

RSE Impact Study: New Zealand stream report

10 July 2019

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The authors wish to thank the people in the six communities who participated in the study.
Thanks also to the Expert Panel and the Pacifica Labour and Skills team for their contributions.

Disclaimer: The data used in this report have been sourced from reliable sources which are noted in the report. The authors accept no liability for any inaccuracies in the data. The report is based on information available as at April 2019.

Abbreviations

H/V	Horticulture and viticulture
LSU	Labour Sending Unit
MBIE	Ministry of Business, Innovation and Employment
MFAT	Ministry of Foreign Affairs and Trade
MSD	Ministry of Social Development
PIC	Pacific Island country
PLS	Pacific Labour Scheme
PTP	Pacific Trades Partnership
RSE	Recognised Seasonal Employer
SWP	Seasonal Worker Program

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Executive summary

The Recognised Seasonal Employer (RSE) Impact Study has been commissioned by the Ministry of Innovation and Employment (MBIE) and its partner agency the Ministry of Foreign Affairs and Trade (MFAT). The study consists of four inter-related streams of work addressing the following overarching research questions:

1. What are the social and economic impacts of the RSE scheme on, and for, communities in New Zealand?
2. What are the social and economic impacts of the RSE scheme for PIC workers and their island-based families?
3. What are the social and economic impacts of the RSE scheme on, and for, Pacific communities?
4. What are the implications of the study findings for the future development of the scheme?

This report, referred to as the New Zealand stream report, addresses research question one. Questions two and three will be addressed by the Pacific stream (to be completed in December 2019) and the RSE worker engagement study. A synthesis and analysis of the key findings from each stream will then be undertaken (in collaboration with MBIE and MFAT) to address question four and reported in the RSE Impact Study Synthesis report to be completed by end of March 2020.

About the RSE scheme

The tenth anniversary of the RSE scheme was celebrated in 2017. From relatively small beginnings (involving around 3,500 Pacific workers), around 9,600 workers from nine Pacific States were approved to arrive in New Zealand in the 12-month period 1 July 2017-30 June 2018 for RSE work. In the ten years 2007-2017, 61,303 visas were approved for RSE workers from the Pacific who have arrived in New Zealand. There are 165 RSE employers (as at May 2019), around 70 percent of whom employ under 50 RSE workers each.

Discerning and assessing impact

A critical task for the impact study is to discern and assess the extent to which observed impacts are related, directly or indirectly, to the RSE scheme. Determining whether observed impacts can be directly attributed to RSE is impossible given the complexity of the scheme, the number of stakeholders involved, and the Australian labour mobility arrangements operating in the same Pacific Island countries (PICs). An analytical approach - contribution analysis – addresses the attribution problem inherent in complex policy environments (Mayne, 2012). It provides a systematic and rigorous approach to establish (or inversely, to discount) *a plausible association* between a particular input (or group of inputs) and observed changes. It addresses cause and effect by *demonstrating contribution* rather than *proving causality*. Contribution analysis is used in the impact study to identify and understand the contribution of RSE to observed changes, and to identify and understand other factors (not related to the scheme) that may be influencing observed changes.

The communities

Six communities where Pacific RSE workers reside for part of the year were examined: Blenheim, Hastings, Kerikeri, Motueka, Roxburgh and Te Puke. Communities with the highest numbers of RSE workers were selected (to provide clear evidence of impacts on communities, especially on services and infrastructure), plus a couple of smaller communities where the types of impact may differ. A variety of crops and RSE employer types were included in the sample of communities.

Methods

Primary and secondary data were collected about the six communities. In order to understand the changes that have happened in the community in the last ten years and the triggers of such changes, we gathered wide-ranging data about the community, and sought to interview informants who could provide community-wide perspectives about economic and social changes. One hundred and thirty-six interviews were conducted with 179 informants in the period November 2018 - April 2019. Interview data from each community was supplemented with census data, economic activity and labour market information, housing market data, and information from the media to provide a comprehensive perspective. Data was coded using NVivo 10, and a systematic analytic process conducted. Our initial contribution claims (refined in a team analysis workshop) about the impact of RSE on the six communities were scrutinised by a panel of five labour mobility academic and practitioner experts. The panel brought their expertise to check and further strengthen the research team's interpretation of the data and contributions identified.

Findings

Economic impacts on communities

Industry-wide expansion, supported by the reliability and productivity of RSE labour, is making a direct economic contribution in the six communities examined. This expansion generates multiplier effects as businesses that directly support H/V enterprises, such as land and land services, transport and distribution, agricultural services and equipment, construction, and accommodation services also expand. Expansion is generating more employment opportunities for New Zealand workers, in permanent and seasonal jobs, as H/V enterprises shift towards year-round production, crop varieties change, and greater volumes are produced. There have also been large-scale investments in industry infrastructure. In Kerikeri, Hastings, Motueka and Roxburgh, RSE enterprises have made multi-million-dollar investments in fruit processing facilities. These investments have significant flow-on effects for the local construction industry, engineering firms and technology suppliers.

The RSE scheme has become 'big business' for third-party providers of accommodation (e.g. residential landlords, motel owners) and transport. Some employers hire vans for the season for use by their RSE workers - one employer estimated around \$500,000 is spent each season on vehicle hire. Other employers make use of third-party providers to transport workers to and from work each day in shuttle buses and minivans.

Impacts on local accommodation

The demand for accommodation associated with gradually increasing numbers of RSE workers has coincided with a tightening property market and decreasing housing affordability in many communities over the last five-eight years. The RSE scheme is having its most negative impact on the low-cost rental market in communities with insufficient accommodation on orchards and other properties suitable for seasonal workers. In these communities, the RSE scheme creates a tipping point - as the number of RSE workers exceeds the capacity of the low-cost housing market to accommodate them, the scheme contributes to a shortage of properties for locals seeking low-cost rentals. The demand for RSE worker accommodation has placed most pressure on the residential housing markets in Hastings, Te Puke and Blenheim (although two recently completed large RSE accommodation complexes around Blenheim, and another in the planning stage are easing demand).

The study has highlighted the constraints facing employers wishing to develop new seasonal worker accommodation or convert existing buildings, such as the time and cost involved in resource management consenting. Regulations in council district plans that relate to accommodation in rural areas, especially those that place restrictions on use other than by seasonal workers, act as major disincentives for RSE employers to invest in worker accommodation

Impacts on health services

The RSE scheme is having an impact on local health services in the six communities but not to the detriment of service provision to local residents. This is largely due to changes that medical practices have made in several communities (Kerikeri, Tauranga (for Te Puke RSE workers), Hawke's Bay, Blenheim) to better cater for RSE worker patients and to minimise disruption to local residents enrolled in their practice. Informants from these practices are satisfied that these changes are working well, which is endorsed by local pastoral care workers. In two communities (Motueka, Roxburgh) no significant impacts were reported by medical practices.

While the impacts of RSE workers on health services at the community-level may be limited, at the national level the RSE scheme presents some risks to New Zealand's health system. The RSE workforce from some countries is ageing and this, coupled with limited medical screening facilities and requirements in most PICs, means that some workers are entering New Zealand with pre-existing conditions that may require medical treatment in New Zealand (including hospitalisations). This topic is being examined in MBIE's RSE Health Review. There are also concerns at senior levels in the Ministry of Health about the potential outbreak of communicable diseases if RSE workers are not fully immunised or good personal hygiene is not being practiced.

Impact on policing

RSE workers are currently placing minimal pressure on local police in the six communities. Informants from NZ Police reported RSE workers were not a major source of complaints from the public or instigators of crimes requiring police attention. Police officers in some communities noted that other groups of temporary residents pose more challenges for policing than RSE workers. However, if RSE worker numbers continue to increase, the police officer responsible for RSE in some centres will require additional resourcing.

An issue of concern is the targeting of RSE workers by criminals in some communities. This has included burglary of workers' accommodation (stealing electronic and other goods workers have purchased to take home), the sale of stolen goods to workers and drug dealing. While not illegal, local sex workers are targeting workers' accommodation sites in some communities causing problems for pastoral care providers.

Social impacts on and for communities

For most of the people in five of the six communities we visited, the social impact of RSE on and for the community is minimal. The majority in the community appear to make no distinction between RSE workers, backpackers and other migrant seasonal workers, and tourists - they are all regarded as temporary residents in their community. Workers' participation in the community is predominantly via church and, to a lesser extent through sporting activities and local events (e.g. the annual Christmas parade). Workers are an integral part of local congregations, and it is through the church that they build some of their strongest connections with members of the local community. There are numerous examples of NGOs and wider community efforts (e.g. in Te Puke and environs),

that have provided financial and other support for development initiatives for RSE workers' villages in the islands, especially after cyclones.

Roxburgh is distinctive from the other five communities in that it is proactively embracing RSE and other migrant seasonal workers as part of a wide-ranging community development initiative funded by the Department of Internal Affairs.

Impacts of RSE on communities

The findings reveal that the way the RSE scheme impacts on communities is more complex than might be explained by obvious differences such as population size, and industry-related differences such as the timing and nature of seasonal labour demand. There are a range of other contextual factors that influence the nature and extent of the scheme's impact on and for communities, such as: what other low skill work opportunities are available for locals, the unemployment rate/potential supply of non-RSE labour, the size and composition of the total seasonal workforce, history of use of migrant labour, and the capacity of the low-cost rental housing market to meet residents' demand. This is a key finding of the study, namely, that the impacts of RSE on, and for, New Zealand communities are contextual and nuanced.

RSE workers: a necessity for RSE employers

While the emphasis of the NZ stream was on impacts for communities, other findings have emerged. One of these is confirmation of the importance of RSE workers for the H/V industries. Although they are a relatively small component of the total seasonal workforce, RSE workers have become a necessity (not just a preferred source of labour). The H/V industries are increasingly reliant on skilled RSE labour for their ongoing expansion and ambitious export growth targets. Such expansion is fuelling greater reliance on RSE labour.

Community capacity: a consideration for any future increase in RSE worker numbers

The research findings have implications for the H/V industries' expectations about future increases in the RSE worker cap. While higher RSE worker numbers will provide economic benefits to communities via the increased production of local H/V enterprises and job creation for NZ workers, ongoing increases in worker numbers are not feasible unless the community's capacity to cater for more workers is confirmed. Important dimensions of community capacity are accommodation (discussed below), policing and health services.

Most of the six communities we visited are close to, or at capacity in their ability to accommodate RSE workers in existing housing stock. Government has urged RSE employers to ensure that pressure for RSE accommodation does not result in residential properties being denied to permanent residents. Planning for expansion by RSE employers individually, and industry as a whole, must take account of the need for additional RSE and other seasonal worker accommodation. Explicit connections need to be made between planning for expansion and accommodation planning.

Acknowledging RSE impacts on communities

The RSE scheme has had important economic and social impacts on communities in New Zealand. The most obvious direct economic impacts have been on productivity and expansion in the horticulture and viticulture industries in the regions where the six communities are located, creating flow-on effects into associated businesses and services that support the H/V industries and creating new jobs for New Zealand workers. The most significant social impact has been the slow but increasing acknowledgement that the temporary migration of thousands of seasonal workers from several Pacific countries, many of whom return in successive seasons, is becoming a permanent component of the residential populations of many small and medium-sized towns for much of the year.

The economic and social impacts are not always consistent in terms of their level of intensity or significance for the economic base, service infrastructure and social fabric of small and medium-sized towns. But in the six communities covered in this study, they are not trivial, and they need to be taken into consideration when assessing the contribution the RSE scheme makes to community development in New Zealand during the second decade of its operation.

RSE Impact Study

From the outset, the Recognised Seasonal Employer (RSE) policy has recognised the need to balance the positive impacts for New Zealand with those for individual Pacific Island countries (PICs). Over the twelve years of the RSE scheme's operation some unintended impacts have emerged, predominantly for PICs. The purpose of the Impacts Study is to examine the impacts of RSE to determine whether the RSE model as it was originally conceived is appropriate for the scheme going forward.¹

Two areas of impact have been prioritised for the study's focus by the research commissioners – MBIE and its partner agency MFAT. The first is the social and economic impacts for RSE workers, their families and communities. Concerns have been expressed by some Pacific Island governments about the consequences for households and communities arising from the absence of family members and productive labour for significant periods year-on-year. While some research has been done (for example, Rohorua, H., Gibson, J., McKenzie, D. & Martinez, P.G. (2009)), more in-depth information is needed about the immediate and long-term consequences of seasonal labour migration for RSE households and communities. The second priority area is the impacts of RSE on, and for, local New Zealand communities. While these two impact areas were identified as being priorities for the study, they do not preclude other impacts being examined.

The study examines four overarching research questions:

1. What are the social and economic impacts of RSE on, and for, RSE communities in New Zealand?
2. What are the social and economic impacts of RSE for PIC workers and their island-based families?
3. What are the social and economic impacts of RSE on, and for, Pacific communities?
4. What are the implications of the study findings for the future development of RSE?

The study consists of three closely linked work streams, consisting of primary and secondary qualitative data, and secondary quantitative data as shown in Table 1. Each of the work streams will be reported individually upon its completion. Once completed, the key findings from each stream will be integrated, analysed and synthesised into an RSE Impact Synthesis report to be completed in early 2020. A more detailed account of the research design is provided in Appendix 1.

¹ Impacts include intended and unintended, positive and negative, direct and indirect, actual and emerging/potential.

Table 1. RSE Impact Study

Overarching research questions	Work streams	Timing
1. What are the social and economic impacts of RSE on, and for, RSE communities in New Zealand?	New Zealand stream	December 2018 - June 2019
2. What are the social and economic impacts of RSE for PIC workers and their island-based families?	Pacific stream	May - December 2019
3. What are the social and economic impacts of RSE on, and for, Pacific communities?	Desk study on RSE worker engagement	March 2018-June 2019
4. What are the implications of the study findings for the future development of RSE?	RSE Impact Synthesis report: analysis of the key findings from the three studies above, in collaboration with MBIE and MFAT	January – March 2020

About this document

This document presents the findings of the New Zealand stream which examined the impacts of the RSE scheme on six communities where Pacific RSE workers reside for part or all of the year: Blenheim, Hastings, Kerikeri, Motueka, Roxburgh and Te Puke. The research findings are presented in two parts, with the third part summarising some of the key impacts identified in the findings.

Part 1. Community impacts

- Impacts of horticulture and viticulture expansion, associated with RSE, on and for local communities.
- Impacts on local accommodation and services.
- Social impacts on and for communities.

Part 2. Other impacts

- Economic impacts for RSE employers.
- Workplace issues for RSE workers.
- Wellbeing issues for RSE workers while they are in New Zealand.

Part 3. Summary and implications of key impacts.

Introduction

Pacific labour mobility

The New Zealand Government through its NZ Aid Programme is committed to sustainable economic and social development in the Pacific, with 60 percent of aid funding currently directed at the Pacific region.² In March 2018 the New Zealand Government announced *Pacific Reset*, a key principle of which is that the New Zealand Government and individual Pacific governments will *strive for solutions of mutual benefit when developing domestic and foreign policy*.³ The RSE scheme is intended to be of mutual benefit for participating Pacific countries and New Zealand.

The RSE scheme's success in opening up short-term employment opportunities for Pacific workers has led Pacific Island governments to seek greater access to New Zealand's labour markets for their unskilled and semi-skilled workers. The *Arrangement on Labour Mobility* between the New Zealand Government and individual Pacific governments, signed as part of the 2017 PACER Plus negotiations, describes New Zealand's commitment to creating more temporary employment opportunities in occupational areas where New Zealand faces labour and skills shortages, and to build Pacific States' capacity to participate in such opportunities.

Pacific countries are not only looking to the RSE scheme for increased temporary employment opportunities. The RSE scheme must be viewed within the larger context of other temporary labour mobility opportunities involving Pacific worker movement to New Zealand (Pacific Trades Partnership (PTP), Fisheries Pilot), Australia (Seasonal Worker Program (SWP), Pacific Labour Scheme (PLS)), Europe and Asia (fishers and other seafarers) and the movement of labour between PICs. In addition, there are the demands of local industry and enterprise, as well as the wide range of services provided to populations living in the islands. The RSE and SWP schemes are drawing on the same sources of Pacific labour. The impacts on PICs of this demand for mainly male workers from the younger working age group (20-39 years) will be examined in this study.

Recognised Seasonal Employer scheme

RSE beginnings

During the period 2000-2004 New Zealand's horticulture and viticulture exports increased more than 30 percent. At the same time, unemployment rates were decreasing, and the national labour market was tightening. A labour supply shortfall was identified as a potential risk to national export earnings and regional economic development, and as a constraint on business growth. Simultaneously, Pacific governments were putting pressure on the New Zealand government to allow Pacific workers to have improved short-term access to their labour markets.⁴

² New Zealand Aid Programme Strategic Plan 2015-2019. Ministry of Foreign Affairs and Trade.

³ <https://www.mfat.govt.nz/en/countries-and-regions/pacific/>

⁴ A more detailed account of the background to the RSE policy is provided by Ramasamy, S., Krishan, V., Bedford, C. & Bedford, R. (2008). The Recognised Seasonal Employer policy: Seeking the elusive triple wins for development through international migration.

The RSE Policy, which became operational in October 2007, allows for the temporary entry of offshore workers to work in the horticulture and viticulture (H/V) industries in New Zealand. The scheme was intended for unskilled workers from rural, cash-poor households to pick, pack and process harvests. Preference was given to five Pacific Island countries (PICs) - Kiribati, Samoa, Tonga, Tuvalu, and Vanuatu (referred to as the "Kick-Start states") - who were provided with facilitation measures to support their participation. Four other PICs have subsequently formalised their engagement in the scheme – Solomon Islands in 2010; Papua New Guinea in 2013, Fiji in 2014, and Nauru in 2015.

