahu.

Period of residence of the population

Period of residence (Table 2.4) is a useful indicator of the attachment of people to a particular place and the population turnover that occurs within a geographical locality. The district tends to be a mix of newcomers and old timers. A high proportion of Waipawa's residents (55%) in 2006 had lived in the town for less than five years (c.f. 50% for Central Hawke's Bay), while Takapau and Waipukurau were around the regional figure. Relatively more residents of Takapau (22%) and Elsthorpe-Flemington (21%) had lived in the area for fifteen or more years (cf. 19% for the district).

Table 2.4: Period of residence of the populations of Central Hawke's Bay District- 2006

Area	Less than five years % of residents	Fifteen or more years % of residents
Otane	51.4	19.1
Waipawa	55.2	16.6
Waipukurau	51.8	18.1
Takapau	51.4	22.3
Tikokino	52.8	18.3
Elsthorpe-Flemington	44.2	21.3
Central Hawke's Bay District	50.4	19
Hawke's Bay Region	51	16.4
New Zealand	53.9	14.5

Source: Statistics New Zealand

2.4 Employment

Labour force and employment status

In considering the labour force of the district there is an evident difference between the rural areas and the towns. Three-fifths of the residents of the rural Tikokino and Elsthorpe-Flemington areas were employed full-time whereas just under half of people living in the towns of Otane, Waipawa and Waipukurau were employed on this basis (see Appendix Table A1). Allowing for the fact that people will move between areas for their jobs, it is important to observe that rural employment tends to offer a higher level of full-time work whereas the towns tend to offer more part-time work.

Similarly, in considering employment status, about fourth-fifths of the residents of Otane, Waipawa, Waipukurau and Takapau in the labour force were paid employees. Employers and self-employed persons consist of much higher proportions of the Tikokino and Elsthorpe-Flemington labour forces when compared with the workforces of the four towns (see Appendix Table A2).

Employment by sector and location

Over half of residents of the rural areas of Tikokino and Elsthorpe-Flemington were employed in the primary sector of the economy. In comparison, much higher proportions of residents of Otane, Waipawa, Waipukurau and Takapau were employed outside the primary sector when compared with residents of the district (see Appendix Table A3), reflecting the service function of these towns.

Eighty-six per cent of residents of Central Hawke's Bay in 2006 who provided a workplace address were employed within the district (4,965), 519 in Hastings District, 120 in Napier District, and 42 in Wairoa District.²⁵ Several respondents commented on the increasing importance of employment outside the district for those able and prepared to commute. Respondents also commented on a trend towards people commuting into the district to work.

Occupational status

The four towns had relatively fewer residents with higher status occupations (manager & professional) than the rural areas of Tikokino and Elsthorpe-Flemington. The towns also had relatively more residents who were machinery operators, drivers and labourers. A significant factor explaining the difference in the proportions of high status occupations between the towns and rural areas is that farmers were mainly categorised as "managers" by Statistics New Zealand for the 2006 census (see Appendix Table A4).

Youth from Central Hawke's Bay were more likely to participate in the labour force than their national counterparts; nevertheless, there is a significant group of unemployed youth as discussed below in section 2.8. The most common occupation for people between 15 and 24 years was labouring. The second and third common occupations for the 15-19 year age group were sales and technical and trades work, whereas for the 20-24 age group they were technical and trades work and managers. Agriculture, forestry and fishing was the main industry employing young people in both of these age groups.²⁶

Educational qualifications

Relatively fewer residents of the towns of Otane, Waipawa, Wapukurau and Takapau held tertiary educational qualifications (23-27%) compared with residents of the district (29%). Only a quarter of residents of the rural areas of Tikokino and Elsthorpe-Flemington had no educational qualifications (cf. 30% for Central Hawke's Bay) in 2006, and a third held a tertiary qualification (see Appendix Table A.5).

25 Community Response Model Forum (2011). Central Hawke's Bay Community Profile, April 2011 <http://www.communityresponse.org.nz/documents/my-community/crm-forums/chb-community-profile-20.04.2011.pdf> Downloaded 3 February 2012

26 Community Response Model Forum Community Profile (2011), page 17.

2.5 Incomes and social-economic status

Incomes for households in the Tikokino and Elsthorpe-Flemington (rural) areas were relatively higher than those received by households in the four towns. Households in these towns received lower incomes than was typical for the district, region and nation, and thus were relatively deprived by those standards (Table 2.5). According to the NZDep2006 index of deprivation²⁷ the area units of Waipukurau, Waipawa, Takapau and Otane had an average score of 8, while those of Tikokino averaged 4 and Elsthorpe-Flemington 3. Within these area units there are also particular localities that had high levels of deprivation.²⁸ Parts of Otane, Waipukurau and Waipawa, for example, recorded average scores of 9 and 10 indicating there are pockets of poverty in the district.

Residents of Otane, Waipawa, Waipukurau and Takapau had a higher dependence on income received from government than the two rural areas in 2006 (see Appendix A7). This high level of dependence was most pronounced for Waipawa and Waipukurau as these two towns had the highest proportions of residents aged 65 years and over. Residents of Tikokino and Elsthorpe-Flemington were less dependent on income from government as their residents were relatively younger and their rural households earned higher incomes.

Statistics from the Ministry of Social Development show that at 28 February 2011 there were 1,810 residents aged 65 years and over in Central Hawke's Bay receiving NZ superannuation (an increase of 60 from two years earlier), and 970 residents between 20-64 years some form of income support (an increase of 180 from two years earlier). Almost 60 teenagers resident in Central Hawke's Bay were receiving income support; mainly in the form of an unemployment benefit.²⁹

Access to a motor vehicle is an aspect of social deprivation, one that has an important influence on access to work and training. Data from the 2006 census (Table A8 in the Appendix) indicates households in the rural areas of Tikokino and Elsthorpe-Flemington had better access to motor vehicles than those located in the four towns. Waipukurau's households had the least access to motor vehicles, with 10 per cent of them having no motor vehicles, while 11 per cent reported three or more. This low level of access by Waipukurau's households to motor vehicles reflects the older age structure of its population and the relatively high dependence of its residents on income derived from government sources. The relative social economic status of the population is discussed further in Section 2.9.

27 Community Response Forum Community Profile (2011), page 24.

28 Bell, F. (2010). CHB Solutions Project: Community Report. Waiapu Anglican Social Services Trust Board and Te Whatuiapiti Trust, Napier, page 24.

29 Community Response Forum 2011: pages 19 and 31

Table 2.5: *Distribution of household incomes of Central Hawke's Bay District - 2006*

Area	\$20,000 & under % of households	\$50,001 & over % of households
Otane	19	30.2
Waipawa	18.6	29.6
Waipukurau	17.5	32.6
Takapau	14.3	25.4
Tikokino	7.3	46.4
Elsthorpe-Flemington	8.8	46.5
Central Hawke's Bay District	13.8	37.3
Hawke's Bay Region	15.6	37.1
New Zealand	13.8	42.9

Source: Statistics New Zealand

2.6 Housing and accommodation

Otane, Waipawa, Takapau, and Elsthorpe-Flemington had relatively high levels of home ownership in 2006 compared to the district. The rural area of Tikokino and the town of Waipukurau, by contrast, had a lower level of home ownership (see Table A9 in the appendix).

Rental housing available in Central Hawke's Bay ranges from one bedroom flats at median rentals of \$130 per week to four bedroom houses at \$230 per week for the six months ended October 2011 (see Table A10). Sales of dwellings and sections in the district for the year ended October 2011 were only a small proportion of real estate transactions for the Hawke's Bay region (see Tables A11-A13). Monthly sales of dwellings in both the Waipawa and Waipukurau areas were almost entirely in single figures, so it is difficult to determine a trend in property values over this period. By contrast the situation for the region as a whole, as Table A8 illustrates, is that median sale prices for dwellings declined by about 3.5 per cent from \$269,000 to \$259,500. The picture is less clear for section sales (n=106) in the region, however, as there were large fluctuations in the monthly median sale price (i.e. a low of \$75,000 to a high of \$290,000). Section sales in the Waipawa (n=5) and Waipukurau (n=4))

areas were few in number, and varied between \$31,000 and \$220,000 each. This wide range was reinforced by comments from respondents during interviews, including real estate agents.