The RSE policy has multiple aims, including to:⁵

- create a sustainable seasonal labour supply.
- transform the horticulture and viticulture industries from low cost industries to industries based on quality, productivity, and high value through improved business practices.
- protect New Zealanders' access to seasonal employment.
- minimise immigration risk.
- contribute to New Zealand's broad objectives in the region, specifically encouraging Pacific economic development, regional integration, and stability.

The intended development outcomes for PICs include:⁶

- [named PIC] secures a fair portion of seasonal work opportunities under the RSE Immigration Instructions.
- [named PIC] workers are able to generate savings and relevant experience which may contribute to the development of [named PIC].
- [named PIC] cooperates effectively with New Zealand to maintain the integrity of the arrangements implemented, and
- The cost of transport does not act as a barrier for [named PIC] nationals to access opportunities under the RSE Immigration Instructions.

The main aspects of the RSE policy are as follows:⁷

- *Agency to agency relationship*: An Inter-Agency Understanding (IAU) between the PIC government and the New Zealand government sets out the respective obligations of the parties and arrangements for participation in RSE.
- *Employer recognition*: Employers who wish to participate in RSE must first gain recognition by complying with good employer and other requirements. Once they have achieved RSE status, the employer applies for an Agreement to Recruit (ATR) a specified number of RSE workers (for a specific timeframe, location, and work activities).
- *New Zealanders First principle*: The number of RSE workers approved in ATR applications is subject to the availability of suitable New Zealand workers. The total annual number of RSE workers is determined by government (referred to as the worker cap).

⁵ Department of Labour (2010). Final evaluation report of the Recognised Seasonal Employer policy 2007-2009 (p.5).

⁶ Extracted from the Inter-Agency Understanding documents for Nauru and Papua New Guinea.

⁷ Department of Labour (2010, p.6).

- *Employer driven*: The selection of workers and re-employment of return workers is determined by employers, based on their requirements. The relationship between the employer and worker is an employment one.
- *Short-term migration*: Worker applicants who have an offer of employment from an RSE employer and who meet the RSE worker criteria are granted a limited purpose entry visa for the duration of work approved in the ATR for up to a maximum of 7 months in any 11-month period.⁸
- *Circular migration*: The policy provides for the return of experienced workers (who have an offer of employment, want to return, and meet immigration requirements) in future seasons.
- *Pastoral care*: The RSE employer is responsible for the pastoral care of workers.

RSE ten years on

The tenth anniversary of the RSE scheme was celebrated in 2017. From relatively small beginnings (involving around 3,500 PIC workers), around 9,600 workers from nine Pacific States were approved to arrive in New Zealand in the 12-month period 1 July 2017-30 June 2018 for RSE work. In the ten years 2007-2017, 61,303 visas have been approved for RSE workers from the Pacific who have arrived in New Zealand (Table 2).⁹ There are 165 RSE employers (as at May 2019) around 70 percent of whom employ under 50 RSE workers each.

Table 2. RSE arrivals on approved visas 2007 - 2017

Pacific Island country	No. of RSE arrivals 2007-2017
Fiji	477
Kiribati	1,198
Nauru	57
Papua New Guinea	386
Samoa	11,965
Solomon Islands	4,072
Tonga	14,294
Tuvalu	682
Vanuatu	28,172
Total	61,303

Of the nine participating countries, Vanuatu, Tonga and Samoa have consistently taken the greatest share of RSE job opportunities. Vanuatu has had twice as many RSE arrivals on approved visas as Tonga, the second largest supplier of RSE workers. Over the years, MBIE (and its predecessor, the Department of Labour) have made considerable efforts to encourage RSE employers to recruit beyond these three PICs, especially from smaller countries such as Tuvalu and Kiribati that face barriers to participation such as distance and high travel costs, and countries like the Solomon Islands and Papua New Guinea that have few international outlets for labour migration. Only a small number of employers have responded to such efforts. This has led to disparities in the availability of RSE work opportunities across PICs which will be examined in this study.

⁸ Because of the relative isolation of their countries, and high travel costs to New Zealand, workers from Kiribati and Tuvalu can be employed for up to 9 months within any 11-month period.

⁹ Some of these RSE workers will return to New Zealand numerous times. Data from MBIE covering the period 2007-17 indicates the RSE worker return rate is around 60 percent.

RSE stakeholders

The RSE scheme operates within a complex system of stakeholder connections within New Zealand, between New Zealand and individual PICs, and within PICs (Figure 1). Such connections, which have been built up over the last ten plus years, are based on personal, cooperative relationships. Many RSE employer-PIC relationships are described as self-sustaining as a result of employers visiting the villages where their workers live.¹⁰

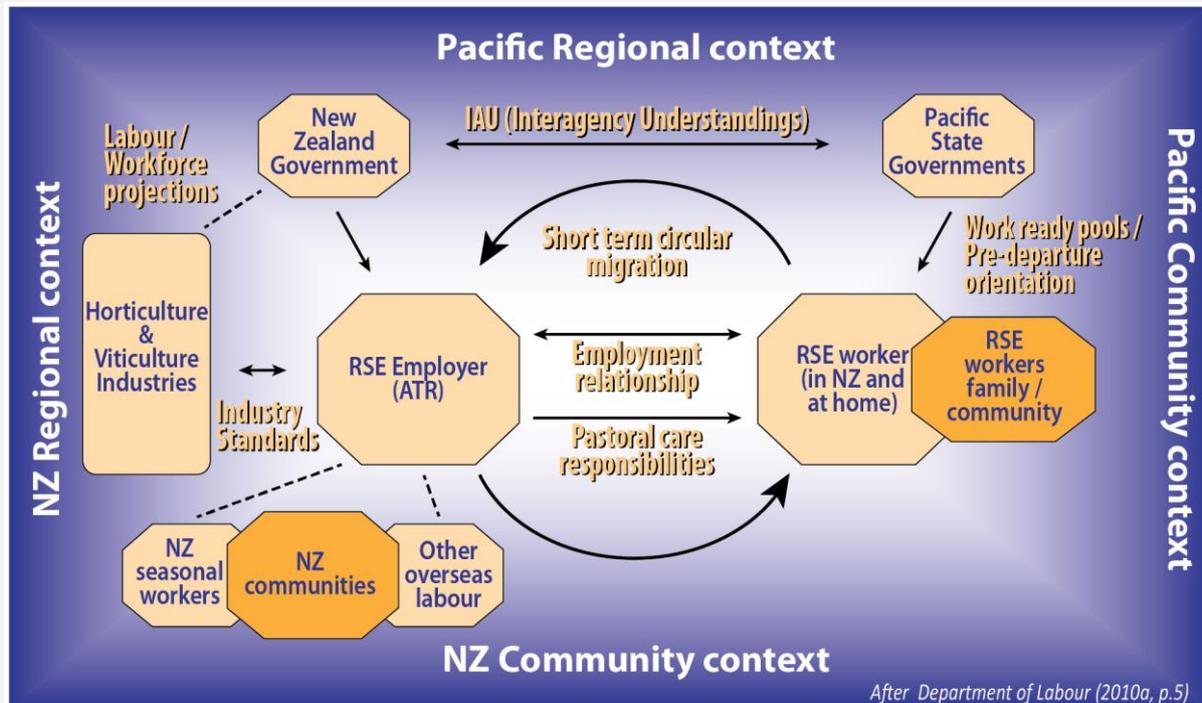


Figure 1: The RSE system

In the early days of the scheme, the primary relationship was understood as being between the RSE employer and RSE worker. While the workers' family and community were recognised as being part of the RSE context, it was not until the scheme had been operating for some years that their significance as stakeholders became better appreciated. The RSE worker's partner, extended family, and community members left behind assume extra responsibilities for childcare, family management, and food production in the worker's absence. Given the gendered nature of most RSE work, such responsibilities fall mainly on female family members.

At the New Zealand end, the focus was initially on RSE employers and the horticulture and viticulture industry organisations. From around 2013 onwards industry expansion began (due to guaranteed RSE labour) with a commensurate increase in the number of RSE workers. It was only then that the impact on, and for local communities in New Zealand began to be recognised. While on the one hand, communities enjoy economic benefits from RSE activities, on the other hand the annual influx of large numbers of RSE workers has placed pressure on local accommodation, health and other services.

¹⁰ Interviews with stakeholders were undertaken as part of the scoping of the impacts study.

Research approach

Three key aspects of the research approach for the study are first described, as listed below. This is followed by the research questions, a summary of the methods, and the research limitations.

1. The RSE scheme as a complex adaptive system.
2. The use of contribution analysis to examine impact.
3. Linking of the New Zealand and Pacific streams.

Key aspects of the research approach

RSE scheme as a complex adaptive system

The research approach for the study is underpinned by the conceptualisation of the RSE scheme as a system, specifically as a complex adaptive system. Briefly what this means is:

- The system is a whole that is both greater than, and different to its parts. Understanding what is happening in the system cannot be achieved by examining what is happening to each part separately (e.g. government policy or compliance, RSE employers, workers and their families), because the parts are interconnected and interdependent and the interactions of the parts lead to evolution of the system as a whole.¹¹
- Changes in one part of the system lead to changes in all parts and the system itself, and these changes occur in unpredictable ways because it is a complex system.
- Two distinctive features of systems are the concepts of feedback and equilibrium. A feedback loop is “a circular arrangement of causally connected elements, so that each element has an effect on the next”.¹² Feedback can be positive or negative. Negative feedback loops initiate changes within the system that help to stabilise and maintain the system’s equilibrium. In other words, a change in one part of the system is matched by an adjustment elsewhere in the system to maintain a relatively stable state. Positive feedback loops, on the other hand, enforce small changes that escalate further change, and move the system away from equilibrium.¹³ This can lead to the occurrence of tipping points, where forces within the system reach a critical threshold and a small change may have a large ultimate effect. Tipping goes in one direction - it is not possible for the system to ‘go back’ after reaching a tipping point as the state of the system changes.¹⁴
- Originating conditions are important for the direction of system development. However, every system carries its own contradictory pressures that might, if not checked, develop as probable and undesirable, rather than preferable, futures.

In the context of RSE, this means the scheme as a whole behaves in a particular manner that is quite different from, and cannot be reduced, to the behaviour of individual agents (government officials, employers, workers etc.). The success of the scheme depends on how individuals interact, the relationships they form, and how their interactions are organised to ensure the policy’s objectives are

¹¹ Patton, M. (1990). *Qualitative evaluation and research methods*. Thousand Oaks, CA: Sage.

¹² Capra (1997) cited in Walby S. (2007, p. 464). *Complexity theory, systems theory, and multiple intersecting social inequalities*. *Philosophy of the Social Sciences*, 37(4): 449-470.

¹³ Midgley G. (2006). *Systems thinking for evaluation*. In B. Williams & I. Imam (Eds.), *Systems concepts in evaluation. An expert anthology* (pp. 11-34). Point Reyes: American Evaluation Association, EdgePress.

¹⁴ Bryne D. (1998). *Complexity theory and the social sciences: An introduction*. London: Routledge.

kept in balance. The RSE scheme exists because of the interactions between different groups within the system that work to reproduce it. As a result, while the RSE scheme has operated as a relatively stable programme over the first ten years, it is not a static scheme. The scheme continues to evolve and is susceptible to change.

Use of contribution analysis to examine impact

A critical task for the impact study is to discern and assess the extent to which observed impacts are related, directly or indirectly, to the RSE scheme. Determining whether observed impacts can be *directly* attributed to RSE is impossible given the complexity of the policy, the number of stakeholders involved, the dynamic environment in which the scheme operates, and the range of Australian labour mobility arrangements operating in the same PICs and employment opportunity space.

The attribution problem inherent in complex policy environments is widely recognised (Mayne, 2012).¹⁵ An analytical approach - contribution analysis - addresses this challenge. Contribution analysis provides a systematic and rigorous approach to establish (or inversely, to discount) a *plausible association* between a particular input (or group of inputs) and observed changes: "Contribution analysis provides an argument with evidence from which it is reasonable to conclude with confidence that the intervention has made a difference and why" (Patton, 2012, p.367).¹⁶ It addresses cause and effect by *demonstrating contribution* rather than *proving causality*. It is well suited for examining complicated policies: "Contribution analysis works well for understanding and interpreting results in complex systems where a variety of factors and variables interact dynamically within the interconnected and interdependent parts of the open system".¹⁷

In brief, contribution analysis examines research findings to:

- establish the existence (or not) of an *association* between an intervention and an observed change(s),
- systematically discount any other plausible explanations for the observed change (e.g. about the internal and/or external environment), and
- where an association is established, understand the nature of the contribution.

The intended end-result of this process is to establish a *plausible association* between an intervention and an observed result that will withstand scrutiny and critique (or inversely, to discount such an association) (Mayne, 1999).¹⁸ An explanation of how contribution analysis is being used in the Impact Study is provided in Appendix A.

Linking of the New Zealand and Pacific streams

A feature of the research design is that the New Zealand stream is linked with the Pacific stream, thereby strengthening the study findings i.e. specific Pacific communities are targeted that have links to specific RSE employers, and vice-versa. This required the use of an emergent research design - we

¹⁵ Mayne, J. (2012). Contribution Analysis: Coming of age? *Evaluation*, 18: 370-380.

¹⁶ Patton, M.Q. (2012). A utilization-focused approach to Contribution Analysis. *Evaluation*, 18: 384-377.

¹⁷ *ibid.*

¹⁸ Mayne, J. (1999). Discussion paper: Addressing attribution through Contribution Analysis - Using performance measures sensibly. Office of the Auditor General of Canada.

needed to talk to RSE employers first to get a better understanding of the exact village(s) from which they recruit workers. Only after the employer visits were completed, could the potential locations for the Pacific fieldwork be identified (subject to the village leaders agreeing to participate).

NZ stream research questions

The overarching research question for the NZ stream, *What are the social and economic impacts of RSE on, and for, communities in New Zealand?* is underpinned by 27 sub-questions listed in Appendix B.

The following topics are out of scope of the NZ stream.

- A large scale, quantitative analysis of the economic impacts of the RSE scheme in New Zealand's regions.
- RSE operational requirements/processes. (MBIE has recently completed an Operational Review of the RSE scheme).
- RSE worker pre-departure health screening. The impact of the RSE scheme on the New Zealand health system. (These topics are being examined in the RSE Health Review undertaken by MBIE).
- The operation and effectiveness of RSE worker pre-departure training.
- Detailed examination of the barriers for Pacific women to participate in RSE. (This is being examined by MBIE and MFAT in the Women's Strategy to increase opportunities for the temporary employment of Pacific Islands women in New Zealand).
- The operation and effectiveness of Vakameasina.¹⁹

Selection of communities

Six communities that have RSE workers residing for some or all of the year were selected for the study in conjunction with MBIE. The selection of communities was guided by the following requirements.

- Communities with the largest numbers of RSE workers (to provide clear evidence of impacts on communities including on services and infrastructure), plus a couple of smaller communities where the types of impact may differ.
- Communities with different sized resident populations, from city/major town to rural settlement.
- A variety of crops – grapes, pipfruit, kiwifruit, citrus, berries, summerfruit and vegetables.
- Different RSE employer types - direct employers, labour contractors and grower cooperatives.
- RSE employers that recruit RSE women workers.

¹⁹ Vakameasina aims to maximise the development benefits of the RSE policy by providing RSE workers access to skills training during their time in New Zealand that will improve their lives and that of their families at home. The programme is funded by MFAT from the NZ Aid budget and is delivered to approximately 1,200 Pacific workers each year by a private provider.

Methods

This section provides a summary of the methods used in the NZ stream (Table 3). A more detailed account is provided in Appendix C.

Table 3. Methods and data sources

Method	Informant/data	Data details
Face to face interviews	Community-based, industry, RSE team leaders*, and other informants	Face to face interviews were completed in each of the six communities by a team of three researchers, working by themselves (Te Puke, Motueka, Blenheim) or in pairs (Hastings, Kerikeri, Roxburgh) from mid-November 2018 to beginning April 2019 using one of 12 topic guides. ²⁰ A small number of interviews were done on the telephone after the fieldwork visits due to an informant being unavailable when we were visiting, or to 'back-fill' areas of information that initial analysis identified as needing to be strengthened. 136 interviews were completed with 179 informants over the period November 2018 - April 2019. * 13 RSE worker team leaders were interviewed as part of our efforts to identify potential locations for, and interest in participating in the Pacific stream.
Document review	Official research and papers	Included RSE Remittance research, RSE Employer Annual Survey 2012-2018, Evaluation of Strengthening Pacific Partnerships and Vakameasina 2016, Vakameasina Design 2017, Pacific Women and Labour Strategy (draft, undated), RSE Operational Review, MBIE Risk Register.
	Scan of relevant research literature	The research literature on the NZ and Australian seasonal work schemes was reviewed in the research scoping phase to identify impacts of labour mobility on workers, families and communities. The review was re-scanned to identify RSE worker experiences while working in NZ.
	Media review	A review of media information relating to the RSE scheme that appeared in community-level media in the previous five years (2013-2019) in each of the study's targeted communities and their wider environs. In addition to print and electronic media, content was retrieved from social media and blog sites.
Descriptive statistical analysis	Industry/regional/ other statistical data	Sources included: research on patterns of worker engagement in RSE; Horticulture/Viticulture industry data for regions; regional economic activity/labour market information; census data; regional housing stats (e.g. rent levels, housing affordability, homelessness); RSE health insurance statistics.

The procedures used to code and analyse the data, and develop and refine contribution claims about impact are described in Appendix C.

The NZ stream has the following limitations.

- The research design has a strong qualitative focus. Therefore, it is not possible to generalise the findings across all New Zealand communities in the way that an experimental research

²⁰ The twelve topic guides were developed using a matrix based on the research sub-questions. The completed guides were reviewed by team members. An information sheet and consent form were produced for use with informants.

design can do. The insights from the study's findings will, however, have relevance for, and be transferable to, similar contexts and conditions.