Hospitality sector

Visitor accommodation includes hotels and motels, bed and breakfast and motor camps. Generally these are small businesses, for instance the three motels in Waipukurau have 35 units between them. There are also holiday rental houses and bed and breakfasts in the district. In a regional context of an expanding tourism sector the district is relatively undeveloped. A person involved in sport commented that there is a lack of suitable accommodation for attracting sports events to the district.

There is, however, considerable experience with temporary accommodation in the district with large horticultural employers such as Mr Apple using temporary facilities such as caravans and portacoms to house seasonal workers.

There is also some hostel and educational accommodation potentially available, including possible capacity at Smedley farm and at an outdoor education facility (bunk room type) called Camp Wakarara, both relatively close to the dam site.

2.7 Social services

Schools

The district has primary schools, two high schools, child care centres, playcentres and other early childhood education including kohanga reo. There are also training providers as discussed below under youth development. Some children leave the district for secondary school.

The number of pupils enrolled at schools in Central Hawke's Bay declined 18 per cent from 2,549 to 2,088 between 2002 and 2011. Only five schools in the district recorded an increase in their rolls over this 10 year period (see appendix Table A14 for a complete list of the schools). Some children in the main towns bus to rural schools.

Noticeably, in relation to the proposed irrigation zones, Tikokino and Otane schools have had significant falls in their rolls whereas Ongaonga school has been growing.

Typical of rural areas, the small schools are an important community focus, providing opportunities to meet informally as well as take part in shared activities. As one respondent commented, "The locals are friendly". They also noted an expectation, happily met, that everyone in the community will join in if the school is doing fund raising.

Table 2.6 *Central Hawke’s Bay school rolls – selected schools and years*

Name	2002	2005	2008	2011	change in roll 2002-2011
Central Hawke’s Bay College	620	678	615	606	-14
Ongaonga School	105	101	130	125	20
Otane School	89	54	58	54	-35
Takapau School	148	120	106	121	-27
The Terrace School (Waipukurau)	210	188	201	204	-6
Tikokino School	78	63	58	48	-30
Waipawa School	153	155	151	129	-24
Waipukurau School	286	270	235	197	-89
St Joseph’s School (Waipukurau)	102	130	143	113	11

Note: a full Table of Central Hawke’s Bay Schools and rolls is available in Appendix A14.

Other services

Social services in the district include government, church based, Maori based, and non-government organisations.³⁰ Primary health care services are provided by general practices based in Waipawa and Waipukurau, including doctors and practice nurses. The nearest hospital for residents of the district is Hawke’s Bay Hospital in Hastings. There are also physiotherapy, dentistry, podiatry and counselling services available.

Recreation facilities focus around the integrated AW Parsons complex comprising an indoor swimming pool and stadium in Waipukurau and there is an outdoor pool in Waipawa. The district has a number of other sports grounds and facilities available for a range of sports,³¹ which include road cycling, golf and horse riding. Sports Hawke’s Bay has an office and programmes that are run out of the sports complex. A number of people commented on the

30 As listed in the Central Hawke’s Bay Community Directory.

31 <http://www.chbdc.govt.nz/recreation-in-central-hawke-s-bay/>

excellent opportunities for outdoor recreation in the Ruahine Ranges, and the rivers and beaches of the District, including opportunities for hunting and fishing.³²

The Council adopted a Positive Ageing Strategy in October 2011 and this is one of the focus areas for the district community worker.³³ Services for the elderly include two rest homes in Waipukurau. There is talk of a private retirement village in Waipawa. There are 24 council retirement houses in Waipukurau and Waipawa.³⁴ Waiapu Anglican Social services, Careforce and Presbyterian Social Services operate various services covering daycare for elderly, home help and support as well as activity programmes in the small towns. Red Cross organise transport to the regional hospital for clients with no means of transport and Meals on Wheels. Age Concern assists with information, activities and prevention of elder abuse. Reports on the social needs of the district suggest future issues with finding carers for the elderly in their own homes.

There is a large number of community-based organisations and groups in the district providing a range of services and activities. These include support for the elderly through to recreation; including arts and culture.

Volunteering is vital for a cohesive rural community and is still an important part of life in the district, but the ageing population and formal work arrangements of parents mean fewer volunteers are available.

2.8 Social development

Social development is an important adjunct to economic development if objectives of enhanced social well being are to be achieved through a range of community outcomes. Social outcomes for the district were developed by the CHBD for the Long term Plan 2009-19.³⁵ In brief these are:

- A lifetime of good health and wellbeing
- An environment that is appreciated, protected and sustained for future generations
- Safe and secure communities
- A strong, prosperous and thriving economy
- Strong regional leadership and a sense of belonging
- Supportive, caring and inclusive communities
- Communities that value and promote their unique culture and heritage

32 See also the Recreation Report Opus (May 2013)

33 (<http://www.chbdc.govt.nz/positive-ageing-strategy/>)

34 (<http://www.chbdc.govt.nz/retirement-housing/>)

35 (http://www.chbdc.govt.nz/assets/documents/Plans_and_Policies/LTCCP/2009-2019-Final/CommunityOutcomes.pdf, downloaded 14 February 2012)

- Safe and accessible recreational facilities to enhance healthy lifestyles by promoting physical exercise.

To help the district in social development and achieve the desired outcomes a number of strategies are in place. These strategies are important for the capacity of the district to absorb social change as a result of the proposed scheme.

The Central Hawke's Bay Positive Ageing Strategy³⁶ has been developed by the District Council in recognition of the increase in number of elderly in the district, "to ensure a coordinated, proactive planning, facilitation, advocacy and support is delivered by Council, working alongside other agencies and groups in the community".

Safer Communities covers all age groups for activities including traffic, alcohol, drugs, swimming, interpersonal relationships and neighbourhood support groups.³⁷

The Central Hawke's Bay Solutions Project Community Report by Fiona Bell was published in September 2010.³⁸ Project partners were Anglican Care Waipapu, Te Whatuiapiti Trust and the District Council. The findings of this report included lack of transport as a barrier to access of health and social services. People are well informed about health services but not so much about social service; low numbers of GPs mean access can be difficult; services are in some cases limited by specialisation; the ageing population will increase the need for services to the elderly; some groups such as new migrants, low income earners and or those with limited access to private transport face greater barriers accessing services. A directory of services was suggested and is available from the council offices in Waipawa. Furthermore, the District Council has recently appointed a community worker for three years, with central government funding, to help coordinate group activity.

Community Response Forums³⁹ are a recent government initiative to look at priorities across government agencies, profile a district statistically then talk with communities and stakeholders to identify and prioritise social services. The first result card from consultation in the district is a draft⁴⁰ due for publication in June 2012. This programme is working towards "the people of CHB to be thriving and belong to communities that are connected". It reports positives in social development as effective home based early childhood education and parenting support, family centred collaborative models in practice, rural and church networks

36 http://www.chbdc.govt.nz/assets/documents/Plans_and_Policies/Policies/PositiveAgeingStrategyAdoptedOctober2011.pdf, downloaded 14 February 2012

37 www.safecommunities.org.nz/sc/CHB/2012-01-07.../download

38 CHB Solutions Project: Community Report. Waipapu Anglican Social Services Trust Board and Te Whatuiapiti Trust, Napier.