- The communities that are the focus of the study were selected purposively. They are not a representative sample of communities that are home to the horticulture and viticulture industries.
- RSE employers and their Pacific team leaders participating in the study are voluntary participants who met the criteria identified by the research team in discussion with MBIE and are therefore not a random sample.
- The researchers sought to interview a range of informants in communities who could provide a community-wide perspective, such as local government, community leaders, church ministers and community-based NGOs. While we did our best endeavours to include as many informants as possible within time and cost constraints, some informants may have been missed.

The six communities

As part of understanding the extent and nature of impact of the RSE scheme at the local level, we developed a profile of each community from statistical data and descriptive information covering a range of economic, social and housing dimensions. These profiles are provided in Appendix D. Some features of the six communities relating to the RSE scheme and seasonal work are summarised in Table 4.

Table 4. NZ stream communities

- City/major town
- Small towns
- Rural settlement

	Hastings	Blenheim	Motueka	Te Puke	Kerikeri	Roxburgh
Population (2013 Census)	63,992	29,295	7,606	7,504	6,502	522
Crop types	Pipfruit, grapes, summerfruit	Grapes	Pipfruit and kiwifruit	Kiwifruit	Kiwifruit, citrus, avocados	Pipfruit, summerfruit
Total no. of RSE workers in region incl. those on joint ventures (year ended June 2017)	3,713	2,823	1,370	2,169	344	804
Primary source countries of RSE workers	Vanuatu: 26.1% Samoa: 29.2% Tonga: 14.8% Other Pacific: 19.3% Main PICs: Solomon Is, Fiji	Vanuatu: 55.4% Samoa: 8.1% Tonga: 6.4% Other Pacific: 10.5% Main PICs: Fiji, Kiribati	Tonga: 52.3% Samoa: 22.7% Vanuatu: 21.8% Other Pacific: 3.3% Main PICs: Solomon Is, Fiji	Vanuatu: 36.7% Tonga: 16.7% Samoa: 15.9% Other Pacific: 10.4% Main PICs: Solomon Is, Fiji	Vanuatu: 46% Tonga: 36.8% Other Pacific: 6.9% Main PICs: Kiribati, PNG	Vanuatu: 90.4% Samoa: 3.6% Tonga: 2.5% Other Pacific: 3.5% Main PICs: Solomon Is, Fiji
Other seasonal workers	Mix of permanent NZers and casual workers (NZ casuals and backpackers). Large RSEs, especially, have a good working relationship with local W&I and have a range of initiatives in place to attract NZers.	Mix of permanent NZers, and casual workers (NZ casuals and backpackers) hired for summer or winter work. Region's low unemployment rate, and negative perceptions among locals about the viticulture industry (low wages) makes it difficult to attract NZers.	Mix of permanent NZers and casual workers (NZ casuals and backpackers). Backpackers important source of seasonal labour through summer holiday period. For growers around Motueka it can be difficult to find NZers because of the small	New Zealanders make up largest component of seasonal workforce, accounting for over 55%. Backpackers are second largest source of labour (over 20%), followed by RSE workers (around 17%). Other migrant labour (international	New Zealand workers are main source of labour, accounting for 60-75% of total workforce each month, with largest numbers of NZers employed over peak periods. Working holiday maker numbers are very small (no more	Working holiday makers are largest source of seasonal labour accounting for approx. 60%. Teviot Valley is accustomed to a large influx of backpackers each year, but the high rates of freedom camping pose some concerns among locals.

			size of the community, and low regional unemployment rate.	students or those on work visas) make up less than 5% of the seasonal workforce.	than 2% of the total workforce during peak periods).	
RSE worker accommodation	Mix of accommodation types either RSE-owned or through third party providers. Onsite orchard accommodation, private rentals, motels, temporary buildings (portacoms).	New purpose-built accommodation and some use of private rental houses.	Mix of accommodation types. Onsite orchard accommodation, residential rentals, worker lodges. Investments are being made in new purpose-built accommodation.	Mix of accommodation types largely through third party providers. Onsite orchard / packhouse accommodation, backpacker hostels, holiday parks, campgrounds. Little investment, at this stage, in RSE-owned or purpose-built accommodation.	Two RSE accommodation providers: Holiday park and motor camp.	Majority of RSE workers are housed in onsite orchard accommodation, small numbers accommodated in local backpackers or in private rentals.

Part 1. Community impacts

Impacts of horticulture and viticulture industry expansion, associated with RSE, on and for local communities

<p>The contribution and impact of industry expansion, associated with RSE, on and for local communities</p> <ul style="list-style-type: none">• Industry-wide expansion, supported by RSE labour, is making a direct economic contribution in the six communities examined. This expansion generates multiplier effects as businesses that directly support H/V enterprises, such as land and land services, transport and distribution, agricultural services and equipment, construction, and accommodation services also expand. The H/V industries are a major employer and a significant contributor to regional economies, and their continual expansion fuels further economic growth and prosperity.• Expansion is generating more employment opportunities for New Zealand workers, in permanent and seasonal jobs, as H/V enterprises shift towards year-round production-related activity, crop varieties change, and greater volumes are produced.	<p>Factors that influence the impact of industry expansion on local communities and economies</p> <ul style="list-style-type: none">• Size and demographic profile of the local community.• Size of industry as a share of the total regional economy (i.e. what is the relative contribution of the H/V industries to the regional economy, how much local employment does it generate?).• Type of production and length of the peak season – does production generate spikes and troughs in worker numbers or is there now a year-round demand for labour?• Scale of expansion and associated impacts on land, housing, infrastructure and services required to accommodate increasing worker numbers.• Local labour pool – availability and suitability of local workers.• Wage rates that industry will pay for seasonal work.• Availability of migrant labour.• Competing demands for labour from other industries with more competitive wage rates.• Availability of local housing, services.• Changing land use and environmental impacts.
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Findings

New Zealand's horticulture and viticulture industries have been in growth mode since the mid- 2000s, and have changed dramatically over the past decade, with increasing international demand for New Zealand products and strong growth in export markets.²¹ Three crops dominate the country's horticultural exports: kiwifruit, grapes and apples. Over the past five years there has also been substantial growth in exports of avocados and cherries. In 2018 horticultural produce exports reached \$5.5 billion, representing an increase of more than 100 percent in the total value of New Zealand's horticultural exports from a decade earlier (2007; \$2.7bn). More than a third (34%) of export revenue is attributable to kiwifruit, followed closely by wine (31%), with apples accounting for 14 percent. For kiwifruit and apples, continental Europe and Asia (especially China) are the largest export markets,

²¹ Horticulture New Zealand (2018a). Provincial Growth Fund Application for funding.

accounting for more than 50 percent of exports. For the wine sector, the USA, United Kingdom and Australia are the primary markets.²²

Associated with strong growth in exports there has been widespread expansion of areas under planting, a shift towards new, more productive varieties and planting systems that produce higher yields in a shorter time frame, and reach maturity at different times.²³ The shift towards higher yield varieties and planting systems was noted across a range of crops: apples, kiwifruit, cherries and grapes. These changes work to extend the picking, packing and pruning seasons and, by default, increase both the demand for labour and the length of time labour is required.

In all six communities the H/V industries are a major local employer and make a sizeable contribution to the local economy. In the case of Te Puke, kiwifruit is the largest sector of the district's economy, contributing 65 percent to the district's GDP.²⁴ Informants in all communities spoke of the widespread expansion taking place and the significant multiplier effects on those businesses that support the H/V industries, such as land and land services, transport and distribution, agricultural services and equipment, irrigation, construction and accommodation services, as well as the flow-on effect of greater employment opportunities for New Zealand workers.²⁵

RSE has become "big business" for third-party providers of accommodation and transport. A wide range of accommodation types are used by RSEs, including holiday parks, campgrounds, backpacker hostels, motels and private rental houses. Some employers hire vans for the season that are used by their RSE workers; one employer estimated they spend around \$500,000 each season on vehicle hire. Other employers make use of third-party providers to transport workers to and from work each day in shuttle buses and minivans. In some communities, such as Blenheim and Hastings, RSEs have made significant investments in purpose-built accommodation, or redeveloped existing accommodation for workers. There have also been large-scale investments in infrastructure. In Kerikeri, Hastings, Motueka and Roxburgh, RSEs have made multi-million-dollar investments in fruit processing facilities. These investments have significant flow-on effects for the local construction industry, engineering firms and technology suppliers to name a few.

²² Horticulture New Zealand (2018b). Fresh facts 2018. Auckland: Plant & Food Research; Horticulture New Zealand (2017). Fresh facts 2017. Auckland: Plant & Food Research.

²³ New apricot and cherry plantings under a new orchard planting system have shown potential yields of up to 24 tonnes per hectare in their third and fourth year from planting, compared with average yields of 15 tonnes per hectare from fully mature trees grown in conventional configurations (Horticulture New Zealand, 2018b, p. 15).

²⁴ Western Bay of Plenty District Council (2016). Seasonal worker accommodation review. Retrieved from <http://www.westernbay.govt.nz/our-district/current-projects/Documents/Research%20Report%20-%203%20-%20Seasonal%20Worker%20Accommodation%20Review%20-%20%28for%20Public%20release%29.pdf>

²⁵ Industry expansion generates backwards and forwards linkages or multipliers. Backwards linkages are flow-ons from sectors that supply inputs into growing fruit. These sectors supply the infrastructure that is required to support the vines, grow the fruit, deliver fruit to the packhouse and so forth. Forward linkages are flow-ons to sectors that make use of the fruit to create additional products and value added for the regional economy. Related sectors include other food manufacturing, supermarket and grocery retailing, food and beverage retailing. See Scrimgeour, F., Hughes, W. & Kumar, V. (2017). The economic contribution of kiwifruit industry expansion to the Bay of Plenty, Northland and New Zealand economics. Report for Zespri International Limited. Hamilton: Institute for Business Research, University of Waikato.

RSE workers make a direct economic contribution through spending on goods and services in local towns, but the benefits are localised. Workers spend money in major retailers such as local supermarkets, The Warehouse, and electronics stores, and in fast food outlets and second-hand shops. But they make minimal contributions to more specialised stores such as local cafes and bars, restaurants, and movie theatres. RSE workers are in New Zealand to earn and save money – not to spend. Private sector informants felt this savings focus limited workers’ direct economic impact on the local community.

Industry informants and employers in all regions noted the RSE scheme’s critical and enabling role in the expansion of the H/V industries due to the certainty of labour that the scheme provides. The RSE scheme enables producers to achieve greater scale, efficiency and productivity due to: a core, seasonal labour force over peak periods; improved quality of pick; and stabilisation of production (crop picked and packed at optimum time). Employers in every community report growing business confidence on the back of RSE which in turn fuels expansion. This expansion has multiplier effects on other, related industries, which fuels further economic growth and prosperity in local communities.

RSE labour makes up a relatively small component of the total seasonal workforce in several regions including Bay of Plenty (17%) and Central Otago (15%).²⁶ Nonetheless, RSE workers have become the linchpin of the H/V industries due to their reliability, consistency and quality of work. In communities where RSE workers can be employed in the packhouse, such as Te Puke and Motueka, the reliability of labour for night shift work is facilitating the shift to 24/7 operations which, in turn, enables greater volumes of fruit to be processed. One employer stated they are now packing over 40 million trays in their packhouse, more than double the amount packed a decade ago, and this is solely down to the use of RSE workers for night shift work. Access to labour via the RSE scheme is now considered an essential part of the business model for large producers focusing on premium export markets, and the guaranteed supply of labour is facilitating the shift towards year-round production-related activity. This is an intended consequence of RSE – one of the policy’s primary aims it to “transform the H/V industries from low-cost industries to industries based on quality, productivity and high value through improved business practices”.²⁷

What may have been an unintended consequence, however, has been the scale of consolidation and rationalisation of the H/V industries, and the resulting disappearance of smaller, family-run operations. This has been facilitated, to varying degrees, by foreign investment that has supported the expansion of H/V enterprises, enabling producers to acquire more land for orchard and vineyard blocks, and make large-scale capital investments in new production facilities. With increasing foreign investment, the ownership structure of H/V enterprises is changing. Smaller family-run operations have restructured and merged with larger corporates, or formed consortia (e.g. Golden Bay Fruit) to operate more effectively in the domestic and international markets. As the scale of their operations has increased, their labour needs have also changed. Major investments in new plantings and new processing facilities drive greater demand for labour. These labour needs cannot reliably be met by

²⁶ Druce Consulting (2018). Central Otago labour survey horticulture and viticulture. Alexandra: Druce Consulting; NZKGI (2018). New Zealand kiwifruit labour shortage. Tauranga: NZKGI.

²⁷ Department of Labour (2010, p.5).

traditional sources such as local workers and backpackers, leading to an increasing reliance on RSE labour.

Consolidation and rationalisation of the H/V industries was a common theme raised in the six communities. New Zealand's wine industry, in particular, has seen significant foreign investment over the past decade, with large multinationals (e.g. Constellation Brands, Treasury Wine Estates) purchasing sizeable tracts of vineyard land in Marlborough and Central Otago.²⁸ Informants in Blenheim voiced some concerns about the scale of foreign investment and the flow of money out of the region. In Central Otago, informants were more positive about foreign investment as a means of supporting development of the local wine industry and creating employment both on the vineyard, and in associated jobs e.g. at cellar doors and vineyard restaurants. In Kerikeri informants noted that smaller kiwifruit growers are being squeezed out of the industry due to the high costs of licenses for SunGold plantings (\$270,000 per hectare).

As H/V enterprises expand and shift towards year-round production-related activity with new varieties coming online, recruiting and retaining skilled New Zealand workers has become a priority. As one informant explained, when the H/V industries were made up of a lot of small producers, they were characterised by irregular patterns of demand for labour – it wasn't possible for small enterprises to offer year-round work. As the H/V industries have consolidated and grown in size, they can now offer year-round employment. This in turn provides New Zealand workers with a regular, secure income which is improving livelihoods. The demand for skilled labour has led to a strong push by industry organisations to make the H/V sectors more attractive to local workers, particularly through opportunities for training, career development and progression.²⁹ Nonetheless, RSEs in Motueka, Hastings and Roxburgh noted the ongoing challenges of finding skilled, permanent staff to perform some of the more senior, technical roles associated with development and infrastructure work, before RSE workers arrive for the peak harvest periods.

In Kerikeri and Hastings informants described the substantial efforts that are made by some RSEs to recruit and retain New Zealand workers, both permanent and casual staff, by offering a range of incentives and wrap-around support services. In Motueka, views were mixed on RSEs' engagement with Work and Income (W&I) and their efforts to employ local workers. According to one informant, RSEs have "become complacent" in their efforts to recruit New Zealanders because of an assumption that RSE labour is now available "as a matter of right". Other informants in Motueka disputed this, arguing that RSEs work hard to maintain a good working relationship with W&I, and would employ more locals if they were available. Similarly, in Blenheim and Roxburgh, the low unemployment rates, at 4.2 percent and 2.5 percent respectively (December 2018), were cited as barriers to engaging more New Zealanders.

The current phase of rapid industry expansion is affecting the size, scale and workflow for picking, packing and pruning, and is leading to shortfalls of labour in many regions. These shortfalls are

²⁸ <https://www.stuff.co.nz/business/89182742/vineyard-land-and-forestry-plantations-attract-foreign-buyers-in-marlborough> <https://www.stuff.co.nz/business/109338557/foley-family-wines-gets-oio-go-ahead-to-buy-mt-difficulty--after-one-year>

²⁹ Horticulture New Zealand (2018a).

exacerbated by a tight labour market across New Zealand (with a national unemployment rate of 4.3% in December 2018)³⁰ that means most industries are struggling to find skilled and unskilled labour. Official seasonal labour shortages were declared in four of the six regions in the 2017/2018 season: Bay of Plenty (kiwifruit), Hawke's Bay (pipfruit), Tasman (pipfruit) and Central Otago (pipfruit, grapes, cherries). In 2019, the Hawke's Bay and Bay of Plenty have both declared official seasonal labour shortages. The Hawke's Bay requires an estimated 300-400 additional workers during harvest, while the kiwifruit sector requires an extra 3,800 workers over the peak harvest period.³¹ This is a significant shortfall, and one that is expected to grow as production volumes increase in line with the industry's target of generating \$4 billion in revenue by 2027.³² In Central Otago, informants said the only "saving grace" this season was the lower than expected production volumes of cherries due to unseasonably cold, wet weather during Spring.³³ If cherries had been in full production, informants felt the region would have declared another official labour shortage to cover the peak period during December and January.

While the H/V industries have expanded in all six communities and their surrounding environs, the impacts of this expansion differ. In a community such as Kerikeri that has relatively few RSEs (8), small numbers of RSE workers (approx. 330 in 2017-18), and sustained year-round production (no major peaks or troughs in production or worker numbers), the impacts of RSE are fairly limited. The district's kiwifruit industry is undergoing sustained expansion, but this has yet to place any real demands on the community. The horticulture industry in the Far North District employs a large number of local workers, supplemented by RSE labour, and there is minimal pressure from RSE workers on local housing stock or services.

For other communities, such as Te Puke (and to a lesser extent Hastings), that have undergone rapid industry expansion over the past decade, have major peaks to production and experience large influxes of seasonal workers during harvest periods, the impacts of expansion are more mixed. While the horticulture industry is a major contributor to the local economy, and seasonal workers make a direct economic contribution through spending in local towns, the influx of workers places real pressure on local housing stock, and to a lesser extent on infrastructure and services. Similarly in Blenheim, rapid expansion of the wine industry over the past two decades has generated significant wealth, but a lot of that wealth returns to owners and investors living outside the region. The changes in land use that have occurred as arable farm land has been converted into vineyards, as well as the growth in seasonal worker numbers, has led to some resistance among the local Blenheim community towards this expansion.

Roxburgh provides a different example. Located in the Teviot Valley, with an ageing, largely European/Pākehā population of around 520 at the time of the 2013 Census, the small, rural

³⁰ <http://webrear.mbie.govt.nz/summary/new-zealand?accessedvia=new-zealand&areatype=nz>

³¹ <https://www.immigration.govt.nz/about-us/media-centre/news-notifications/seasonal-labour-shortage-declared-in-hawkes-bay>; <https://www.tvnz.co.nz/one-news/new-zealand/labour-shortage-declared-in-bay-plenty-kiwifruit-industry-short-3800-workers>

³² NZKGI (2018).

³³ By the last week of December 2018, the local industry had exported only 116 tonnes of cherries, equivalent to less than 10 percent of the volumes (1,209 tonnes) exported by the same time in December 2017 (King, D. (2019). *Drying, flying machines tackle frost in Central Otago. The Orchardist*).

settlement of Roxburgh and the neighbouring community of Ettrick (estimated population of around 200) experience an influx of close to 1,200 seasonal workers each year. Of those, the majority (60%) are backpackers.³⁴ RSE workers, numbering around 300 and mainly from Vanuatu, make up 25 percent of the seasonal workforce. The influx of 1,200 seasonal workers into Roxburgh and Ettrick, mainly for the cherry and pipfruit harvests, almost doubles the size of the two communities' combined population of 720 residents. According to informants in Roxburgh, however, seasonal workers in general, and RSE workers in particular, currently place minimal pressure on the town's local housing stock, infrastructure or services. The vast majority of RSE workers are housed in onsite accommodation. The town's sole medical practice reports that it is not under major pressure from RSE workers, and the workers make an important economic contribution to local retailers such as the local supermarket and petrol station.

The Roxburgh community makes a concerted effort to welcome and integrate seasonal workers (both RSE workers and backpackers) into the community through local events and other strategies (discussed further below). In Roxburgh, more so than any other community, there is widespread acceptance that RSE workers are an integral and essential part of the local horticulture industry. Horticulture, along with pastoral farming, are the cornerstones of the Teviot Valley economy; the prosperity of Roxburgh relies on the horticulture industry which is, in turn, dependent on seasonal workers. Informants noted that local pipfruit and summerfruit producers would not be viable export operations without RSE – it is the certainty of RSE labour that enables them to continue operating and, in many cases, expand.

A 2018 report by the New Zealand Institute for Economic Research (NZIER) prepared for Hort NZ, NZ Kiwifruit Growers, NZ Apple and Pears and NZ Wine forecasts continued growth across the H/V industries over the next decade in both production and area planted.³⁵ In the kiwifruit industry the shift in plantings from Haywood (green) to Zespri's high-returning SunGold variety will drive growth in production and associated labour demand. Strong growth is forecast for pipfruit in the Hawke's Bay, driven mainly by an increase in area planted. Similarly, growth in wine production is forecast to occur in Nelson-Marlborough due to increased areas under planting. In Central Otago, significant expansion of cherry plantings over the next four to five years (56% increase on current plantings) is forecast with new, higher yield varieties and plantings systems driving growth in production and demand for labour.³⁶

The NZIER report notes greater numbers of seasonal workers will be required year-round: pipfruit from February to June; kiwifruit from April to May; wine from May to September; and summerfruit from November to February.³⁷ The shortfall of labour across the H/V industries is expected to increase by an extra 5,000 workers by 2024/25.³⁸ Horticulture and viticulture are competing with other

³⁴ Druce Consulting (2017). Support and integration of seasonal workers in the Teviot Valley. Report to the Teviot Valley Community Development Governance Group. Alexandra: Druce Consulting.

³⁵ New Zealand Institute of Economic Research (NZIER) (2018). Horticulture labour supply and demand. 2018 update. Wellington: NZIER

³⁶ Druce (2018).

³⁷ Druce (2018); NZIER (2018).

³⁸ The projected shortage is not broken down into permanent and seasonal worker numbers.

industries such as tourism, forestry and construction for low-skilled labour. New Zealand’s ageing population will also start to affect labour supply, especially in Nelson-Marlborough, Northland, Hawke’s Bay and Bay of Plenty.³⁹

Research and development (R&D) into mechanisation of the H/V industries is underway with many of the larger corporates investing significantly in automation. There are a range of automated picking, packing and pruning technologies already available or in the pipeline, but it is anticipated any real advances in automation are still 5-10 years away due in large part to the costs involved. Moreover, automation won’t replace people, rather a different type of (more skilled) worker will be needed in future to work in mechanised environments.

Informants in the six communities voiced concerns that expansion is taking place with relatively few constraints and without enough consideration to future labour needs. This is particularly evident in the viticulture industry where informants noted a disconnect between those that own the vineyards (often with foreign investors) and those that supply the labour. In Blenheim, where contractors provide the majority of labour, vineyard owners continue to expand on the expectation that contract labour will always be available – and that this labour will come via the RSE scheme. Not enough thought is being given to how workers will be accommodated, and some of the pressures that growing numbers of workers will place on local infrastructure (e.g. roads, wastewater) and services (e.g. medical services). Without more conscious planning around the feasibility of hectares planted, volumes produced and the labour that will be required to service that growth, RSE employers, the wider H/V industries, and local communities, will become increasingly reliant on the RSE scheme to meet their labour needs. This will be evidenced by continual approaches to government to raise the RSE cap.⁴⁰

Impacts on accommodation and services

This section examines the impacts on accommodation, medical services and policing in the six communities.

RSE worker accommodation

The contribution and impact of RSE on local accommodation

The demand for accommodation associated with gradually increasing numbers of RSE workers has coincided with a tightening property market and decreasing housing affordability in many NZ communities over the last 5-8 years. The RSE scheme has its most negative impact on the low-

Factors that influence the impact of RSE on low-cost accommodation in local housing markets

- The seasonality of demand for worker accommodation. In the Bay of Plenty and Central Otago, for example, large numbers of migrant seasonal workers enter the region for a short period of time.

³⁹ NZIER (2018).

⁴⁰ There is an administrative limit or cap on the number of RSE workers that can be taken up in any one year. The cap was set at 5,000 places when the scheme was introduced in 2007, increased to 8,000 in the 2009/10 financial year, and has been progressively raised since 2013/14 based on employers’ demand for labour. The most recent change, in November 2018, increased the cap by 1,750 places to 12,850.

cost rental market in communities with insufficient accommodation on orchards and other properties suitable for seasonal workers. In those communities, the RSE scheme creates a tipping point; as the number of RSE workers exceeds the capacity of the low-cost housing market to accommodate them, the scheme contributes to a shortage of properties for locals seeking a low-cost rental. The demand for RSE worker accommodation has placed most pressure on the residential housing markets in Hastings, Te Puke and Blenheim (although two recently completed large RSE accommodation complexes around Blenheim, plus another in progress are going some way to ease demand).

The RSE scheme, and associated compliance role of the Labour Inspectorate, has raised the standard of seasonal worker accommodation in many regions. The Labour Inspectorate's increased auditing of RSE worker accommodation, with a focus on prescribed space requirements, is having some unintended consequences for third party providers that house different types of seasonal workers (e.g. backpackers and RSE workers). The prescribed space requirements have reduced the numbers of residents that can be housed per room. This may lead to higher accommodation costs for RSE workers in future as providers seek to offset the financial losses associated with lower occupancy rates.

- The number of RSE workers compared with the amount of low-cost rental housing not being occupied by locals and other seasonal workers.
- The willingness of RSE employers to invest in the construction of new worker accommodation or redevelopment of existing accommodation.
- Council planning requirements and restrictions.
- The dynamics of local housing markets associated with:
 - ~ increasing demand for housing in smaller towns as a result of housing unaffordability for first home buyers in the main centres; retirees moving from larger to smaller centres to get capital gains; and increasing return migration of New Zealanders who have been living overseas.
 - ~ the decline in social housing stock over the last 10 years e.g. there has been a 12% reduction in social housing stock in Hastings during the five years 2012-2017.
 - ~ rental housing affordability - rents have steadily increased over the last five years throughout the country.
 - ~ growth of house prices in lower end of housing market is a barrier to people moving from renting to home ownership, placing more pressure on the private rental market.
 - ~ pressure from Airbnb on the private rental market. Houses that used to be rentals may now be used as Airbnb short-term stays, putting additional pressure on the rental market.

Findings

Annual adjustments to the RSE worker cap since 2013/14 have put greater demands on low-cost housing in communities close to where horticulture and viticulture are growth industries. Prior to the scheme, most growers and packhouses had never provided accommodation for their seasonal workers. Camping grounds and caravans were the preferred options for workers who were not locals. In addition, growers and packhouses had not employed workers for such long periods of time over the season. It took some time before RSE employers began to consider purchasing and converting suitable properties and building new accommodation for their RSE workers. They needed to achieve productivity gains before investing in worker accommodation and to be assured of the scheme's permanence.

Some RSE employers have a policy of not owning worker accommodation but rely instead on accommodation providers. Other employers use a combination of leased and owned accommodation for their workers. In some regions (e.g. Tasman and Central Otago) it is common for RSE workers to be accommodated on orchards. In others (e.g. Northland and Bay of Plenty) a mix of camping grounds, hostels and large-scale seasonal worker lodges have provided accommodation for seasonal workers. In Marlborough and Hastings, suburban houses and ex-motels (purchased by RSEs) provide the bulk of the accommodation. Existing houses on orchards together with new

temporary buildings (e.g. portacombs) are also used in Hawke's Bay.⁴¹ In recent years, more RSE employers (e.g. two RSEs in Blenheim) have constructed large-scale, purpose-built accommodation which is often located out of town due to Council planning requirements or the unavailability of suitably zoned land for worker complexes.

Houses in residential suburbs that are used to accommodate RSE workers are usually large (4-5 bedroom) properties which are likely to have been extended to provide additional bedrooms, bathrooms and kitchen facilities. Providing the house meets RSE accommodation standards (including the prescribed amount of space per resident), these properties may house large numbers of workers.⁴² Such boarding-house type arrangements may not be viewed favourably by neighbours, as in the case of a property in a Motueka suburb housing 21 workers.⁴³

In recent years the Labour Inspectorate has played a more proactive role auditing RSE worker bedroom accommodation to ensure it meets minimum space requirements (6 sq.m of floor space for one person, 9 sq.m for two people).⁴⁴ The Labour Inspectorate's increased compliance activity has had some unintended consequences for third party providers that supply accommodation to different groups (e.g. backpackers and RSE workers), particularly as the space requirements for RSE workers may differ from local government regulations around acceptable space limits. An example provided by a Labour Inspector is the recent construction of a new backpacker accommodation complex that has Council approval to house up to 40 backpackers. Under the minimum space requirements for RSE workers, however, the backpacker hostel can only house 21 RSE workers. A second example is a large multi-style accommodation complex that offers sites for tents, multi-person bunk rooms, new stand-alone accommodation blocks and single cabins, and is used by different types of migrant seasonal labour (RSE workers, backpackers, international students). Until recently, the accommodation provider could house up to 500 residents. Under the newly enforced rules, the provider can now house a maximum of 386 residents. These reduced occupancy rates pose difficulties for providers. Unless providers increase the weekly accommodation rates for RSE workers to cover the reduction in resident numbers, they are losing money per bed which impacts negatively on their businesses.

In three of the six communities examined – Hastings, Te Puke and Blenheim – RSE worker accommodation has placed pressure on local low-cost housing supply. Some informants (especially in Hastings) shared their frustration about the impact of migrant seasonal workers (including RSE workers) on their local housing market. An informant stated that growers need to be educated about their responsibilities to provide accommodation for their migrant seasonal workers: "It's not up to the community to accommodate their workers. It's our job to welcome them and make them feel part of the community". While the demand for RSE worker accommodation is putting pressure on local low-cost housing, a much larger group of seasonal workers (e.g. backpackers and New

⁴¹ The Hastings District Council only allows non-permanent (portable) worker accommodation to be erected on arable land.

⁴² All accommodation occupied by RSE workers must be approved by MBIE's Labour Inspectorate as meeting the RSE worker accommodation standards.

⁴³ <https://www.stuff.co.nz/nelson-mail/news/92840291/housing-rse-workers-in-converted-homes-puts-pressure-on-motuekas-accommodation-shortage>

⁴⁴ RSE worker accommodation standards. Immigration New Zealand (July, 2017).

Zealanders entering the region for casual work) may also be contributing. These groups are not visible in the same way as Pacific RSE workers, which means RSE workers may be being held responsible for a much larger problem.

The pressure is most pronounced in Hastings which is experiencing a chronic housing shortage and high levels of homelessness. The number of people approaching the Ministry of Social Development (MSD) with a housing need (and going onto the Housing Register) increased by 101 percent between 20 June 2017 and 30 June 2018.⁴⁵ The demand by RSE workers for housing is seen as contributing to the shortage.⁴⁶ MSD used RSE accommodation during winter for emergency housing. People were required to move out when RSE workers began arriving in the spring which received negative publicity in the national media. An example of displacement of locals was provided by a Hastings informant who had got to know her new neighbours (a family). They told her they had signed up to a two-year lease. A little time later, the family had to move out because the landlord had broken the lease. The informant subsequently found out that the landlord had signed a rental agreement with an RSE employer to house some of its workers. The recently completed renovation of a large complex (Angus Inn which is an ex- motel/hotel) by a large RSE employer which has capacity for 300 RSE workers will help to ease the pressure of RSE on the Hastings rental market.

Similarly, Te Puke lacks suitable low-cost housing for local families and migrant seasonal workers. The unaffordability of housing in Tauranga has led first-home buyers to look further afield to Te Puke, Te Puna and nearby rural locations in search of affordable properties.⁴⁷ The effect on housing prices has been significant - in February this year, the median house price in Te Puke-Maketu was \$530,000, an increase of 88 percent since 2014.⁴⁸ The demand for rental housing for locals is such that a Te Puke-based group, Empowerment NZ, has a dedicated team looking for solutions to house the homeless. The demand for worker accommodation is complicated by the short harvesting window for kiwifruit before export quality is compromised.⁴⁹ A large number of migrant seasonal workers arrive in Te Puke and its environs for a relatively short period of time and need to be housed. The impacts of accommodation shortages are illustrated in a recent situation - a viticulture RSE labour contractor in Blenheim on a joint venture with a kiwifruit RSE moved approximately 150 of its workers to Te Puke for the kiwifruit harvest. More workers could have gone but there was no accommodation available for them.

In Blenheim the majority of RSE worker beds are supplied by labour contractors, rather than wine growers. Accommodation includes rental houses, backpackers and converted motels. Like many centres, Blenheim has experienced housing pressures especially for low-cost housing. It is one of ten

⁴⁵ <https://www.msd.govt.nz/documents/about-msd-and-our-work/work-programmes/housing/public-housing-plan/2018-public-housing-plan.pdf>

⁴⁶ <https://www.stuff.co.nz/dominion-post/news/hawkes-bay/112622422/councils-ask-government-to-step-in-over-hawkes-bay-housing-crisis>

⁴⁷ <https://sunlive.co.nz/news/151123-tauranga-house-prices-plateau.html>

⁴⁸ <https://www.stuff.co.nz/business/property/110583816/priced-out-home-buyers-who-cant-afford-provincial-cities-are-heading-to-these-hot-spots>

⁴⁹ New Zealand Kiwifruit Labour Shortage. New Zealand Kiwifruit Growers Incorporated. Retrieved from <https://nzkgi.org.nz/wp-content/uploads/2018/07/NZ-Kiwifruit-Labour-Shortage-July-2018.pdf>

centres to receive Housing First funding, a government initiative to reduce homelessness.⁵⁰ The pressure on Blenheim's low-cost housing market has eased in the last 12-18 months due to the construction of two purpose-built RSE accommodation complexes housing 600 workers. A consent application is currently with the Council for a new complex to house an additional 250 RSE workers.

The only communities in the study that are not currently experiencing housing pressure as a result of RSE are Kerikeri and Roxburgh. In Kerikeri all RSE workers are housed in two accommodation complexes: a holiday park in central Kerikeri, and a motor camp on the outskirts of town. In Roxburgh the majority of RSE workers live in accommodation on orchards, in hostels or a hotel in Roxburgh. There is only one residential property in Roxburgh housing RSE workers. Informants acknowledge that any future growth in RSE worker numbers will cause accommodation problems. The small size of the town and the demand from New Zealanders for holiday homes in the area means there are no residential properties available for purchase or rental.

Rents in the private rental market have steadily increased in some regions. For example, the mean rent for a three-bedroom house in Flaxmere East, a suburb of Hastings where many RSE workers are housed in rental properties, increased by 23.6 percent in the five years September 2012-September 2017.⁵¹ Such increases were also described by a landlord we interviewed who rents houses around Hastings to RSE employers for their workers. The weekly rent of his properties has increased from \$80/worker in 2008, to \$120 for the 2018/19 season. He anticipates a further increase for the 2019/20 season. The demand for private rentals has benefitted landlords, for example, two or more RSE employers may be vying for the same rental property for their workers. Landlords gain premium rents by housing a group of RSE workers in a property for seven-nine months, rather than renting to a family for a year for a lesser amount. Such rent increases were also reported by the RSE team leaders we interviewed. They are one of the major causes of complaint by workers who return for successive seasons. This is discussed further in the section dealing with "Cost of living in New Zealand".

At the 2018 RSE Employer Conference, the Minister of Immigration the Hon. Iain Lees-Galloway urged employers to provide worker accommodation that does not take residential housing away from New Zealanders. The increasing use of joint ventures among RSE employers has changed the economics of providing accommodation for some growers – having the opportunity to have RSE workers using accommodation for more than seven months of the year is made possible by joint ventures and this is increasingly important in the wine and kiwifruit industries.