39 <http://www.communityresponse.org.nz/my-community/community-response-model/community-response-forums/Hawke's-bay-east-coast-forum.html>

40 Hawke's Bay – East Coast Community Response Forum (CRM), Central Hawke's Bay Result Card, page 9.

in place, mobile health services, creative arts and kapa haka, youth participation in local government and community projects, food in schools and a health shuttle. Concerns were that the gap between rich and poor was growing; poor communities could be isolated and have complex issues; older people can be disconnected from family and support services; a need for alternative education; youth transition services; parenting education and support; prevention programmes for family violence; no women's refuge in the area; issues with financial abuse affecting elderly in particular; high cost and accessibility of GPs; mental health and counselling services and difficulty finding home help and carers for older people.⁴¹

The Forum noted a need for well-co-ordinated, integrated information and service provision by work models and workers who are culturally sensitive and streamlined, with integrated funding over a longer term focusing on results and meaningful reporting. The Forum reinforces conclusions of various reports about social services, that although services are generally adequate there is a risk of some problems "falling through the cracks". This risk arises because access to services may be limited by funding, a restricted choice of provider or frequency of an agency's visit to the main town centre. However, people working in social services have strong relationships and informal networks with other service providers in the area, and know how to co ordinate their efforts to deliver services in the best way they can. Besides these existing informal networks, enhanced interagency communication is an important goal.

Youth development and training

The District Council has a commitment to youth issues in planning and policy so they can be safe and contribute positively to the district. The various reports considered above, and interviews for this assessment, mentioned a number of issues from youth in the district. These issues included drinking alcohol and using cannabis, violence, crime, the negative influence of gangs, and access to training and work. These issues are counterbalanced by the efforts of groups and individuals to foster youth development and support families and whanau.

In May 2011 a report 'Central Hawke's Bay Connecting for Youth Development' was published.⁴² It noted that there was consistency between issues identified by the community and other data they collected. The report covered what youth services were available, identified gaps, and presented information for consultation with secondary schools and target groups (Maori and rural areas). With a variety of youth services available in the District, the main issues were access to services, support for families and system integration and funding.

41 <http://www.communityresponse.org.nz/documents/my-community/crm-forums/>

crm-six-monthly-progress-reports/hawkes-bay-east-coast-report-sept-2011.pdf downloaded 22 February 2012

42 The Central Hawke's Bay Connection Youth Development is a local service mapping document for the CHB District Council published in May 2011. This reports the results of surveys of high school students and includes the notes from Mayoral Taskforce meetings in May 2009 and October 2009 as appendices.

Proposals investigated included a possible youth hub for services - a formalised structure of a Youth Governance Committee, new youth networks, activities and sources of advice.

Youth in the district have a slightly lower chance than the national average of still being at school at 16 years, leaving school with NCEA level 2 or above or gaining a basic degree or greater, and more likely to be in the labour force and manual work.⁴³ Unemployment was rising in 2011 with an increase in youth receiving some sort of benefit. District youth are likely to be employed as a labourer, and in the agriculture, forestry and fishing industries. Other typical occupation groups were retail and trades work.

At the Mayor's Taskforce forums⁴⁴ in 2009, youth noted positive aspects of the district to be free internet at the library, a sense of belonging and feeling safe, good adults, sport opportunities, and a youth friendly council. But some youth commented they felt pressured to leave school to get a job and not necessarily getting supported to find a career path. There was a need identified for stronger links for individuals between school, home and work and/or support for training beyond school, as well as moves between training institutions. Some parents were seen as not having the resources to assist with supporting youth in post school and early working or training life. It was suggested that if it was hard to get a job after they left school then some were given work on the land, often with family. In addition to training opportunities youth need affordable transport to take advantage of the training available.

Nationally, the horticulture and agriculture industry training organisations support training and apprenticeships. There are also a number of training organisations active either at a regional level or in the district. These include the Eastern Institute of Technology (EIT) in Napier, which has a small base in Waipukurau. The EIT includes course options in trades, hospitality, computer, business, science, agriculture and horticulture. Private providers such as Bay Agricultural Training and Recruitment offer training with strong support for motivation, and personal development and encouragement into the workforce. They have a training property near Waipukurau. Smedley Station and Cadet Training Farm⁴⁵ is 40 km from Waipukurau adjoining the site of the scheme's proposed reservoir. It is a trust-funded organisation that trains up to 11 cadets a year from around New Zealand over two years in a hands-on approach to learning. Local farmers and business people are closely involved with this organisation.

The Central Hawke's Bay College has Gateway and Star programmes, to provide students with workplace experiences in careers of interest to them. Some of these students have placements in agriculture and horticulture. Te Aute College⁴⁶ provides secondary schooling for boys

43 Central Hawke's Bay Connection Youth Development, pages 14-15.

44 Central Hawke's Bay Connection Youth Development, Appendix, Notes on Mayor's Taskforce forums.

45 www.smedley.ac.nz

46 <http://124.248.128.144/~teaute/index.php/home>

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including cultural, spiritual and sporting dimensions. The College has a farm where boys can get practical experience and a Gateway programme.

3 Assessment of effects

This section considers the social effects of the scheme in relation to the social environment described in Section 2. Consideration is given to a scenario of likely land use changes that will take place following irrigation. The social effects of this scenario are then presented. There is also discussion of construction effects and potential effects that would arise with any changes in surface water quality or quantity.

3.1 Scenario of land use change

Number of farms affected

The number of farms affected by the proposed Production Land Use Areas is provided in Table 3.1. It shows:

- 552 farms may be affected by these zones,
- 474 of the farms have an area of 10 hectares or more, and 78 farms have an area of 1-10 hectares

Table 3.1: Best estimate of number of farms that may be affected by current zones

Scheme zone	number of farms >10ha	number of small farms 1-10ha
Zone A	72	7
Zone B	112	16
Zone C	85	13
Zone D	136	13
Zone M	69	21
All zones	474	78

Source: Data provided by HBRC.

Land-use scenario

A basic scenario of land use in the Production Land Use Areas post irrigation was developed in the economics report by Butcher Partners (May 2013) based on the Review of Farm

Profitability by MacFarlane Rural Business.⁴⁷ Key land use changes anticipated with irrigation are.

- Dairying & its associated dairy support (9,500 hectares of irrigated land – more than double existing land use)
- Intensified horticultural operations (the area devoted to orchards and vineyards increasing from 400 to 3,000 hectares)
- Irrigated arable farming
- Some irrigated sheep and beef farming.

A land-use scenario post irrigation is provided in Table 3.2.

Table 3.2 Land-use scenario Post Irrigation

Farm type	Irrigated Ha	Percent of irrigation	Area total
Sheep & Beef extensive	3,150	13	18,850
Finishing and dairy support	1,800	7	1,800
Mixed & Arable	8,050	32	9,355
Arable			
Dairy	9,175	37	9,175
Orchards	1,130	5	1,130
Vineyards	1,695	7	1,695
Total	25,000	100	42,000

Source: Assessment of Economic Impacts by Butcher Partners (May 2013).

There are, importantly, a number of factors that will affect the uptake of irrigation and land-use changes and therefore the pace of economic and social change. These factors were confirmed in discussions for this assessment with farmers and other stakeholders:

- An increased ability to manage droughts and climate events
- Product prices, farm finances, debt and level of financial risk
- The availability of larger land packages
- Cost of the water
- Cost of on-farm mitigation and environmental management
- A fair plan for dealing with existing irrigators
- Farm and family life cycles and succession plans

⁴⁷ Ruataniwha Water Storage Project Review of Farm Profitability, MacFarlane Rural Business, September 2012.

- Availability of local packing and processing – particularly of perishable horticultural products.

The possible pace of change towards dairying is indicated to some extent by existing trends, allowing for the fact that availability of water is already a constraint to dairy production.

Dairy shed building consents indicate the pace and scope of farm conversions:

- Consents for 11 new dairy sheds were issued by the Central Hawke’s Bay District Council between 2004 and 2011
- Two consents for dairy sheds were issued during the 2005, 2006 and 2008 years, and one consent was issued in each of the other years during this period

Stock numbers for Central Hawke’s Bay show the district had 39 dairy herds, 26,818 cows, 9,127 total effective hectares, and an average herd size of 688 in 2009/10 (Livestock Improvement Corporation and DairyNZ 2010: 14), compared with 42 herds, 18,668 cows, 6,620 effective hectares, and 444 average herd size in 2001/02 (Livestock Improvement Corporation Ltd (2002: 14).