Interviews with RSE employers and local government officials highlighted the constraints facing employers wishing to develop new seasonal worker accommodation or convert existing buildings. Constraints include the time and cost involved in resource management consenting, and the lack of availability of appropriately zoned land within walking/cycling distance of town. Requirements of council district plans for seasonal accommodation, especially those that place restrictions on use

⁵⁰ <https://www.stuff.co.nz/business/property/105735200/housing-shortage-first-hurdle-as-housing-first-moves-to-marlborough>

⁵¹ A stocktake of New Zealand's housing. February 2018. Johnson, A., Howden-Chapman, P. & Equb, S. Ministry of Business, Innovation and Employment. Retrieved from <https://www.beehive.govt.nz/sites/default/files/2018-02/A%20Stocktake%20of%20New%20Zealand%27s%20Housing.pdf>

other than by seasonal workers, act as major disincentives for RSE employers to invest in worker accommodation.⁵² Some examples of resource planning constraints are summarised in Table 5.

Table 5. Resource planning constraints for seasonal worker accommodation

Community	Constraints
Blenheim	Marlborough District Council District Plan does not allow properties built to house seasonal workers to be used for any other purpose. The complexity and duration of the consenting process for purpose-built seasonal worker accommodation were noted in a 2018 report prepared for the Marlborough District Council. ⁵³
Hastings	Hastings District Council District Plan currently does not allow the construction of permanent accommodation on productive land. The Council is currently considering amending this to allow worker accommodation to be built on orchards. ⁵⁴
Kerikeri	The Far North District Council District Plan does not allow the construction of large accommodation complexes on land used for horticulture or horticulture processing.
Te Puke	The Te Puke Community Board has identified seasonal worker accommodation as the most significant challenge for its community. The Board's 20-year plan (updated in 2016) notes its intention to establish dialogue with Western Bay of Plenty District Council to investigate possible consent and compliance concessions for short term RSE accommodation needs. ⁵⁵ A labour needs analysis commissioned by New Zealand Kiwifruit Growers in 2018 noted that sewerage and water consent fees for seasonal accommodation can be prohibitive. ⁵⁶ Respondents to a seasonal accommodation survey for the Western Bay of Plenty District Council completed in November 2016 identified the District Plan as a significant limiting factor for employers to develop new accommodation for seasonal workers. Eight specific requirements and restrictions of the District Plan were identified as constraints. ⁵⁷

Lastly, during our fieldwork we visited many RSE worker accommodation sites and observed significant variations in quality. Some RSE workers continue to be housed in mediocre accommodation with poor insulation and heating and relatively few amenities. For the most part, however, the RSE scheme has had a positive impact, raising the standard of seasonal worker accommodation. This is particularly evident in those communities where RSEs are investing in purpose-built accommodation or redeveloping existing accommodation sites. These large-scale capital investments have positive flow-on effects for associated industries such as construction, as well as caretaking, cleaning and catering services that support workers during their stay. Some large RSEs that have built or renovated large scale complexes are raising the bar on RSE worker accommodation.

⁵² We did not examine the District Plans for the six communities. Consequently, there may be additional constraints not identified in this report.

⁵³ Housing and Business Development Capacity Assessment for Blenheim, 2018. Retrieved from https://www.marlborough.govt.nz/repository/libraries/id:1w1mps0ir17q9sgxanf9/hierarchy/Documents/Your%20Council/Environmental%20Policy%20and%20Plans/Nat%20Policy%20Statement%20Urban%20Dvpm%20List/NPS_Urban_Development_Capacity_2018.pdf

⁵⁴ <https://www.stuff.co.nz/dominion-post/news/hawkes-bay/112622422/councils-ask-government-to-step-in-over-hawkes-bay-housing-crisis>

⁵⁵ <https://www.westernbay.govt.nz/our-district/our-community/community-lans/Pages/default.aspx>

⁵⁶ New Zealand Kiwifruit Labour Shortage. New Zealand Kiwifruit Growers Incorporated. Retrieved from <https://nzkgi.org.nz/wp-content/uploads/2018/07/NZ-Kiwifruit-Labour-Shortage-July-2018.pdf>

⁵⁷ Western Bay of Plenty District Council Seasonal Worker Accommodation Review. November 2016. Retrieved from [https://www.westernbay.govt.nz/our-district/current-projects/Documents/Research%20Report%20-%20-%20Seasonal%20Worker%20Accommodation%20Review%20-%20\(for%20Public%20release\).pdf](https://www.westernbay.govt.nz/our-district/current-projects/Documents/Research%20Report%20-%20-%20Seasonal%20Worker%20Accommodation%20Review%20-%20(for%20Public%20release).pdf)

Impacts on medical services

<p>The contribution and impact of RSE on local medical services</p> <p>The RSE scheme is having an impact on local health services in the six communities but this is not considered to be causing major problems. This is largely due to changes that medical practices have made in several communities (Kerikeri, Hawke's Bay, Blenheim) to better cater for RSE worker patients and to minimise disruption to local residents enrolled in their practice. Informants from these practices are satisfied that these changes are working well, which is generally endorsed by local pastoral care workers. In three communities (Kerikeri, Motueka, Roxburgh) the number of RSE workers in the community is smaller, with limited impact reported on medical services.</p> <p>While the demands RSE workers place on local medical practices have not caused major problems, at the national level the RSE scheme presents some risks to New Zealand's health system. Limited medical screening in PICs, and an absence of medical histories for RSE workers, means that an undefined number are entering New Zealand with pre-existing conditions, some of which may require medical treatment in New Zealand (including hospitalisations). This issue is being examined in MBIE's RSE Health Review. There are also concerns within the Ministry of Health about the potential outbreak of communicable diseases in the case of RSE workers who are not fully immunised.</p>	<p>Factors that influence the impact of RSE on local medical services</p> <ul style="list-style-type: none"> • The number of RSE workers living in or in the vicinity of the community. • The capacity of local practitioners to provide medical/dental services for growing resident populations, and the extent of any spare capacity. • RSE workers may constitute only part of an increase in demand for medical and dental services. Other seasonal workers and tourists may also place pressure on local medical and dental services e.g. tourists in Motueka. • The responsiveness and flexibility of medical practices to cater for RSE workers who are not enrolled in the PHO.
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Findings

MBIE is currently undertaking an RSE Health Review examining health screening capacity in Pacific States, the impacts of RSE workers' healthcare on New Zealand's health services, and worker health insurance. The following findings (together with the findings about worker health in Part 2) will contribute to this review.

In five of the six communities we visited the medical centre that caters for the majority of RSE workers in the community (as advised by the medical centre or an RSE employer). Medical practices visited in four communities have recognised that RSE workers are an on-going part of their local community and have put specific arrangements in place to assist them (despite workers not already being enrolled in the practice). Such arrangements reduce the impact of RSE workers on medical services and minimise disruption to enrolled patients. These arrangements include:

- A designated time for RSE workers with non-urgent conditions to visit the medical centre. This minimises workers' time away from work.
- RSE workers with non-urgent conditions are brought into the practice in groups by the pastoral care worker who rings in beforehand to advise the number of workers requiring treatment. The practice then allocates a doctor or nurse for the workers at a specified time.
- The Marlborough PHO has set up a new clinic in Blenheim for RSE workers, other seasonal workers and tourists who are not enrolled in a GP which is open 12 hours a day. The clinic has

taken pressure off local G.P.s and reduced the number of RSE workers presenting at the Emergency Department after-hours.

- The strengthening of relationships between medical centres and local RSE employers, for example, medical centre staff attending RSE employer forums.

Medical practices visited in the remaining two communities treat RSE workers as visitors or casual patients. Residents are prioritised for treatment over RSE workers and other casual patients.

Medical practitioners interviewed in Hastings, Blenheim and Kerikeri identified a number of ways in which medical services could be improved for RSE workers, including health promotion and accident prevention.

- Workers should be required to bring their medical history with them to New Zealand, especially immunisation history, and allergies to particular medicines.⁵⁸
- Health screening is provided to workers on their arrival in New Zealand to screen for pre-existing conditions, particularly cardio-vascular conditions and diabetes. Screening would include blood pressure, weight, and blood tests for diabetes and cholesterol.⁵⁹
- A need for improved screening in the Pacific which could be aligned to the screening done in New Zealand.
- Education for workers about the link between poor diet and potential future health issues e.g. diabetes, other weight-related conditions. A medical informant said that RSE workers were more likely to listen to a medical practitioner talk about the importance of good diet for energy and health, than they would to a pastoral care worker.
- A medical practice would like to offer clinic style, multi-disciplinary arrangements where medical staff visit RSE workers at their worksite or accommodation. There are overseas workplace models that could be replicated for RSE workers. The clinic could include an occupational health nurse who would provide education to reduce the number of work-related injuries (e.g. the importance for workers to wear the right shoes to avoid strained ankles and falls off ladders etc.), a physiotherapist, and a nutritionist to educate workers about eating for energy and health.
- Notification in advance of any increases in RSE worker numbers.

The Ministry of Health was interviewed about any potential population-health issues related to the annual arrival of large numbers of RSE workers. A senior health official emphasised the importance of preventative measures to optimise RSE worker health. Such measures will minimise health risk to New Zealanders and reduce the possibility of workers putting pressure on New Zealand's primary and secondary health systems. The official stressed the importance for RSE workers to arrive in New Zealand with up-to-date vaccinations (i.e. MMR, tetanus, whooping cough and chicken pox). If workers arrive without these vaccinations, the Ministry strongly recommends that the RSE employer arranges for workers to get vaccinated. Flu vaccinations are also recommended. While the timing of

⁵⁸ It should be noted however that most RSE workers will not have access to written medical histories.

⁵⁹ Orbit Health Insurance has teamed up with two RSE employers to do NZ-based laboratory testing of workers for a range of conditions e.g. diabetes, anaemia, hypertension, STDs. The testing is partly subsidised by the local District Health Board.

the vaccination for workers arriving late in the year or early in the new year is not optimal (as the vaccine's effectiveness will be waning), the Ministry advises that the vaccine will provide workers with some coverage. The flu vaccine for the upcoming winter is usually available in mid to late March for privately funded patients.

The Ministry official also highlighted the risks of communicable disease outbreaks (e.g. salmonella, hepatitis) which spread quickly among people living in confined spaces such as those accommodating RSE workers. Such an occurrence could put pressure on New Zealand's primary and secondary health systems. An outbreak of Varicella (chicken pox) among RSE workers in Hawke's Bay in February 2017 was reported in the New Zealand Public Health Surveillance Report.^{60 61} In March 2019, 31 cases of H1N1 influenza were confirmed among RSE workers in the Hawke's Bay who had recently arrived in New Zealand. Two of these workers were hospitalised.⁶²

The Hawke's Bay District Health Board has produced a "Health Toolkit for the RSE scheme" for RSE employers and pastoral care workers.⁶³ The toolkit provides information on communicable diseases and their prevention, personal hygiene, nutrition, oral health, safe sex, alcohol and drugs.

Undisclosed pre-existing medical conditions are another major concern, not only for employers but for RSE health insurance providers. As a condition of their Limited Purpose Visa, RSE workers are required to apply for and be approved by one of the two New Zealand health insurance providers offering medical cover to RSE workers - Orbit Health Insurance and Southern Cross Health Insurance.⁶⁴ (Orbit covered migrant seasonal workers prior to RSE, while Southern Cross is a newer entrant). The application form (in English), which is filled out by the worker prior to leaving home, requires the worker to document any pre-existing medical conditions. This raises two questions: do workers (especially those who do not speak English) understand what the term "pre-existing condition" refers to? If a worker is aware of an existing medical issue, how likely are they to document this information if it could result in them being declined medical insurance and therefore make them ineligible for a visa? The medical and financial consequences of workers' undisclosed medical conditions for the New Zealand health system can be very significant. There have been cases of RSE workers returning home after a stay in a public hospital (and in debt to the district health board) due

⁶⁰ ESR for the MoH. The New Zealand Public Health Surveillance Report, An outbreak of Varicella (chickenpox) among orchard workers [Hawkes Bay] p. 6-7, June 2017. Retrieved from https://surv.esr.cri.nz/PDF_surveillance/NZPHSR/2017/NZPHSRJune2017.pdf

⁶¹ The above paper notes that in tropical countries chickenpox is not a usual childhood infection due to its transmission being less effective in tropical temperatures. The risk of severe disease, usually with Varicella pneumonia, increases with age.

⁶² <https://www.stuff.co.nz/national/health/110991662/flu-outbreak-in-hawkes-bay-fruit-fields-puts-workers-out-of-action>

⁶³ Hawke's Bay District Health Board, March 2016. Health Toolkit for the RSE Workers scheme. Retrieved from <https://www.hawkesbay.health.nz/assets/.../Health-Toolkit-for-RSE-Workers-Scheme.pdf>

⁶⁴ Three levels of medical cover are offered by Orbit: level 1 - basic cover and prescriptions; level 2 - hospital treatment; level 3: blanket cover of pre-existing conditions (including cancer, stroke, heart attack and coronary artery disease) in addition to the \$5,000 limit under the worker's base policy. The level 3 policy introduced in December 2016 is only available to employee groups rather than to individual workers. This means an RSE needs to sign up all of its workers to the policy. To-date no RSEs have taken up the level 3 policy. Orbit advises that employers argue it is not mandated by Government and it will cost workers more (c.\$4/week).

to their insurance claim being rejected because their condition was deemed to be pre-existing.⁶⁵ This topic is being examined in MBIE’s RSE Health Review.

In an effort to minimise the potential negative impacts of RSE workers on the public health system, one RSE health insurance provider has undertaken various initiatives, including a pilot improved RSE worker screening in NZ that covers a wide range of health concerns (e.g. diabetes, anaemia, hypertension, sexually transmitted diseases) and more comprehensive insurance policies for RSE workers that will cover them in the event of a serious illness (refer footnote 61).

Impacts on policing

<p>The contribution and impact of RSE on local policing</p> <p>RSE workers currently place minimal pressure on local police in the six communities. RSE workers are not a major source of complaints from the public or instigators of crimes requiring police attention. NZ Police in several communities noted that other groups of temporary residents pose more challenges for policing than RSE workers. If RSE worker numbers continue to increase, the police officers responsible for RSE in some centres will require additional resourcing.</p>	<p>Factors that influence the impact of RSE on local policing</p> <ul style="list-style-type: none"> • The number of RSE workers living in the community. • The relationships local police have formed with RSE employers and local industry groups. • The targeting of RSE workers by local criminals • The level of staffing and resources at the local police station, and the pressures on local police from the wider population (e.g. in communities where local police resources are limited, RSE workers may create an additional burden). • RSE pastoral care provisions.
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Findings

The New Zealand Police usually has a designated police officer in each community who is responsible for RSE as part of their wider duties (other than Roxburgh which has a sole-charge officer). The main aim of police is to keep RSE workers safe while living in New Zealand. In recent years, local criminals have been setting their sights on RSE workers, with more illegal activity occurring towards workers. According to one police officer: “RSE is an evolving beast - it varies from season to season. Each year something will come out of left field. Local criminals will always see new opportunities”.

Officers make themselves available to RSE employers to talk to their workers on arrival about potential risks, such as sale of stolen goods to workers, drug sales, theft of electronic and other goods that workers have purchased to take home, recruiting by local gangs, and alcohol-related risks such as theft of workers’ money when they are drunk.⁶⁶ It should be noted that all of these incidents have actually occurred. Examples include:

- A drunk Hawke’s Bay worker was kidnapped and dumped under a bridge in Wairoa with his wallet missing.
- A gang was recruiting RSE workers so it could establish itself in a Pacific country which currently has no gang presence.

⁶⁵ Verbal report from MBIE.

⁶⁶ There is also an extensive briefing by NZ Police in the pre-departure material/video that has been prepared for each country in the workers’ main language.

- A house on an isolated orchard was burgled twice within weeks – burglars returned the second time to steal the replacement goods that workers had bought.
- Accommodation (a house and outbuildings) shared by 30 workers was burgled while they were at work. One of the men had invited a woman back for the evening and it was suspected the woman passed on information about the electronic gear she saw in the house.

While not illegal, local sex workers are targeting RSE worker accommodation sites. Some sex workers may be gang-affiliated and are used to sell drugs to workers. Informants in four of the six communities we visited raised prostitution as an issue of concern, mainly because of the challenge this poses to pastoral care. RSEs that accommodate their workers on orchards generally prohibit visits by strangers after a certain time. This applies in some large accommodation complexes like the Kiwi Corral in Te Puke, for example. A large accommodation complex on State Highway One has had to install a barrier arm at its entrance (like a military camp) as strangers (including sex workers) were entering the site uninvited.

Police officers also talk to workers about their behaviour while in New Zealand, especially drunk driving and inappropriate behaviour towards local women. When talking to new arrivals, police officers make a special effort to be friendly and approachable as police are not always respected and trusted in some Pacific countries. The proactive RSE employers will arrange for the police officer to speak to their workers on arrival, while other RSEs will only contact the police when something has gone wrong.

The RSE police officers in Kerikeri, Hastings and Blenheim report they have good links with local RSE employers so that any incidents involving RSE workers can be dealt with quickly or potential risks averted. Such incidents may include drunk driving, and alcohol-related behaviour in town. Some RSE employers choose to deal with some of the less serious incidents themselves and do not involve local police.

The following strategies have been put in place to minimise alcohol-related behaviour. Despite such strategies, alcohol-related incidents (drunk driving, assaults) still occur. Tongan RSE workers, in particular, are described by some informants as having a drinking culture.

- Pacific governments such as Samoa and Vanuatu have a no-drinking policy. Workers found to be drinking are sent home with a penalty according to the severity of the incident. Examples of sanctions imposed in the island countries include, the worker not being offered a place in the scheme in future; the workers' village not being allowed to send workers to NZ for the following season.
- Many RSE employers/accommodation providers ban the consumption of alcohol on their properties.
- RSE employers ensure that worker groups are led by effective team leaders to guide the workers, particularly younger or new workers. The team leader may be a leader from the workers' village or island.
- RSE employers do not re-employ disruptive workers the following season.

There is variation in how RSE employers view workers' use of kava. The consumption of kava is prohibited on all accommodation sites in Marlborough. Some employers in other regions are more flexible about its use, providing it does not impede workers' productivity the following day.

Methamphetamine was discovered for the first time in 2018 in RSE accommodation in Kerikeri and workers were sent home as a result. In past years there have been some serious sexual assault incidents resulting in RSE workers being imprisoned.

During the period January 2018 – March 2019, 42 behavioural incidents involving RSE workers were reported by RSE employers to MBIE and recorded on MBIE’s RSE Risk Register. Of these incidents:

- 22 (52%) were alcohol related.* 9 were driving under the influence (DUI), 7 of which resulted in court cases where the worker was fined and/or disqualified from driving.
- 5 were drug-related (all marijuana).*
- 4 workers abandoned employment (INZ compliance involved).
- 4 alleged sexual assaults (3 reported to police).
- 4 car accidents. In 2 cases some workers were hospitalised.
- 2 theft. Both cases involved an RSE worker stealing from another worker.
- 1 illegal fishing.

* Some of the alcohol and drugs incidents involved multiple workers.

Police informants emphasised that RSE workers are not a major source of complaints by the public or instigators of criminal activity requiring their attention. They noted that other groups of temporary residents often pose more challenges for them than RSE workers. The pastoral care provisions in the RSE scheme have helped to ensure the workers adjust to working and living in New Zealand without requiring intervention from the police. If RSE worker numbers continue to increase, the police officers responsible for RSE in some centres will require additional resourcing.

Social impacts on and for communities

The contribution and social impact of RSE on and for communities

For most of the people in five of the six communities we visited, the social impact of RSE on and for the community is minimal and superficial. The majority in the community appear to make no distinction between RSE workers, backpackers and other migrant seasonal workers, and tourists - they are all regarded as temporary residents in their community.

Workers’ participation in the community is predominantly via church and, to a lesser extent through sporting activities and local events (e.g. annual Christmas parade). Workers are an integral part of local congregations, and it is through the church that they build some of their strongest connections with members of the local community

Roxburgh is distinctive from the other five communities in that it is proactively embracing RSE and other migrant seasonal workers as part of a wide-ranging community development initiative funded by the Department of Internal Affairs.

Factors that influence the social impact of RSE on and for communities

Beyond churches, marae and NGOs, the amount and nature of interaction between the community and RSE workers is influenced by the following.

- The number of RSE workers relative to the size of the local population - smaller communities may feel overwhelmed by large numbers of RSE workers.
- The extent to which seasonal work is part of the fabric of the community and residents are accustomed to seasonal workers coming and going.
- The attitude of the local community towards the local horticulture/viticulture industry (and therefore to its seasonal workers).
- The extent to which community members are open and receptive to people from other cultures living in their community.
- Language barriers.

Findings

Communities view RSE workers as being regular, temporary residents. Locals (particularly those in predominantly palagi communities) have become familiar with seeing Pacific peoples on the streets and in the supermarket. Workers' arrival at the start of the harvest is now recognised as a regular annual event and some informants told us they look forward to seeing RSE workers in their community again. The ways in which informants describe their community's interface with RSE workers living among them can be summarised in three ways: anonymous presence, friendly faces, personal relationships.

Anonymous presence <i>This is the case for the majority of locals</i>	Community members <i>see</i> workers driving on the road and in public places such as the supermarket and other shops, waiting at the doctor's surgery, using the money machine, swimming or fishing at the river, or hanging around in town on a rainy day.
Friendly faces <i>Some locals</i>	Community members <i>experience</i> something of workers' cultures e.g. workers singing at the local church, market and retirement villages/rest homes, participating in the Christmas parade, performing in multi-cultural and other community events. Such performances are well received by community members.
Personal relationships <i>A small number of locals</i>	Community members have <i>relationships</i> with workers through marae-based, church and NGO activities, local sports teams, and working alongside RSE workers in the workplace.

Except for pockets in the community such as churches, marae and NGOs, the communities in the study (other than Roxburgh) can be said to acknowledge, rather than actively engage with RSE workers who have lived among them for lengthy periods during the last 12 years. There appears to be general acceptance that RSE workers are needed to undertake seasonal work that many New Zealanders are unwilling to do.

Many informants we interviewed across the six communities described RSE workers as enriching their community. An informant who lives next door to a house owned by an RSE employer commented: *The RSE workers bring a new cultural dimension to the community, providing the community is open to Pacific cultures. The Pacific workers are generally happy people - they sing and laugh a lot. They have a positive impact on the neighbours around them. We're always hearing happy sounds coming from the house. You don't hear singing and laughter coming from other neighbours.* Some informants expressed concern that RSE workers are isolated, particularly those living in houses in residential suburbs which lack space to socialise with other workers, especially during wet weather. Workers end up hanging around in town in groups which may disturb some locals simply because the men (and it usually is groups of men) are dark skinned and dressed in dark clothing. These informants want more organised activities for workers and facilities with pool tables and other leisure activities.

Churches have been, and continue to be, hospitable towards and supportive of RSE workers living in their community. Some provide transport for workers to attend church, while others reimburse the petrol costs of workers living far from town. Workers may confide in church leaders about home-related concerns (e.g. homesickness, worry about spouse) or work-related issues (e.g. insufficient work and earnings at the beginning of the season to cover rent and living costs). Church leaders have acted as advocates for workers (when asked by workers), particularly in the early years of RSE when some worker accommodation was overcrowded and/or substandard. Congregations provide workers with warm clothing, bedding, bicycles and other equipment they need while in New Zealand, plus

contribute goods to fill containers for workers to ship home. There are many examples of churches providing tangible assistance to workers' villages, particularly after disasters. Churches have also assisted workers financially whose accommodation has been burgled, losing electrical and other goods purchased to take home. For their part, RSE workers provide an enthusiastic presence and joyful singing which the rest of the congregation enjoy. A frequent observation is that Pacific peoples are happy people: *"The RSE workers bring life and colour to the church and to Te Puke generally. People look forward to the return of the seasonal workers each year. Most people love it when the ni-Vans and others are in town"*.

Local marae have welcomed RSE workers into the area and involved workers in marae activities. Groups in communities have identified, funded and delivered specific projects in workers' villages. For example, members of the Te Puke community took on the task of restoring the potable water supply for residents on Tanna Island after Cyclone Pam in 2015.⁶⁷ The community-wide effort included the Tauranga Rotary Club that funded five large water storage tanks.⁶⁸ The "Fruit of the Pacific" is a New Zealand-based charitable trust started by a former pastoral care provider in Te Puke.⁶⁹ The trust works with ni-Van workers to develop skills and community development projects e.g. the building of a cyclone-resistant eco-house; setting up of a mobile saw-mill.

The way Roxburgh is responding to seasonal workers is significantly different to the other five communities. The Teviot Valley Community Board has been granted community development funding of \$240,000 by the Department of Internal Affairs for a project consisting of five work streams, including one titled "Seasonal Worker Integration" which aims to make seasonal workers feel welcome in the community.⁷⁰ An informant explained that the town's prosperity relies on horticulture which in turn relies on seasonal workers: *"Roxburgh is in competition with the rest of New Zealand for RSE workers. So it's important that Roxburgh is an attractive place for them to want to come and work. This is about survival of a small community. We have to open out our arms, not just for RSE workers but also for working holiday makers"*. To-date, the funding has enabled (among other things) the development of a community hub on Roxburgh's main street with free Wi-fi and "Cherry Chaos", an annual event based around fun activities involving cherries (including a food fight).⁷¹ The aim of Cherry Chaos is to build connections between seasonal workers and the locals. Another work stream titled "Heritage" will depict RSE workers and working holidaymakers in a visual history of the community. An informant explained how RSE workers are becoming part of the fabric of Teviot Valley: *"Every year the RSE workers are with us, they are building a history with us."*

Our interviews with some informants in Hastings revealed criticisms about the RSE scheme. The following are identified as contributing to this response.

⁶⁷ This was a joint initiative organised by OAC Ministries (a Christian faith-based group), Fruit of the Pacific and the Te Puke Baptist Church. Retrieved from <https://givealittle.co.nz/cause/watertanks4tanna>

⁶⁸ <https://taurangatepaparotary.club/stories/water-storage-for-tanna>

⁶⁹ <https://www.fruitofthepacific.org/>

⁷⁰ The Teviot Valley ward encompasses urban and rural communities. The main urban towns are Roxburgh and Millers Flat. The ward includes the settlements of Ettrick and Lake Roxburgh Village.

⁷¹ <https://www.centralotagonz.com/community-development/inspiring-communities/cherry-chaos>

- The perception that RSE workers are taking jobs away from locals who are unemployed or under-employed, especially young people.⁷² While it is acknowledged that RSE workers are needed for the peak picking period of two-three months, people question why they are working in NZ for longer periods.
- The disparity in the employment conditions of RSE workers and NZ workers is a cause of contention i.e. RSE workers are guaranteed 30 hours work per week, are given accommodation, pastoral care, and transport to and from work. RSE workers also have consistency of employment that locals do not have.
- When allocating work, RSE employers are seen to prioritise RSE workers over local workers. For example, RSE workers start work at the beginning of the season before local workers. Locals are the first to be put off at low points during the season and at the end of the season.
- Some RSE employers are perceived as having more loyalty to their RSE workers than they do to their local seasonal workers. An informant with a relative who is an orchard worker said this creates tension between locals and RSE workers which has resulted in fights in the workplace.
- Housing RSE workers in residential properties is putting pressure on low-cost housing in Hastings. Workers are living in properties that would otherwise house local families.

In the early years of the RSE scheme, some local Pacific communities were seen as a negative influence on RSE workers as they encouraged workers to change employers seeking better wages, move around New Zealand or overstay their visa. This has abated over time as a result of work done with Pacific communities informing them about RSE visa conditions and the penalties for workers who remain in New Zealand unlawfully. Some palagi informants expressed concern about local Pacific churches putting pressure on RSE workers to contribute financially to the church and expectations that workers will commit considerable time to church activities.

⁷² While the unemployment rate in Hastings has declined recently (4.8% of the labour force in Hastings was unemployed in the year to December 2018), Hawke's Bay has the second highest rate of youth unemployment in New Zealand. 17.8% of 15 to 24-year-olds were not in employment, education, or training (NEET) in Hawke's Bay in the year to December 2018 (17.6% in Hastings), compared to 11.9% for all New Zealand.

Part 2. Other impacts

While the primary focus of the NZ stream was the impact of RSE on communities, additional data was gathered about the following topics:

- Economic impacts of RSE for employers.
- Workplace issues for RSE workers.
- RSE worker wellbeing issues.

Economic impacts of RSE for employers

<p>The contribution and economic impacts of RSE on employers</p> <ul style="list-style-type: none">• Due to their reliability, quality and consistency, RSE workers have become a necessity for employers – not just a preferred source of labour. Access to labour via the RSE scheme is now considered an essential part of the business model for large export producers, and employers are expanding and making large-scale capital investments on the assumption that RSE labour will continue to be available.• There is evidence of a positive feedback loop whereby RSE labour facilitates the expansion of H/V enterprises, and this expansion, in turn, requires more RSE labour to pick, pack and prune greater volumes of fruit. This positive feedback loop fuels greater reliance on RSE labour, evidenced by industry's continual requests to government to raise the RSE national cap.	<p>Factors that influence the economic impacts of RSE on employers</p> <ul style="list-style-type: none">• Size and type of the H/V enterprise.• Number of RSE workers, and the relative size of the RSE workforce to the H/V enterprise's overall seasonal workforce.• RSE worker return rate.• Use of joint ventures (workers via joint ventures provide additional labour and can extend the periods RSEs have access to labour).• Local labour pool – availability and suitability of local workers.
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Findings

Productivity gains

Participation in the RSE scheme provides a number of key benefits for employers: certainty of labour at peak times during the season; improved quality of pick and stabilisation of production as crops are picked and packed at the optimum time for export; and overall productivity gains that come from regular attendance at work and employees' experience at completing the tasks at hand.⁷³ According to an industry informant, *"when you talk to RSEs, the thing they talk most about is their RSE workers' level of productivity. RSEs would need to employ 25 percent more New Zealand workers to achieve this same level of productivity."*

⁷³ The greater productivity of RSE workers, compared to other types of seasonal workers (e.g. NZ casuals, W&I clients, backpackers) is reflected in higher wage rates for RSE workers. A recent survey commissioned by NZAPI (2018) which contains earnings data for key tasks performed in the pipfruit industry (picking, pruning, thinning, packing and maintenance jobs) shows RSE workers have higher weighted average hourly earnings for picking, thinning and pruning – all tasks paid on piece rates (per bin filled, or per tree/vine thinned or pruned) – compared to other worker groups.

The annual RSE Employer Survey asks respondents about the impacts of RSE on their business.⁷⁴ As Table 6 shows, over the past six seasons more than 90 percent of RSEs who had workers in the last 12 months agreed that participation in the RSE scheme, or having access to RSE workers (e.g. via contractors and labour cooperatives) had resulted in a more stable, productive seasonal workforce.

Table 6. Impacts of RSE on the business

All RSEs who had workers in last 12 months ⁷⁵	2012	2014	2015	2016	2017	2018
Base =	137	132	138	92	77	112
	%	%	%	%	%	%
Better quality and productive workers	96	97	95	97	100	99
More stable seasonal workforce	94	97	93	97	99	97
Ability to employ more NZers	-	65	66	84	83	78

Source: RSE Employer Survey

RSEs reported an associated benefit of being able to employ more New Zealand workers for permanent and casual roles, in addition to their RSE workforce. The percentage of respondents that reported employing more New Zealanders has also increased over time. In 2014, 65 percent of survey respondents felt participation in the RSE had enabled them to employ more local workers. By 2018 this had increased to 78 percent. RSEs in several regions commented, however, on the difficulties of finding skilled New Zealanders to fill permanent, technical roles. The limited numbers of school and tertiary graduates entering the H/V industries is a constraint,⁷⁶ as well as the low unemployment rate in virtually all regions.

RSEs identified a number of factors that can influence the productivity of their RSE workers. These included:

- Worker return rate - most RSEs want a high return rate because return workers are well trained and experienced.
- Wage rates - if workers know they are well remunerated for the tasks they perform, they will work hard.
- Workers' health - including diet and nutrition. A healthy diet provides workers with more energy to complete tasks on the orchard or vineyard. Improving workers' diets to boost their overall productivity is a key motivator behind the decision of several RSEs to provide daily meals for their RSE workers.
- Age of workers - younger workers tend to be more difficult to manage outside of work hours because they do not have the same level of maturity or family responsibilities (e.g. paying for children's education) as older workers.
- Pastoral care and workers' living conditions - "a happy worker is a good worker".
- Strong team leadership. Team leaders act as role models and encourage others to work hard. Team leaders play a pivotal role both on and off the orchard/vineyard, supervising workers while on the job, and supporting workers during their time in New Zealand.
- Suitability of the worker to the job performed.

⁷⁴ Research New Zealand. Recognised Seasonal Employer Survey (annual survey 2012 - 2018). Wellington: Research New Zealand.

⁷⁵ Survey data were not available for 2013.

⁷⁶ Horticulture New Zealand (2018a)

- The work environment at the orchard/vineyard where workers are employed. If workers are not comfortable in their work environment this can lead to a lack of motivation and poor performance.
- Seasonal variations can lead to reduced availability of work (and lower than expected earnings).

Employers tend to see the greatest productivity gains (as measured by workers' earnings on piece rates) between seasons one and two. From season two onwards, workers' earnings tend to increase up to around season four or five and then plateau.⁷⁷ This is not surprising as there are limits to the number of bins that can be picked or vines pruned within a day. Nevertheless, the quality of the work performed may continue to increase, as workers become increasingly skilled at performing certain tasks (e.g. selecting fruit of the optimum colour or size). Returning workers also play important training and supervisory roles.

Expansion and investment

All RSEs involved in the study, whether direct employers, labour contractors or labour cooperatives, reported growing business confidence and expansion on the back of RSE, either in terms of area under planting or increasing production volumes in the packhouse. In Kerikeri, Hastings, Motueka and Roxburgh business investment and expansion was evident in the multi-million dollar packhouse facilities being built to support greater production volumes. Some RSEs are also making sizeable capital investments in RSE worker accommodation as part of their expansion plans; an investment that assumes continued access to RSE workers year after year.

The RSE Employer Survey asks a series of questions about changes to business practices and business growth, including investments in new plant and equipment, business expansion, and expansion of area under cultivation. Between 2012 and 2018, an increasing percentage of respondents indicated they had invested in new plant and equipment, and expanded their businesses in the past 12 months, up from around 25 percent in 2012 to around 50 percent in 2018 (Table 7).

Table 7. Impacts of RSE on changes to business practices

RSEs that have made changes in past 12 months	2012	2014	2015	2016	2017	2018
Base =	111	134	139	92	77	112
	%	%	%	%	%	%
Investment in new plant and equipment	24	48	47	60	64	51
Expansion of business	21	38	43	59	58	45

Source: RSE Employer Survey

As shown in Table 8, there was also a clear increase in the percentage that had expanded their area under cultivation, up from 71 percent of respondents in 2012, to 95 percent of respondents in 2018. When asked whether participation in RSE had been a factor encouraging this expansion, around 80 percent of respondents stated that it was an influencing factor.