Another indicator of change in land use is provided by data on employment counts by industry sector for the Production Land Use areas between 2000 and 2010 (Table 3.3).

Table 3.3 Employment Counts by Industry for selected years

Year	Sheep, Beef & Cattle Farming	Apple and Pear Growing	Dairy cattle Farming	Services to Agriculture
2000	480	258	66	36
2003	541	95	143	57
2006	472	233	160	141
2010	380	634	173	145

Note: Area of counts is slightly larger than scheme production areas and includes the main towns, to allow for people commuting to work on farms.

3.2 Social changes subsequent to land use change

Irrigation transforms farming systems, and the people and communities who work in and support those systems. There is a solid base of New Zealand research⁴⁸ that provides an understanding of potential social effects from one case to another, allowing for the differences between places and also the processes of social change in rural New Zealand over time. The research shows there are typically community level changes associated with new land uses under irrigation, including farming systems and the nature of farm work, farm ownership, demographics and the dynamics of rural communities. Furthermore, while positive social benefits are often attributed to irrigation, it is evident that rural areas and communities need to be proactive in ensuring social benefits do eventuate, and in maximising these social benefits while managing any social issues that might arise.

The research shows successive ownership and land use changes occurring in waves after the introduction of irrigation. The fundamental social dynamic of these waves of irrigation development is the interlinked changes of farm ownership and land use. Ownership changes impact on the characteristics of farm families, demography and the social structure of the host community, its settlements and small service towns.

On the Waitaki Plains, for instance, in the 1970s and 1980s, many established, dry-land, sheep farming families sold their farms and were replaced by younger families. These new farmers modified traditional farming systems with the support of an accessible and regular water supply. They invested heavily in farm improvements, upgrading pasture for cropping and sheep and later for dairying, and building bigger and better homes and farm buildings. The Amuri area later replicated the Waitaki experience, with farms there changing ownership along with a substantial shift to dairying.

The potential waves of change are:

- Existing farmers look to improve “traditional” farming systems by growing additional feed or crops, but have concerns about debt levels, capital costs and new demands of working in irrigated farming systems.
- Some farmers retire and sell to new ones who invest further and often change the farming system substantially; other farmers change their farming systems, as part of the process of farm succession as another generation takes over. (Some of these farmers become part of the next group.) At this point farmers are looking towards land use change to make the most of their water. As one pointed out to this assessment

48 These cases range from the Lower Waitaki River in the 1970's to the Amuri plains in the 1980s to the more recent Opuha Dam in South Canterbury. The social research base includes information from public science funding (Foundation for Research Science and Technology), research by the Ministry of Agriculture and research commissioned by Central Plains Water (see reference list at the end of this report).

“Irrigation is expensive insurance.” The reality of scale of operation also becomes apparent to those on smaller blocks, who change of necessity or sell up to larger operators.

- Dairy farmers, sharemilkers and workers (and some horticulturalists) move in bringing new skills and experience, capital raising, and attitudes to risk and debt management. They bring new forms of farm ownership based on external capital and equity partnerships, possible subdivision, and new management and employment structures including sharemilkers and increased numbers of farm workers.

3.3 Effects of potential land-use changes

Employment change

These land use changes will have the effect of increasing the number of farmers, farm managers, farm workers and people working in farm contracting. The available New Zealand research shows that land use intensification in newly irrigated areas, such as a shift to dairy production as experienced in the Waitaki Plains and the Amuri area, will boost the numbers of farmers and farm workers. The land use scenario above also shows an increase in the area of orchards and that is likely to increase the number of orchard workers at various times of the year, especially for harvesting but also for pruning and thinning. The Assessment of Economic Impacts report by Butcher Partners (May 2013) estimates that the effect on on-farm employment could be in the order of an increase of 630 jobs, with 500 of those occurring in vineyards and orchards.

More intensive land uses and increased farm viability and on farm employment typically leads to an increase in employment off farm through employment in farm services and indirect and induced employment in other sectors (known as the multiplier effect). This change will take place in the small communities of the assessment area such as Ongaonga, Otane and Tikokino and particularly in the main towns of Waipukurau and Waipawa. The services affected will include veterinary, transport, building, engineering and farm supply services (which are all represented in the district). Regionally, transport firms, irrigation engineering and rural servicing and processing will also get more business from the changes in land use. The effect of an increase in employment and economic activity will be noticeable as it flows into towns that are already struggling. As one observer noted, “The area needs something. People are leaving town, businessmen failing and schools have falling rolls.”

If local businesses cannot undertake servicing of new demand then that demand most likely will be met outside the district at regional centres such as Napier-Hastings or even outside the region altogether. When farmers go outside a local service centre for services such as farm or

engineering supplies, or professional services, they typically drag other activity with them, particularly retail, as they undertake a number of functions on a trip to “town”.

The Assessment of Economic Impacts by Butcher Partners (May 2013) describes and quantifies these potential economic effects (direct and indirect) and estimates there will be an additional 530 jobs created off-farm, excluding any jobs associated with further processing of the output, giving a total potential increase of 1,160 jobs in the region.⁴⁹

Population change

The increase in on and off farm employment will combine with other demographic factors such as a reduced average age of farmers, with new families coming into the area. Some of the new farm workers are likely to live in the villages and also the main townships. Seasonal workers are likely to live in on-farm accommodation or “camps” as they do now. The effect of these changes will be a turnaround from negligible growth in population evident in the district over recent years. Any new or expanded processing operation, such as meat, milk or vegetable processing, is likely to have a positive effect on the centre where it is located. Current population projections to 2031 (Appendix table A15) are for significant decline of the district population in a “low” scenario and slow decline in the “medium” scenario. The population effects of the scheme (ie, from 630 new FTEs on farm and the district’s share of off-farm jobs plus associated population) have the potential to shift the district to a growth scenario (see Table A15).

In addition to changes in total population there is likely to be a change in the composition of the population, especially of the rural areas. This change will see some increase in the number of younger families and children, with consequent rises in school rolls, reversing a long-term trend. Increases in population on and off farm, ranging in type from young families to more professional people and migrant seasonal workers, will mean an increased demand for services such as schools, sport and recreation. There is physical capacity to absorb new comers into existing facilities such as schools and sport and recreation but there needs to be well-organised capacity to make the most of this benefit, as discussed above under social development (section 2.9).

Ethnicity and length of residence

An increase in the number of workers, short-term, seasonal and longer term will very likely mean an increase in the number of new comers working in the district. The dairy industry typically involves a change in staff (share milkers, farm managers and farm workers) at the beginning of June on “gypsy” day. Furthermore, the months after Gypsy day are typically

49 The Economic report provides an analysis of the distribution of economic impacts across sectors.

high for dairy farm worker turnover as difficulties arise for new workers.⁵⁰ This will have the effect of more people being resident in the district, or a locality within it, for five years or less.

Over time the increased number of jobs available will also lead to an increase in the numbers of ethnic groups represented and the size of these groups. Seasonal orchard work typically involves visitors from the Pacific Islands, such as Vanuatu and Tonga. Dairy farming often attracts Filipino workers along with those from many other countries. These demographic changes will be set against the limited ethnic diversity of the district outside Maori and European, as described above (Section 2.3).

Increases in the numbers of newcomers and an increase in ethnic diversity could potentially lead to an increase in community participation and vitality such as participation in school activities and some cultural groups. It is also likely to mean an increase in demand for social services and support, including recreation and sport to offset any needs arising from social isolation of newcomers. There will be a larger pool of members/volunteers but the effect will be limited unless there is a concerted effort to encourage newcomers to participate in local organisations and clubs and adapt to new work schedules.⁵¹ As noted above, there is a wide range of recreational clubs and organisations and it was suggested to the researchers that joining a club or participating in school parent groups was an effective way for new comers to build networks in the community: “That’s how they meet people”. In other districts, research shows that established farming families provide essential social stability during periods of social change.