⁷⁷ Bedford, R. & Bedford, C. (2017). RSE earnings and remittance surveys. Samoans, Tongans and ni-Vanuatu employed in Hawke's Bay, the Bay of Plenty and Marlborough for 18-22 weeks, 2014/15 and 2016. Report for the Ministry of Business, Innovation and Employment.

Table 8. Impacts of RSE on business growth

All RSEs	2012	2014	2015	2016	2017	2018
Base =	111	134	138	82	64	83
	%	%	%	%	%	%
Area under cultivation expanded since 2007	71	73	77	98	92	95

Source: RSE Employer Survey

RSE worker return rates and rotation

For many employers, a high worker return rate is important for a number of reasons: return workers are trained, skilled and productive; return workers require less supervision; and there's reduced staff turnover. Contractors and labour cooperatives, especially, emphasised the importance of a high return rate because they are contracting their workers out to others, and their clients want the surety of well-trained workers.

Most of the RSEs estimated they had an RSE worker return rate of somewhere between 80-90 percent. Data from the RSE worker movements database, however, indicate there is more churn in the RSE workforce than expected. Table 9 shows the percentage of workers, in each region, that were employed for either one season, or for four seasons, over the four-year period from 2013/14 – 2016/17. In each region around one third of workers had only been to New Zealand for one season over the four-year period. No more than 40 percent of Pacific RSE workers had been for all four seasons.

There are some regional variations. Northland, for example, had the highest percentage (40%) of workers that had only been to New Zealand for one season over the four-year period, and the lowest percentage (25%) that had been for all four seasons. Central Otago was the opposite, with the lowest percentage (26%) of workers that had been for one season, and the highest percentage (40%) that had returned every season for four years. There were also variations between Pacific RSE workers, and those from Asia. In Northland, Hawke's Bay and Marlborough more than 60 percent of the Asian RSE workers had been to New Zealand for all four seasons.

Table 9. Percentage of RSE workers by number of seasons, 2013/14-2016/17

Number of seasons	Northland Kerikeri	Bay of Plenty Te Puke	Hawke's Bay Hastings	Tasman Motueka	Marlborough Blenheim	Otago Roxburgh
One season, Pacific	41.4	35.2	32.6	33.2	34.4	25.9
One season, Asia	7.7	27.0	9.1	0.0	13.5	0.0
One season, all sources	40.1	33.5	30.1	33.2	33.9	25.9
Four seasons, Pacific	23.6	26.4	34.9	35.0	29.1	40.0
Four seasons, Asia	69.2	34.2	65.2	0.0	62.3	0.0
Four seasons, all sources	25.3	28.0	38.1	35.0	35.0	40.0

Source: RSE worker movements database

Several informants noted that turnover of their RSE workforce is essentially self-regulating; worker rotation happens automatically from the island-end. Families decide among themselves who is going to New Zealand – the decision doesn't rest solely with the New Zealand employer. One RSE, for instance, estimated that around 80 percent of their RSE workers are returnees, although not necessarily all of those that return were working in New Zealand the previous season. Around one third of the employer's workforce are women, and some take a break for a year, especially if they have struggled with work the previous season.

Data from the RSE worker movements database supports this finding. RSE workers are not coming year after year, some are choosing to take time off. In doing so, there is a risk that the worker may not get their position back if the job is filled by a new worker who proves to be productive. But selective use of the RSE scheme is clearly a calculated risk that workers are taking. It is imperative that workers continue to make these sorts of decisions because the RSE scheme does not provide any avenue to residence in New Zealand; workers must build their long-term livelihoods in the islands.

Some RSEs have initiated strategies to encourage worker rotation, often in collaboration with village leaders in the Pacific communities that they recruit from. These rotation policies are an attempt to spread opportunities to participate in RSE among families and communities, and in doing so, spread the potential development benefits. One RSE has workers on a three-year rotation policy, and workers must have a clear plan for the use of their RSE income over the three-year period. In the 2018/19 season, 40 percent of the employer's workers were new recruits. From the employer's perspective, there are no real problems with a regular intake of new recruits. The RSE workers have a strong system of group leadership; all new recruits are mentored by an older, return worker who can assist with worker training and also help the new recruit adjust to life in New Zealand.

Another RSE has implemented a seven-year rotation policy. This employer is of the view that workers need up to seven years to reach their targets for income generation and to improve livelihoods at home. To be selected in successive seasons RSE workers must demonstrate a clear plan for investment of their earnings. After seven years, the RSE worker is allowed to pass the employment opportunity on to another family member. It could be argued that this approach is further embedding

the same families into RSE as the jobs pass from fathers/mothers to sons/daughters, rather than spreading opportunities more widely.

Joint ventures

Associated with the increasing expansion and production of H/V enterprises, RSEs are making greater use of joint ventures to supplement their RSE numbers, and to have access to workers for extended periods. Table 10 shows the number and percentage of RSE workers employed in the six regions for the year ended 30 June 2017. As can be seen in the Table, there are sizeable numbers of RSE workers employed in more than one region. This is particularly the case for workers employed in Marlborough (42%) and the Hawke's Bay (35%). The country's largest labour cooperative operates in Marlborough and Central Otago, and shares a considerable number of their 1,000 RSE workers between the two regions. There are also several labour contractors based in Blenheim that share workers between Marlborough and other regions (especially Hawke's Bay and the Bay of Plenty). In the Tasman district, only 13 percent of workers are shared with RSEs in other regions. This may be because the district produces both pipfruit and kiwifruit, and workers can be employed across both crops while remaining within the region.

Table 10. Number and percentage of RSE workers employed, year ended 30 June 2017

Regions/Towns	Northland Kerikeri	Bay of Plenty Te Puke	Hawke's Bay Hastings	Tasman Motueka	Marlborough Blenheim	Otago Roxburgh
Just in this region	286	1744	2416	1193	1673	575
In this and other regions	58	425	1297	177	1186	299
Total RSE workers	344	2169	3713	1370	2823	804
% just in this region	83.1	80.4	65.1	87.1	58.0	71.5
% in this + other regions	16.9	19.6	34.9	12.9	42.0	28.5

Source: RSE worker movements database

An unanticipated consequence of all core sectors - kiwifruit, grapes, apples as well as avocados and cherries - expanding at the same time, is the extension and overlap of seasons between different crops. The lengthening picking, packing and pruning seasons, and ensuing shortfalls of labour evident in most regions, not only place constant pressure on the RSE cap, but also on employer's use of joint ventures. Several employers commented that joint ventures no longer work for them because of the overlap between crops. This seems to be an issue particularly for RSEs sharing workers between kiwifruit and grapes. Now that the kiwifruit season is lasting longer, and grape pruning is starting earlier, challenges arise when both employers on the joint venture want workers at the same time. This has resulted in some RSEs shifting away from the use of joint ventures and instead seeking larger increases in their own RSE worker numbers for future seasons.

Due to the certainty of labour provided under RSE and the quality and consistency of the work performed, RSE workers have become a necessity for employers – not just a preferred, convenient source of labour. Access to labour via the RSE scheme is now considered an essential part of the business model for large export producers, and RSE workers form the core of their seasonal workforce every year. It is this surety of labour that gives H/V enterprises the confidence to expand and creates a positive feedback loop as increasing areas under planting require more labour to pick,

pack and prune greater volumes of fruit. This positive feedback loop fuels greater reliance on RSE labour, evidenced by industry's continual requests to government to raise the RSE national cap. Access to workers via the RSE scheme is vital to the H/V industries' continued expansion and keeps both sectors on track to meet Horticulture New Zealand's target of becoming a \$10 billion industry by 2020.⁷⁸

Workplace issues for RSE workers

This section addresses three workplace issues for RSE workers. Most of the findings discussed in this section are derived from the interviews with NZ informants (rather than RSE team leaders). While we did not ask questions about the following topics, NZ informants who have direct contact with RSE workers raised their concerns with us. As these topics will be explored further in the interviews with RSE workers at home, it is not possible to identify any impacts at this stage.

- Employment conditions
- Discussing and raising issues of concern
- Skills development.

Employment conditions

Informants' principal concerns relate to the differences in wage rates and employment conditions among RSE employers. Such differences are particularly pronounced for workers employed by RSE co-operatives where rates are not standardised across all growers, and for workers employed by labour contractors where rates can change from grower to grower. A number of informants (including RSE employers) told us about employers that pay their return workers the minimum wage despite their skills and years of experience. Increases in the minimum adult hourly wage (an increase of \$5.70 in the 11 years 2008 - 2019) are unlikely to match the rising living costs for RSE workers while they are in New Zealand (discussed further below).⁷⁹ Some employers recognise the extra responsibility of team leaders and drivers by rewarding them with higher wages or have other reward systems in place, while others have no such system.⁸⁰ Additional concerns relate to the complexity and lack of transparency around how piece rates are calculated, rates that change throughout the season, and employers that do not confirm what the rate will be. An informant described some Kiwifruit RSE employers having different pay scales for New Zealand and RSE workers for the same task, for example, NZ workers are on contract rates for pruning while RSE workers are on an hourly rate. Mobile phones have made it easier for workers to share and compare information about employment conditions offered by individual employers.

A second concern is the need for consistent work across the term of the contract. A ni-Vanuatu team leader described workers as having a single-minded purpose: "Being in New Zealand is all about

⁷⁸ Plant & Food Research (2016). Fresh facts 2016. Auckland: Plant & Food Research.

⁷⁹ The minimum adult wage rate before tax in 2008 was \$12/hour. From 1 April 2019, it is \$17.70/hour before tax. Retrieved from <https://www.employment.govt.nz/hours-and-wages/pay/minimum-wage/minimum-wage-rates/>

⁸⁰ Some employers reward their team leaders and top workers by paying for all or part of the worker's share of the airfare, and in the case of team leaders pays their accommodation for the season.

getting the job done, working hard and saving your money". Insufficient work at the beginning and end of the season, and downtimes during the season diminish worker earnings and savings.⁸¹ This is further compounded if the employer is unable to send workers to another employer that can provide short-term work over the downtime. Despite having no income, workers must meet accommodation and living costs which increases their debt at the beginning of the season or depletes their savings during the season. A palagi church pastor described how his church has had to provide food to workers until they started earning because their employer had brought them to New Zealand before the season got underway. Another informant described the potential issues that may arise if workers have no work at the end of the season: "... it's during this time that workers start to get into trouble. They have time on their hands and money to burn."

A union informant has the following concerns about RSE workers' employment conditions arising from its regional staff's interaction with workers and their employers:

- Greater clarity is needed about what is acceptable worker debt loading. Around three to four months' earnings are required for workers to pay off their 50 percent share of the airfare and pay rent in advance. In the meantime, families at home are not being supported financially. (This was also raised by other informants).
- The employment contract that workers are given in the Pacific is sometimes different to the contract they are given in NZ. (This was also raised by other informants).
- Some RSE labour hire contractors are not being transparent about pay rates which means workers are unclear about what they are meant to be paid. (This was also raised by other informants).
- Standard pay rates for RSE workers need to be agreed across employers. Workers can be paid above the rate but not below.
- Sick leave provisions need to be improved. It is widely acknowledged that workers are susceptible to getting colds or influenza upon their arrival in New Zealand. Sick leave should be available from day one of their employment.

The union wants a quasi-fair pay agreement (FPA) for RSE employers and workers. The union has negotiated a collective agreement with an RSE employer in Hawke's Bay which it says could form the basis of such an agreement.

Discussing and raising issues of concern

Employers/supervisors hold regular meetings with their RSE team leaders to discuss workers' progress and to raise any issues of concern for the employer or workers. Team leaders may feel inhibited about raising issues of concern about work, pastoral care or accommodation with their employer/supervisor. Similarly, workers may be reluctant to raise issues with their team leader. The

⁸¹ RSE employers are required to pay RSE workers a minimum of 30 hours per week. Some RSE employers apply this as 30 hours per week averaged across the entire contract i.e. there may be some weeks with no work, and other weeks with 60 hours work.

interviews revealed a range of potential inhibitors for team leaders and workers to raise issues of concern (Table 11).

Table 11. Potential inhibitors to RSE workers raising issues of concern

Inhibiting factor	Description	Examples provided by informants
Customary practices towards authority	Figures of authority, such as employers, are to be respected. Raising an issue of concern is to be critical of the employer which is a sign of disrespect. Shyness towards palagi (ni-Vanuatu especially).	An accommodation provider related an incident where an accommodation block didn't have any hot water. It was a couple of days before the workers told him about the problem because they didn't want to cause him more work.
	Workers' hierarchical/leadership structure may be used to influence workers.	A Liaison Officer said some workers may be reluctant to talk to their Liaison Officer about an issue of concern for fear of retribution from their team leader. Internal group dynamics can have a strong influence on whether workers feel able to raise concerns, especially worker groups that have been selected for RSE on the basis of family connections. An informant told about workers being interested in joining a union but (according to the informant) their team leader had been primed by the employer and talked them out of doing so.
Unequal power dynamics between RSE employer and workers	Informants describe RSE workers as being reluctant to raise issues of concern for fear of being thought of as "trouble-makers" which may result in them being sent home before the end of their contract, not being re-employed the following season, and potentially disadvantaging others from their community that may not be selected. (It was interesting to note the number of informants who used the word "trouble-maker").	An informant described a group of women workers who had been working seven days a week for three to four weeks over the harvest time. They had already been in NZ for six months so by this time they were very tired. The workers didn't feel they could tell the employer they needed a day off to recover for fear they would be seen as troublemakers. Another informant said that RSE workers attending their church have been told that their jobs depend on them not causing any trouble. A further example concerns a burglary of workers' accommodation. The team leader did not want the burglary to be reported to the police to avoid attention on their employer or on them. The team leader was very concerned that this would be tantamount to causing trouble. For the same reason, the team leader also declined the church's offer to fundraise to replace the stolen goods.
Culturally appropriate ways of resolving issues	Each Pacific culture has ways of dealing with issues that reflect its values and customary practices.	A ni-Vanuatu team leader explained how he needs to use culturally appropriate ways to resolve issues, as follows. If a problem arises, he will try to sort it out within the group first, using the "Vanuatu way" of solving problems which is to talk everything through. If the issue can't be resolved within the group, then he will take the matter to the employer. He described the NZ way of handling problems as being more formal, for example, a written warning from the employer. The team leader said he has had to learn to navigate between two cultures – NZ and Vanuatu – and know when it's best to use the Vanuatu way or the NZ way to handle a problem.
RSE team leader allegiance to the employer	Some long-standing RSE team leaders are seen by informants as being too closely aligned with their employer and are deemed to be less likely to raise workers' concerns with the employer.	An RSE team leader was described as being "the boss's boy".

Customary gender dynamics	Customary roles for women may result in them not feeling able or confident about raising an issue of concern with a male supervisor or Liaison Officer, especially if the issue is of a sensitive nature.	An example was cited of women workers being too embarrassed to ask a male supervisor to leave the field go to the toilet which was some distance from where they were working.
Maintaining the good reputation of their country as RSE workers	Prior to workers leaving for NZ, Pacific officials stress the importance for workers to maintain the good reputation of RSE workers from their country, so as not to jeopardise opportunities for new workers in the future.	A group of (<i>name of Pacific State</i>) workers had some concerns about their wage rates but didn't raise them because the employer had said he was very happy with his (<i>name of Pacific State</i>) workers and planned to recruit more. The workers didn't want to risk opportunities for new recruits, so kept quiet.

We were interested to find out what formal and informal channels workers may use to seek advice about issues of concern, other than their RSE team leader. Workers confide in people with whom they have built a relationship and who they trust, such as Vakameasina tutors, pastoral care/accommodation providers, and church leaders. In addition to the groups listed in Table 12, we assume workers may also seek advice from New Zealand-based family members and the Labour Sending Unit (LSU) at home. This topic will be explored further in the interviews with RSE workers and LSU officials in the Pacific stream.

Table 12. Formal and informal channels for RSE workers to raise issues of concern

Informant group	Description	Positives/negatives
Pacific Liaison Officers	The role of the Liaison Officers, funded by Pacific governments, is to promote and place workers from their country with RSE employers, and to assist with effective communication between RSE workers, their employers, and accommodation/pastoral care providers, as required. There are currently four Liaison Officers: Tonga (2 - one of whom is part funded by an RSE), Kiribati (1), Samoa (1). The High Commissions of the Solomon Islands, Vanuatu, Fiji and Papua New Guinea handle liaison work for their respective RSE workers.	Three of the Liaison Officers are employed full-time in other jobs, which limits their ability to visit workers. The Liaison Officers for Kiribati, Samoa and the Solomon Islands are women, while the Liaison Officers for Tonga and Vanuatu are male. Women workers may be reluctant to raise issues with a male Liaison Officer.
Vakameasina tutors	Some Vakameasina tutors described instances of workers seeking their advice about a work-related issue or pastoral care/accommodation matter. The informants are aware that such advice-giving is outside of their contracted role: "We have to be very careful. We're walking a fine line". "Sometimes you feel like the meat in the sandwich".	There is a conflict of interest for tutors to provide workers with advice as the Vakameasina programme relies on RSE employers giving permission for their workers to access Vakameasina training.
Pastoral care workers / accommodation providers	Some (but not all) pastoral care workers we interviewed described their role as looking out for the interests of the workers, which may include (as required) supporting workers with employment issues that might come up and advocating for them if a case arose involving an employment dispute.	There is a potential conflict of interest as pastoral care workers and accommodation providers may be employed by the RSE employer.
Local churches	Churches are an independent party in the local community. According to one informant: "The support of local churches is good - they are nose on behalf of the workers".	Church leaders are likely to be trusted by RSE workers. They can advise workers about the best channels in the local community for workers to get the advice and support they need.