These changes will create a demand for programmes that integrate new settlers into the community and meet their particular needs, including information about the community and ways of assisting cross cultural communication, access to services, and support around working conditions and visa requirements. There is considerable experience making migrant workers comfortable in the district but to date the approach has been to leave this process to employers such as large orchardists, who develop their own programmes of social support. A much more dispersed pattern of migrant workers associated with land uses such as dairying will require a more integrated approach.⁵²

50 http://www.ruralemploymentrelations.org.nz/Documents/Rural_Employment_Relations/%27Essential%27_workers_on_NZ_dairy_farms_LEW14.pdf

51 Often, however, newcomers put their effort into new activities such as multicultural cultural events.

52 An example is Southland Settlement Support

<http://www.southlandnz.com/LiveinSouthland/MovetoSouthland/SettlementSupport.aspx>

Ashburton District has initiated a social needs assessment by Wylie (2009).

Health and safety

The new reservoir and other headworks such as open canals, and on-farm waste-water treatment raise the issue of water safety. Rural people are very aware of the dangers that on and off-farm waterways, water races, ditches, ponds, and troughs present to children in particular. Awareness of such dangers has been increasingly promoted in rural areas and this should be extended to new comers such as migrant workers and their families through appropriate education. Fencing of open channels and signs warning the public of dangers associated with the headrace and reservoir would need to be considered.

Availability of irrigation will reduce the high stress on farmers, farm families and farm service providers that arises in periods of successive droughts. It was apparent through interviews for this assessment that famers and farming communities in the district have had to adapt in many ways to the vagaries of their climate. Land use change can add new stresses associated with tight financial positions and also the demands of environmental management. Any change is inherently stressful, so an openness to change will help to reduce potential levels of stress from introducing new farming systems and debt from irrigation, and change as some farmers sell out.

Higher volumes of road traffic generated by the increased number of movements of workers and heavy vehicles such as milk tankers and fruit transport could decrease safety on roads raising the risk of accidents on local roads. However, heavy vehicles tend not to be the cause of accidents in which they are involved.

Also, there will be potential for increased use of heavy machinery on farms with the intensification of land use. Long hours in dairy farming has been found to lead to tiredness, mistakes and accidents.⁵³ Respondents also identified the need for strong health and safety practices for managing the use of chemicals in orchards. Central Hawke's Bay already has a relatively high number of machinery and farm related accidents prompting an active programme to reduce them.⁵⁴

The risk of dam failure is considered in the Dam Break Analysis - HBRC Engineering (May 2013). While technically there is a low risk of failure, perceived risk can have a negative psychological effect on people living downstream and on the river flood plain, particularly in a seismically active region. Some people may continue to experience this "dread" risk, emphasizing the importance of providing ongoing, quality, lay information on technical components of the project.

53 http://www.ruralemploymentrelations.org.nz/Documents/Rural_Employment_Relations/%27Essential%27_workers_on_NZ_dairy_farms_LEW14.pdf

54 <http://www.safecommunities.org.nz/sc/CHB>

3.4 Construction effects

Construction workforce effects

Experience with large scale construction projects in New Zealand, including dam projects, indicates that the most likely significant social effects arise when relatively small communities, such as those in Central Hawke’s Bay, host a large group of project workers for the period of construction. These new arrivals can create demands for local accommodation, commercial and social services that are difficult to meet locally for a short period of time. They can boost the local economy, albeit temporarily⁵⁵, while giving rise to a number of social issues.

At this point, prior to the completion of front-end engineering design (FEED), it is not possible to define the project workforce in any detail. However, it is reasonable to assume all the major construction sectors will be represented. On the basis of willingness of construction workers to commute daily, the potential labour catchment area for this project would extend well beyond Central Hawke’s Bay to include the major centres of Hastings and Napier – the main focus for construction firms in the region.

The Hawke’s Bay region in 2006 had a similar sized construction sector (7.2%) to Canterbury at that time (Table 3.3). There is one larger construction firm and a small number of building contractors based in Waipukurau and Waipawa. It is therefore very likely that construction of the dam and other headworks will draw from the wider region and further afield, especially given the tight construction sector labour market nationally over the next 10-15 years as the Canterbury earthquakes rebuild absorbs workers from the sector nationally following a period of contraction.⁵⁶

It is very likely that workers constructing the dam, headworks and on-farm works will be a combination of those already living in the district and those commuting from further afield, including workers who will need to be accommodated on site or in the nearby towns of Waipukurau and Waipawa. These workers will create short-term demands for accommodation and housing in the district, mostly for rental housing. As one respondent pointed out “there is always something available,” so the most likely issue to arise is pressure on existing residents in respect to rental prices or quality of their housing.

55 Construction time from contract award to project completion is currently estimated at 54 months

56 Anticipating the likely skills shortage, Government announced “Skills for Canterbury” in the 2011 Budget.

Table 3.3 Construction employment in Hawke’s Bay Region (2006)

Sector	Number of workers	% Total regional workforce (73,173)
Building Construction	1,557	2.1
Heavy and Civil Engineering	729	1.0
Construction Services	2,988	4.0
Total	5,274	7.2

Given the small size of the Tikokino and Ongaonga communities and limited services there, the best option may be to build temporary accommodation in Waipukurau and shuttle workers to the site. Advantages in locating workers in Waipukurau and possibly Waipawa include the availability of a wide range of commercial, recreation and social services in the towns, although there is currently pressure on some services, especially health. The approach adopted could be a combination of rental housing and “temporary” accommodation. Options for temporary accommodation could include housing on site in the style of that provided to seasonal workers (such as in horticulture where there is wide use of caravans and portacombs), Another option is to build motel style accommodation off site that later can be utilised and/or moved as accommodation for the hospitality sector, or for workers in primary production as land-use intensification takes effect.⁵⁷

Further investigation of accommodation options is needed and should be part of the FEED work as more details become available on the size of the construction workforce, the types of skills required and the likely sources of the workforce and their housing requirements, and timing of the project. Community input will be essential to these investigations.

Expenditure on project construction, including the workforce, and the expenditure of project workers, will have a positive flow-on effect into local businesses, and the district and regional

⁵⁷ Experience in some newly irrigated area such as the Amuri in Canterbury has been a period of housing shortages as land-use change takes place.

economies, as discussed by Butcher Partners (May 2013) in the Economic Impact assessment. The extent of this economic benefit will depend on the preparedness of the local firms and workers in terms of available skills and motivation to work, and the attitudes and approach of local businesses in servicing the construction. Strategies for employment and business development are discussed further below in section 4.

Effects on local amenity

Effects on the bio-physical changes from construction activities can have social consequences for local people and communities. The actual or perceived physical impacts on people and communities from the construction of the project will be temporary and depend on mitigation measures and management plans but could include:

- Noise, vibration, dust and emissions from excavation, earthmoving and construction-related vehicles. These effects can result in reduced quality of the local living environment and potentially in human and animal health problems if not managed properly.
- Visual and landscape intrusion from construction activities, especially excavation and earthmoving activities, resulting in reduced environmental amenity or aesthetic quality during the construction period, for residents, recreationists and road users (including those on highways), and disruption to local and highway traffic movements, including stock movements, from temporary diversions and crossings in construction of the headworks.

These factors have been considered in the Application Design and proposed conditions for the scheme, including the Construction Environmental Management Plan (CEMP).

Land takes

Land takes for the reservoir, canals and other head works have the potential to disrupt housing and farming activities. Compensation and mitigation will be negotiated with land-owners and occupiers directly affected by the project.

3.5 Effects on water quality and community values

As with many catchments in New Zealand, the management of water resources in Central Hawke's Bay reflects a wide diversity of demands for the resources and many values around their management. This complexity requires a broad approach to water management and landscape change for the achievement of outcomes that increase the social, economic and cultural wellbeing of people and communities. This approach is reflected in the Hawke's Bay Land and Water Management Strategy. The Strategy reflects a wide range of views around a core value "to enjoy a healthy lifestyle in a healthy environment".

In discussions as part of this assessment the following points were raised:

- The importance of quality products and “green” branding are essential to future land uses.
- Intensification of land use does not necessarily equal environmental degradation. In fact there is a substantial area of work on sustainable farming practices nationally, and a regional programme in Hawkes Bay, including nutrient and water budgeting and management, and the management of riparian land. This approach is reflected in the scheme proposals around Irrigation Environmental Management Plans and nutrient limits.
- Issues for the Tukituki catchment include town wastewater management that the district council has a responsibility for addressing.
- The scheme needs a strong approach to environmental quality, with comprehensive monitoring and the capacity for adaptive management. Monitoring proposals are included in the proposed conditions.

Ultimately effects on community values will depend on the actual decisions taken and management systems put in place. For the Tukituki River these include cultural values as discussed in the cultural assessment⁵⁸ and recreation values as discussed in the recreation assessment. Landscape change is a potential issue as land uses intensify, with irrigation equipment becoming more dominant and changes in the layout of shelter and amenity values. The Landscape assessment⁵⁹ found that the effects of the project headworks on the landscape are likely to be manageable and minor, and the potential effects from land-use change and local water distributions systems are unlikely to cause “fundamental changes in landscape character” as intensive land uses are already familiar to the district. There is, however, from a social assessment perspective, potential for changes in sense of place with new land uses, landscapes and people coming into the district – an effect that could be felt as a loss by some people such as older residents and those who moved into the district for lifestyle values.

As the planning for the scheme proceeds through the consents stage, there is potential for community tensions and conflict to emerge in the shift to an inherently adversarial mode, replacing the consensual approach to water management and planning for the scheme so far. It is therefore very important to ensure the people of the district and all stakeholders have a clear understanding of the scheme, the planning processes used and the outcomes of these processes. Interviews for this assessment found limited understanding and some misunderstanding of the scheme in terms of both its technical and policy dimensions.

58 Te Manga Maori, Eastern Institute of Technology, Cultural impact assessment of the Tukituki proposed water storage dams (2010) and supplementary report on the Makaretu and Makaroro proposed dam sites (2011).

59By Isthmus (May 2013).

3.6 Assessment against social well being elements

Table 3.4 provides a summary of potential social effects as an assessment of the scheme against social wellbeing elements. This assessment assumes that the mitigation strategies discussed below are implemented.

Table 3.4 Assessment of social wellbeing outcomes

Elements of Social Wellbeing	Outcome without scheme	Outcome with scheme
Economy, business activity, income and employment	A relatively stagnant economy with only slow growth at best. Few opportunities to increase or diversify primary production. Increase commuting to work out of the district. Increasing numbers of “bad” climatic years.	Possible opportunities during construction phase. Construction short term boost to local economy – limited by available capacity A boost to the district and regional economy with an increase in economic activity relating to farming and some diversification of the economic base with greater robustness in the face of periodic droughts. Opportunities to change farming practises in irrigated area.
Physical and mental health	Limited opportunities to increase employment and economic diversification and increasing vulnerability to drought events weaken determinates of health.. Continued risk of decreasing population getting reduced health services in rural areas	Strengthening determinates of health particularly through reduced unemployment and increased opportunities for youth. Reduced dependence on benefits amongst working families. Potential health effects if social change is poorly managed, including pressure on health services.
Outdoor areas, natural environment and open space	Poor water quality and quantity in lower Tukituki and surface streams reduces amenity values. Improved water quality as sewerage schemes implemented. Continued stress on water allocation.	Some loss of some amenity values in flooded valley. Gain of new amenity values for reservoir lake. Some risk of reduced values for surface water if there is poor nutrient management. Water allocation rationalised.
Lifestyles, leisure and recreation	Loss of recreation opportunity with reduced amenity values. Increasing difficulties sustaining facilities, programmes and community groups	Sports and community organisations get a boost from new members and provide a basis for building community attachment and support.
Lifelong learning and education	Some difficulties motivating young people into training due to the lack of job opportunities. Lack of incentive for famers and businesses in traditional activities to undertake re-training.	Potential for enhanced agricultural and horticultural training in support of land use change with irrigation. Opportunities to add to career opportunities for high school students and youth, including disadvantaged youth. Opportunities for technology transfer on farms around new farming systems, water and nutrient management and environmental management. Opportunities for local business training and development.

Personal, community and public safety and freedom from risk	Increased social issues and conflict based in economic disparity.	Low risk of water safety issues around the reservoir and canals depending on management outcomes. Increased health and safety risks from intensified production – dairy, horticulture Risks from increase in daily movement of heavy and other vehicles on local roads. A new “dread” risk of perceived dam failure.
Housing, living space, neighbourhood & sense of place	Strong sense of place based on what the area looks like. Slow decline in some housing, neighbourhoods and amenity through lack of economic opportunity.	Short-term demand for rental housing during construction could pressure price and quality of housing for low-income renters. Changes in sense of place with new land uses, landscapes and people coming into the district – felt as a loss by some people Possible conflicts in values over use of water, economic growth and development. General improvement in housing and neighbourhoods over time with the flow-on from employment and higher incomes.
Goods and services, retail and commercial space	Increasing decline in available goods and services and increasing losses to major towns of Hastings/Napier	Increased demand for retail, veterinary and farm services based in Waipukurau and Waipawa.
Transport and communications	Decline in local transport firms and centralisation of services Slow improvements in broadband and cell-phone coverage	Increased impetus to broadband development and cellular services through land use intensification and economic activity Increased costs of maintaining local roads
Family, social attachment and support	A declining population and low economic growth increases social-economic polarisation and erodes social vitality and resilience. Increasing social problems across the district for youth, families and the elderly.	Community groups and organisations get a boost from new members and play a crucial role in building social attachment and support. Increase in population based funding and services including schools.
Participation in community and society	Slowly declining participation with loss of population ,leadership and social services.	Boost to participation, leadership and community engagement.

4 Mitigation and enhancement

Public investment in the proposed scheme, in this case a combination of central, regional and local investment, alongside the commitment and financial risks taken by farmers, and the input of stakeholders, is made on the assumption that the potential social, economic and environmental outcomes are worthwhile achieving. Experience with irrigation projects throughout New Zealand has demonstrated the importance of a proactive approach to managing social and economic change to achieve desired outcomes as the scheme is constructed and operated. Social impact assessment provides the basis for social impact management both to help mitigate and manage potential negative social effects and to enhance project benefits.

Here a mitigation and enhancement plan is defined broadly. With the active involvement of the two councils along with the stakeholder group a strategy around the following initiatives is recommended. There will be an opportunity to develop the strategy (including funding options) once resource consents are obtained and front-end engineering and design are underway.

- 1) Develop a social impact management plan for the construction activities as part of the front-end engineering design of the reservoir and headrace and at the same time as detailed construction management plans are prepared. The strategy should consider:
 - Detailed workforce requirements (skills and numbers)
 - Consideration of opportunities to utilise local contractors and procure goods and services locally
 - Identification of opportunities to recruit from the local and regional labour market
 - Training needs for local and regional labour supply to the construction sector, including a specific Maori component
 - Estimation of the size of a likely incoming workforce and the demands they will generate for accommodation and housing, working with housing agencies and rental organisations to meet demand. An assessment of needs for district and regional services including short-term demands for health and education from incoming construction workers and their dependents.
 - Identifying ways of supplying timely information on progress with the project to social, economic, training and housing agencies and organisations and local runanga, and help in coordinating activity.

- 2) Develop a coordinated employment strategy for future on-farm and off-farm developments (once the project is constructed) including training and skills development with an emphasis on local placement, including:
 - Ensure WINZ, the ITOs, high schools and training providers are well informed about the project and work opportunities that could arise
 - Work with these agencies and groups to define skill sets required, timing of needs, and that there are strategies in place to meet labour demands from local sources in the first instance
 - Work with runanga⁶⁰ and Te Taiwhenua o Tamatea to develop a strategy to encourage employment opportunities for Maori.

- 3) Prepare a business development strategy working with regional and district business development agencies, and sector interests including:
 - Encouragement of local procurement strategies as part of the construction stage for on-farm development work including installation of irrigation equipment and construction of dairy sheds
 - Identifying farm servicing needs for land uses and seek ways to meet these needs locally by regular communications with the business sector
 - Investigation of local processing opportunities and any land or infrastructure constraints to the development of local opportunities arising from present and future land uses in the district
 - Finding ways to reduce constraints on business development such as improving the number and quality of internet connections, and cell-phone coverage and access.⁶¹

- 4) Build on community, youth and sports and recreation development (Community Response, Community Solutions and Youth Development), including:
 - Coordinating with agencies and facilities management to identify needs and opportunities for expanding to meet future demand
 - Working closely with the district community worker and social agencies.

- 5) Establish a programme to assist the integration of newcomers into the community,⁶² including migrants from outside the district and overseas workers, both in the construction and operation phases of the scheme:

⁶⁰ Marae are listed in the cultural assessment report page 7.

⁶¹ According to Statistics NZ, 53.1 percent of households in Central Hawke's Bay District have access to the Internet, compared with 60.5 percent of households throughout New Zealand.

⁶² 66.4 percent of households have access to a cellphone, compared with 74.2 percent of households for New Zealand as a whole.

- Through participation in recreation (including arts and culture) and sport
 - By support for employers and employees around requirements and responsibilities, including cross-cultural communication skills
 - By encouraging participation in district schools
 - By ensuring health services and social support agencies including churches are well informed about potential demand and particular cultural needs
 - By provision of appropriate training including English language learning
 - By supporting cultural networks and groups.
- 6) Establish a programme of technology transfer for uptake of latest land, water and nutrient management practices in support of the development and implementation of IEMPs. The HBRC (or HBRIC) could help establish the organisational structure and an appropriate mechanism to establish the programme to :
- Implement the Irrigation Environmental Management Plan (IEMP)
 - Make the results of monitoring environmental outcomes available locally in appropriate forms, as recommended in the proposed conditions
 - Develop on farm trials and demonstrations of new practices, with field days and active communication of ideas
 - Encourage and support landholder groups for different irrigation zones and community-defined areas.
- 7) Develop a community strategy to encourage retention of features that reinforce sense of place. Experience in other regions suggests an important aspect will be an effort to retain, where practicable, some representative hedgerows, shelter belts, amenity plantings and farm buildings that reflect past farming practices.
- 8) Undertake a comprehensive communications strategy for the scheme for the consenting and construction phases, to support participation of interested and affected parties through the planning process, building on the current communications strategy and including: :
- Regular updates of information on the two council websites and in their regular newsletters to ratepayers
 - A linked project website
 - Continuation of a regular project newsletter
 - Support for maintaining the stakeholders group and regular meetings of land-owners and farmers in the scheme areas/rural localities.

62 Research in Ashburton District (Wylie, 2009) found that key agencies and stakeholders are well in tune with needs of newcomers. The challenge is to transfer this knowledge into practical steps in the community.

5 Conclusions

Experience in New Zealand is that irrigation brings an important range of potential social-economic benefits that can enhance social and economic wellbeing in a district such as Central Hawke's Bay. However, this experience also shows that without a strategic approach to managing *social* effects and maximizing benefits a district can miss out on some of the opportunities that irrigation presents. In this respect the direct involvement of the two councils and key stakeholders with project proponents is a highly positive feature of the scheme.

Irrigation in Central Hawkes Bay will have the benefit of strengthening local populations and communities through employment created, including rural areas and small settlements, and towns such as Waipukurau and Waipawa. The flow-on effects of increased land-use activity, with consequent increases in employment and population, should enhance the range and viability of businesses and services they provide, including early childhood, primary and secondary schools, health, sports and recreation and other services. However, potential social issues could arise with rapid land use change around the integration of newcomers, loss of sense of place and possible values conflicts. These issues require careful management.

The net benefit will depend on active management of change by the councils and key stakeholders, along with communication and consultation with the affected communities. With appropriate strategies in place the proposed scheme should result in a significant net beneficial social effect for the people and communities of the district.

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Appendices

Table A1: *Residents employed full-time Central Hawke's Bay District - 2006*

Area	Employed full-time % of residents
Otane	49.6
Waipawa	49.8
Waipukurau	48.1
Takapau	52.7
Tikokino	60.5
Elsthorpe-Flemington	60.3
Command Area	
Central Hawke's Bay District	53.9
Hawke's Bay Region	49.1
New Zealand	48.4

Source: Statistics New Zealand

Table A2: Employment status of residents of Central Hawke's Bay District 2006

Area	Paid employees % of residents	Employer % of residents	Self-employed % of residents
Otane	78.8	5.9	10.6
Waipawa	77	5.5	9.7
Waipukurau	80.1	6.4	8.3
Takapau	79.3	3.7	9.8
Tikokino	62.5	10.5	16.8
Elsthorpe-Flemington	56.5	12.5	19.3
Command Area			
Central Hawke's Bay District	69.4	8.7	13.5
Hawke's Bay Region	75.3	7.3	10
New Zealand	76.1	7.2	11.8

Source: Statistics New Zealand

Table A3: Residents employed outside the primary sector in Central Hawke's Bay District - 2006

Area	Employed outside primary sector % of residents
Otane	75.9
Waipawa	79.1
Waipukurau	84.8
Takapau	82.3
Tikokino	46.9
Elsthorpe-Flemington	49.9
Command Area	
Central Hawke's Bay District	65.5
Hawke's Bay Region	79.7
New Zealand	87.6

Source: Statistics New Zealand

Table A4 : Occupational status of residents of Central Hawke's Bay District - 2006

Area	Manager and Professional % of residents	Machinery operator, driver & labourer % of residents
Otane	23.5	37.6
Waipawa	19.7	35.1
Waipukurau	22.5	34.6
Takapau	19.5	46.4
Tikokino	39.2	29.2
Elsthorpe-Flemington	41.8	27.8
Command Area		
Central Hawke's Bay District	31	32.3
Hawke's Bay Region	30.3	24
New Zealand	36	16.8

Source: Statistics New Zealand

Table A5: Residents of Central Hawke's Bay District without any educational qualifications and tertiary qualifications - 2006

Area	No educational qualifications % of residents	Tertiary educational qualifications % of residents
Otane	33.1	24.8
Waipawa	34.3	26.3
Waipukurau	34.2	26.8
Takapau	38.9	22.9
Tikokino	25.1	32.7
Elsthorpe-Flemington	24.4	34.2
Command Area		
Central Hawke's Bay District	30.3	29.3
Hawke's Bay Region	27.5	31.7
New Zealand	22.4	35.8

Source: Statistics New Zealand

Table A6: Family and household types in Central Hawke's Bay District - 2006

Area	One parent family % of families	One person % of households
Otane	22.9	21.9
Waipawa	22.7	27.0
Waipukurau	20.3	28.6
Takapau	23.4	25.8
Tikokino	10.2	16.8
Elsthorpe-Flemington	7.1	18.0
Command Area		
Central Hawke's Bay District	15.6	23.2
Hawke's Bay Region	21.0	24.5
New Zealand	18.1	22.6

Source: Statistics New Zealand

Table A7: Income received from government by residents of Central Hawke's Bay District - 2006

Area	Total number of payments received from government ÷ number of residents (%)
Otane	32.6
Waipawa	37.2
Waipukurau	38.8
Takapau	33.6
Tikokino	19.4
Elsthorpe-Flemington	20.9
Command Area	
Central Hawke's Bay District	29.8
Hawke's Bay Region	34.3
New Zealand	29.5

Source: Statistics New Zealand

Table A8: Access to motor vehicles for households of Central Hawke's Bay District - 2006

Area	None % of households	Three or more % of households
Otane	4.8	17.4
Waipawa	5.5	15.8
Waipukurau	10.2	10.9
Takapau	6.3	17.5
Tikokino	1.3	21.5
Elsthorpe-Flemington	1.1	21.5
Command Area		
Central Hawke's Bay District	5.3	16.8
Hawke's Bay Region	7.6	14.8
New Zealand	7.8	15.3

Source: Statistics New Zealand

Table A9: Ownership of dwellings by residents of Central Hawke's Bay District - 2006

Area	Owned, partly owned, held in family trust % of dwellings
Otane	71.4
Waipawa	68.8
Waipukurau	64.1
Takapau	68.7
Tikokino	61.9
Elsthorpe-Flemington	68.1
Command Area	
Central Hawke's Bay District	65.7
Hawke's Bay Region	63.7
New Zealand	62.7

Source: Statistics New Zealand

Table A10 : Bonds Received and Median Rent for Central Hawke's Bay - May 2011 to October 2011

Type of dwelling	Bonds Received	Median Rent
2 Bedroom Flat	15	\$170
1 Bedroom Flat	5	\$130
4 Bedroom House	23	\$230
3 Bedroom House	92	\$215
2 Bedroom House	23	\$170

Source: Department of Building and Housing (2011)

www.dbh.govt.nz/Utilities/market-rent.aspx?Categories 30 November 2011

Table A11: Number of Sales and Median Sale Prices of Dwellings and Sections for Hawke's Bay Region - November 2010 to October 2011

Month	Dwellings		Sections	
	Number of sales	Median sale price	Number of sales	Median sale price
November 2010	175	\$269,000	4	\$101,500
December	169	\$285,000	14	\$180,250
January 2011	123	\$270,000	7	\$290,000
February	176	\$285,000	8	190,000
March	195	\$260,000	11	\$150,000
April	118	\$271,500	6	\$165,000
May	195	\$268,000	16	\$250,000
June	160	\$254,000	5	\$50,000
July	190	\$275,000	8	\$145,000
August	175	\$250,000	7	\$181,000
September	170	\$270,750	7	\$75,000
October 2011	155	\$259,500	13	\$125,000

Source: Real Estate Institute of New Zealand (2011)

Table A 12: Number of Sales and Median Sale Prices of Dwellings and Sections for Waipukurau Area - November 2010 to October 2011

Month	Dwellings		Sections	
	Number of sales	Median sale price	Number of sales	Median sale price
November 2010	8	215,000	-	-
December	7	134,000	-	-
January 2011	7	160,000	-	-
February	8	112,250	-	-
March	9	175,000	1	31,000
April	2	184,250	-	-
May	12	200,000	-	-
June	8	160,750	1	50,000
July	9	137,500	-	-
August	5	179,000	1	57,000
September	5	145,000	1	57,000
October 2011	3	159,000	-	-

Note: WaipukurauArea is Porangahau and Waipukurau.

Source: Real Estate Institute of New Zealand (2011)

<http://apps.reinz.co.nz/reportingapp/default.aspx?RFOPTION>

Table A13: Number of Sales and Median Sale Prices of Dwellings and Sections for Waipawa Area - November 2010 to October 2011

Month	Dwellings		Sections	
	Number of sales	Median sale price	Number of sales	Median sale price
November 2010	8	\$173,750	-	-
December	3	\$158,000	-	-
January 2011	2	\$246,000	-	-
February	4	\$230,000	1	\$220,000
March	3	\$200,000	1	\$150,000
April	3	\$179,500	-	-
May	4	\$222,500	-	-
June	5	\$125,000	-	-
July	7	\$195,000	1	\$58,000
August	1	\$159,000	-	-
September	2	\$289,500	1	\$40,000
October 2011	3	\$170,000	1	\$43,000

Note: Waipawa Area is Elsthorpe, Otane and Waipawa.

Source: Real Estate Institute of New Zealand (2011)

<http://apps.reinz.co.nz/reportingapp/default.aspx?RFOPTION> 30 November 2011

TableA14: Changes in rolls of selected schools (July) in the Central Hawke's Bay District - 2002 to 2011

Name	2002	2005	2008	2011	change in roll 2002-2011	% change in roll 2002-2011
Te Aute College	202	100	102	83	-119	-58.9
Central Hawke's Bay College	620	678	615	606	-14	-2.3
Te Kura Kaupapa Maori O Takapau	28	33	35	35	7	25.0
Argyll East School	71	64	60	44	-27	-38.0
Elsthorpe School	62	58	50	37	-25	-40.3
Flemington School (Waipukurau)	75	79	67	61	-14	-18.7
Mangaorapa School	19	28	27	21	2	10.5
Omakere School	57	57	44	30	-27	-47.3
Ongaonga School	105	101	130	125	20	19.0
Otane School	89	54	58	54	-35	-39.3
Oueroa School	31	30	14	14	-17	-54.8
Porongahau School	58	51	37	27	-31	-53.4
Pukehou School	91	85	97	108	17	18.7
Sherwood School (Hawke's Bay)	64	66	25	31	-33	-51.6
St Joseph's School (Waipukurau)	102	130	143	113	11	10.8
Takapau School	148	120	106	121	-27	-18.2
The Terrace School (Waipukurau)	210	188	201	204	-6	-2.8
Tikokino School	78	63	58	48	-30	-38.5
Waipawa School	153	155	151	129	-24	-15.7
Waipukurau School	286	270	235	197	-89	-31.1
TOTAL	2549	2410	2255	2088	-461	-18.1

Source: Indicators and Reporting Unit, Ministry of Education, 21 October 2011.

Note: All schools, except Te Aute College and Central Hawke's Bay College, are Full Primary and Co-Educational. Te Aute College is a Secondary (year 9-15) Boys school, while Central Hawke's Bay College is a Secondary (year 9-15) Co-Educational school

(www.school.nz/area/central-Hawke's-bay-district 26 October, 2011).

St Columba's School (Waipawa) was closed 2002 and Wallingford School was closed 2004.

Taylor Baines

Table A15 Projected Populations of Central Hawkes Bay District & Hawkes Bay Region 2006 (base) - 2031

Area	Variant	Population at 30 June 2006	2011	2016	2021	2026	2031	Change 2006-2031 Number Per cent	
	Low		13,300	12,950	12,550	12,050	11,400	-1,850	-14.0
Central Hawkes Bay District	Medium	13,250	13,500	13,500	13,500	13,450	13,250	0	0.0
	High		13,650	14,050	14,500	14,850	15,150	1,900	14.3
	Low		153,800	151,800	149,900	147,300	143,400	-8,700	-5.7
Hawkes Bay Region	Medium	152,100	155,300	157,000	159,100	160,600	161,200	9,100	6.0
	High		156,800	162,200	168,200	174,000	179,200	27,200	17.3
	Low		3,334,500	3,409,300	3,503,800	3,588,500	3,654,700	469,600	14.7
North Island	Medium	3,185,100	3,366,100	3,516,000	3,692,900	3,866,800	4,028,600	843,400	26.5
	High		3,397,600	3,622,500	3,881,300	4,146,600	4,408,500	1,223,400	38.4
	Low		4,400,400	4,541,900	4,715,800	4,870,100	4,999,100	814,500	19.5
New Zealand	Medium	4,184,600	4,405,200	4,586,200	4,798,000	5,004,400	5,194,600	1,010,000	24.1
	High		4,457,200	4,661,400	4,911,400	5,168,400	5,427,800	1,243,200	29.7

Source: Statistics New Zealand, Subnational population projections, 2006 (base) - 2031, October 2012 update. Note: Statistics New Zealand note in this update that “owing to rounding individual figures may not sum to stated tables”.