		The church can only act on workers' behalf if they have workers' permission to do so.
Community Law Centres	<p>Two centres reported they have been visited by RSE workers.</p> <p><i>Centre 1:</i> A handful of RSE workers have sought advice from this centre. The following is a legal adviser's account of a worker's employment situation that occurred in 2018: A female RSE worker sought advice from the office as she was being disciplined by her RSE employer for buying alcohol, even though she didn't drink and the alcohol was for other workers. The worker said she had been forced by other workers to buy and pay for alcohol for a celebration – the way she described the situation it appeared to be a cultural norm for her to buy the alcohol for the celebration. The legal adviser told her she had sufficient grounds to take a personal grievance. However, the worker decided not to proceed with it because it would make waves for the other RSE workers involved. She was sent home by the employer.</p> <p><i>Centre 2:</i> In the early years of the scheme, many RSE workers visited the office but there have been none in recent years. The office's contacts with local Pacific residents indicate that some RSE workers are continuing to have employment issues. The office is of the view that workers have been told by "someone" not to visit the office.</p>	<p>Community Law Centres are located in main centres (Tauranga, Hastings, Blenheim, Nelson) which may be a considerable distance from where workers are working and living. The offices are only open during office hours.</p> <p>RSE workers are not likely to be aware of the Centre's services.</p> <p>Workers who do not speak English would require translation assistance.</p>
Unions	The Amalgamated Workers' Union will assist RSE workers if requested. If RSE workers want to join the union, they pay half of the usual union membership fee.	<p>Employers may not want RSE workers to be union members.</p> <p>RSE workers may be reluctant to join the union for fear of being labelled a "trouble-maker" and not being re-employed the following season.</p>

Two informants shared information about RSE employers scolding workers for discussing an issue of concern with a third party. While we have no evidence of the frequency of such behaviour by employers, these examples illustrate the vulnerability of workers arising from the unequal power dynamics between workers and their employer. In the first case (which occurred in 2012), workers complained to their palagi church pastor about their crowded living conditions (workers were sleeping in the hall, and the kitchen and bathroom facilities were inadequate for the number of residents). After viewing the property which the pastor describes as the worst RSE accommodation he has seen, he contacted the Labour Inspectorate. Following the Labour Inspector's visit, the RSE employer called the workers in and wanted to know who had complained and to whom. A second, more recent example was when a group of workers contacted one of the Pacific Liaison Officers about a pay issue. The workers were subsequently told by their employer not to contact the Liaison Officer again.

We contacted the Human Rights Commission to find out whether it has received any complaints relating to RSE worker welfare.⁸² Since 2010, five people have contacted the Commission with concerns about RSE workers, as follows.

- 2010: A sender alleged an orchardist was attempting to dissuade a large group of the sender's work colleagues (RSE workers) from moving to accommodation that was cheaper than the small room they were renting from the orchardist.
- 2014: A caller was considering organising a community meeting to raise concerns about employers mistreating seasonal horticultural workers (RSE workers and New Zealand employees). The caller was also concerned that the pay rates for seasonal work are artificially low because they are limited by the minimum wage.
- 2018: Two separate callers enquired about the human rights and welfare of RSE workers.
- 2019: A sender made an Official Information request about complaints relating to race, colour, ethnicity or national origins within a specific region in New Zealand. The sender said a large number of workers on the RSE scheme and other workers from overseas were working long hours for New Zealand employers.

Skills development

One of the research questions in the Pacific stream is: To what extent, and in what ways, are skills gained through workers' employment and living in New Zealand contributing to economic and social wellbeing of workers and their families back in the village? To help us build up background information about Vakameasina, we interviewed Vakameasina tutors in five of the six communities, as well as asking RSE team leaders who had attended a Vakameasina course about their experience. The research question will be investigated in interviews with workers and village leaders in the Pacific stream.

Vakameasina aims to maximise the development benefits of the RSE policy by providing RSE workers access to skills training during their time in New Zealand that will improve their lives and that of their families at home.⁸³ The programme is funded by MFAT from the NZ Aid budget and is delivered to approximately 1,200 Pacific workers each year by Fruition Horticulture.⁸⁴ ⁸⁵ In addition to covering the core subject areas of English language, financial literacy, and drivers' licences, MFAT's priority areas - nutrition, sexual health, gender equality, and domestic violence – are integrated into Vakameasina courses.

The programme is delivered in three parts: basic/foundation courses, leadership courses, advanced courses. Each course consists of 20 contact hours, which translates into 16 teaching contact hours.⁸⁶

⁸² The Commission does not have the power to investigate complaints. Instead, the Commission provides a confidential dispute resolution service for complaints alleging unlawful discrimination under the Human Rights Act 1993 which may include mediation. A party's participation in the Commission's process is voluntary. The Human Rights Review Tribunal, an independent entity from the Commission, can make decisions similar to a court should a complaint not be resolved in the Commission's process.

⁸³ Activity Design document: Vakameasina (undated). Ministry of Foreign Affairs and Trade.

⁸⁴ Ministry of Foreign Affairs and Trade Annual Report 2017-2018. Retrieved from <https://www.mfat.govt.nz/assets/MFAT-Corporate-publications/MFAT-annual-report-2018/MFAT-Annual-Report-2017-18.pdf>

⁸⁵ <https://www.fruition.net.nz/2016/06/vakameasina-the-skills-and-knowledge-partnership/>

⁸⁶ The first two-hour session is used for introductions and inductions, and the last two-hour session for graduation.

The courses are run in the evenings and Sunday afternoons, either at the workers' accommodation or at a local education/training facility. Food is always provided. Topics for non-core courses are selected by workers and/or their employers. A wide range of courses have been delivered such as computing, cooking skills, budgeting and saving, small business development, early childhood, building skills, solar energy, small engine maintenance, building skills, chainsaw maintenance, first aid, NZ Road Code (on-line).

Vakameasina uses Pathways Ararua, an online learning platform designed to assist New Zealand adults to improve literacy and numeracy skills.⁸⁷ It relies on workers having access to computers which is not the case for courses run in Central Otago which are spread around Alexandra, Cromwell, Roxburgh and Ettrick. It is intended that workers will continue their learning using the Pathways Ararua online platform when they return home. Some informants questioned the feasibility of this idea, given internet access is variable across Pacific countries and internet data is expensive. The platform is designed for use on a computer, which many households may not have. Workers usually have a mobile phone, but Pathways Ararua is not designed for use on a phone.

Tutors describe Vakameasina as a three-way partnership between the RSE employer (or HR manager in the case of larger employers), their RSE workers and Vakameasina tutors. Tutors rely on RSE employers allowing their workers to participate in Vakameasina. While some employers are active supporters of learning opportunities for their workers, others are described as being hard to engage. Worker fatigue at the end of the day/a six day working week may act as a barrier to workers' participation in Vakameasina. Two informants said the programme's effectiveness would be enhanced if the tutors include Pacific peoples.

Worker wellbeing issues

This section addresses four wellbeing issues for RSE workers while they are in New Zealand:

- Cost of living
- Nutrition
- Health
- Leisure and engagement with local community.

The section ends with findings about women's participation in the scheme. As these four topics will be explored further in the Pacific stream, it is not possible to identify any impacts at this stage.

Cost of living

The following information about the cost of living in New Zealand was gathered from interviews with 13 RSE team leaders. Additional information will be collected from RSE workers during the Pacific stream as part of a larger discussion about the cost for workers to participate in the scheme.

A consistent theme from the interviews with team leaders is that workers' living costs in New Zealand are rising more rapidly than their earnings (as is the case for many wage earners in New Zealand). As noted above, the minimum adult hourly wage has only increased by \$5.70 since 2008. Workers are at a loss to understand why their accommodation costs increase each year, despite there being no

⁸⁷ <https://pathwaysawarua.com/>

improvements to their living quarters or additional services provided. For example, the weekly rent of a group of workers increased from \$145 in 2017, to \$165 in 2018. The workers expected that the accommodation's poor mattresses would be upgraded when the rent increased but they were not. Another team leader said when he started as an RSE worker in 2008 his rent was \$70. Now he's paying \$120 a week. Table 13 summarises the five main items that make up workers' living costs in New Zealand.

Table 13. Living costs in New Zealand

Accommodation costs	It is not possible to compare accommodation costs across employers/accommodation providers due to regional variability in housing costs. In addition, the cost of accommodation may include one or more of the following: power, Sky TV, Wi-Fi, a weekly room clean, a weekly sheet change, meals, soap, shampoo, toilet paper.
Transport costs	There are significant variations in transport costs for workers, ranging from less than \$10 per week (excluding petrol) to more than \$40 per week per worker. Transport costs are higher for workers living in remoter locations for travel to the local town for shopping or to attend church. For example, workers living in Roxburgh pay \$80 each time they want to use a (10 seater) van to travel to Alexandra to remit money via Western Union and to shop at the Alexandra New World supermarket (which is cheaper, and has a large range of stock, than their local supermarket).
Cost of remitting earnings	Other than workers whose family live in a main centre which has banks and money machines, the majority of workers use a money transfer operator like Western Union to remit money home. Transfer fees vary depending on the amount of money being sent and the destination country, ranging from \$10 - \$20 per transfer. The nearest Western Union facility for workers living in Ettrick and Roxburgh is located in Alexandra (involving a return trip of 65 kilometres). ⁸⁸
Cost of food	The cost of food is higher for people living in remoter locations such as those in Central Otago.
Medical insurance	The weekly premium is up to \$17 depending on the medical insurer and level of cover.

A Pacific pastoral care provider calculates that at least 20 hours of work is required each week over a six-month period to cover all financial costs of participating in the scheme for that duration. This equates to between a third and a half of the actual money workers might earn. This calculation is consistent with the findings of the Remittance Surveys of RSE workers from Tonga, Samoa and Vanuatu employed in Hawke's Bay, Bay of Plenty and Marlborough for 21-22 weeks in 2014/15 and 2016. The surveys found workers paid an average of \$6,000 in income tax and standard deductions (for accommodation, transport and medical insurance) over the 21-22 week period, equating to between 30-40 percent of the workers' gross incomes.⁸⁹

Nutrition

Other than asking RSE team leaders about the amount of their weekly spend on food, we did not seek any information from other informants about workers' diet. Rather, other informants raised their concerns about worker nutrition during the interview.⁹⁰

⁸⁸ The Western Union facility in Cromwell was started up by the wife of a local church pastor. It only operates on Thursday nights.

⁸⁹ Bedford, R. & Bedford, C. (2017).

⁹⁰ Informants with concerns about worker nutrition included RSE employers, pastoral care providers, medical practitioners, and Vakameasina tutors.

RSE workers appear to be spending minimal amounts on food (by New Zealand standards) as illustrated by the following weekly spend of some team leaders:⁹¹

- ni-Vanuatu female, Blenheim: \$20 per week; shops and cooks with her two roommates.
- ni-Vanuatu male, Blenheim: \$30 per week; shops and cooks with three others living in his unit.
- Samoan male, Hastings: \$30 per week; shops and cooks in a group of 10.
- Samoan male, Hastings: a committee of workers collects \$10 from each of the 45 workers living at the accommodation and does the shopping. Another committee does the cooking. When the \$10 is spent (it lasts 4-5 days), another \$10 is collected.
- ni-Vanuatu male, Roxburgh: \$35-\$40 per week; shops and cooks with three other workers.⁹²

Informants are concerned that workers are buying low cost food which they perceive will give them energy such as white bread, instant noodles, drinks with high sugar content (e.g. energy drinks), and cheap meat such as chicken carcasses, chicken bottoms and mutton flaps (Samoan workers).⁹³ Other foods purchased include rice, tinned fish, chips and biscuits. Much of this food has low nutritional value.

Other factors are reported as contributing to poor nutrition. Workers on piece rates may not want to stop for a lunch break. Workers are tired when they arrive home after a long day so want a quick meal requiring minimal effort. Many Samoan and other worker groups achieve economies of scale from bulk buying and efficiencies from cooking in groups. This is not the case for ni-Vanuatu workers who pastoral care workers describe as being more individualistic in how they purchase and prepare meals.

Informants described workers as eating few vegetables due to their cost and workers' unfamiliarity with local vegetables. Taro, one of their preferred vegetables is expensive (and not always available). Despite some employers planting vegetable gardens for workers, the gardens may become neglected as workers are too tired at the end of a busy week to tend them. Also, gardening is regarded as women's work in some Pacific states.

Recognising the impact of poor nutrition on worker health, energy levels and productivity, some RSE employers are providing workers with an evening meal usually on weekdays (costing \$8-\$10 per night). Other employers are providing up to three meals a day. This arrangement however may not be straightforward. Some RSE workers have wanted to opt-out of catered meals, believing the cost is too high. Consequently, employers have had to make the meal a condition of workers' employment. Catering for workers from multiple Pacific countries can be problematic as workers like food cooked the way they are accustomed.

⁹¹ Some pastoral care workers may organise bulk purchases of meat for workers, the cost of which may be additional to the weekly costs listed above.

⁹² The researchers observed that the price of food is higher in Central Otago than in other locations.

⁹³ We talked to the managers of the supermarkets and shops which workers use to find out about the main foods they purchase.

Boils and constipation are among the conditions that workers present with at the G.P., both of which can be triggered by a diet of simple carbohydrates.⁹⁴ Some medical professionals expressed concern about the potential longer-term health consequences of a high sugar diet, such as diabetes and cardiovascular risk. A health centre informant said her practice has noticed that workers who have been coming for a greater number of seasons have decreasing health: "We are getting to a crossroads with the health of return workers". Another informant has observed return women workers in the packhouse increasing in weight each season, which she attributes to them eating more to overcome their tiredness: "We are getting to the stage where return workers are at risk of developing diabetes, high blood pressure and gout as a result of the diet they are eating in NZ. The workers don't make the connection between a poor diet and these medical conditions. If they develop diabetes, they're not going to be able to get treatment back home – there is one dialysis machine in Samoa".

Health

The most common medical issues of RSE workers reported by medical professionals are boils, other skin infections, sprains and strains, back pain and repetitive strain injury. Outbreaks of colds often occur shortly after workers arrive in New Zealand as their immune systems adjust to the colder weather and a different living environment. Each year a small, but growing number of workers are diagnosed with medical conditions of a more serious nature, such as cancers, stroke and cardiovascular conditions. Sadly, each season there are a few worker deaths due to undiagnosed cardiac conditions and late-diagnosed cancers. RSE health insurance providers also monitor a wide range of pre-existing conditions including hypertension, gout, diabetes, gastrointestinal problems, renal stones, arthritis and asthma.

In the early years of the RSE scheme, workers made little use of local medical services, preferring instead to seek medical treatment at home. Over successive seasons this approach has changed. There is now a "collective knowledge" among RSE workers (returnees as well as new recruits) about the benefits of accessing medical treatment in New Zealand. A positive or reinforcing feedback loop is emerging where workers have accessed local health services (doctors and dentists) and been successfully treated, and this encourages other RSE workers to seek treatment if needed.

There may, however, be barriers to workers seeking medical treatment. Workers may not want to take time off work to visit the G.P. Two medical centres said they see more RSE workers on rainy days when they cannot work. Medical practitioners also describe workers delaying their visit until their medical condition (e.g. boils) has deteriorated. Such delays complicate and lengthen treatment.

The lack of dentists in Pacific states means that many RSE workers arrive in New Zealand with significant dental issues. An RSE employer told us that dental problems are the main health-related issue for its workers and has organised permanent appointments each week with a local dentist to treat workers. Accessing dental treatment for RSE workers can be problematic in smaller towns that may lack a dentist or have a limited number of dentists for the size of the resident population. The costs of dental treatment in New Zealand may also be prohibitive for workers.

⁹⁴ Poor nutrition (simple carbohydrates and foods that are high in sugars) decreases the body's immunity to developing boils.

In response to the dental health issues of ni-Vanuatu RSE workers in the Bay of Plenty, *Fruit of the Pacific* a non-profit organisation based in Te Puke is operating an Oral Health Awareness programme in Vanuatu. The programme, sponsored by Colgate New Zealand, educates children how to clean their teeth and prevent tooth decay. To-date the programme has reached over 15,000 children and adults.⁹⁵

Worker mental health was not referred to by medical professionals but was raised by other informants. Workers' separation from their families for lengthy periods of time tends to be a taken for granted aspect of participating in the scheme, despite it being the trigger for depression-related conditions. Events such as the serious illness of a child or death of an extended family member can be very distressing for workers whose visas generally do not allow for short visits home to attend to family matters. A New Zealand-based Pacific informant noted that the Tongan language does not have a word for depression.

Leisure and engagement with local community

The main leisure activities reported by team leaders are attending local churches, shopping for goods to take home and playing sport - soccer and petanque in the case of ni-Vanuatu workers, and rugby and volleyball in the case of Samoan, Tongan and Fijian workers. Ni-Vanuatu workers are more likely to play soccer among themselves, while some rugby playing workers may play for local teams. Some accommodation sites have soccer fields, petanque and volleyball courts.

The drinking of kava is another leisure activity which (as noted in the policing section) is permitted by some RSE employers, but not those in Marlborough. Some employers allow the drinking of kava for special occasions or if workers are not working the next day, providing its use is controlled. We heard about an accommodation site with a kava room which is used by the workers as a group, and when workers have visitors. According to a New Zealand-based Tongan informant: "Drinking kava is a social thing in Tonga. The more relaxed and happy workers are, the better they will work. If you put pressure on workers and squeeze them, that's when there are poor outcomes."

The team leaders we spoke with did not appear to have any expectations that they would be active members of their local community. They said they are in New Zealand to work and earn money, not to socialise with local residents. Informants described ni-Vanuatu workers as being more "self-contained" compared to workers from other Pacific States.

Barriers to workers interfacing with local community are as follows.

- Workers' accommodation may be located on orchards or other rural properties. Workers may only come to town for shopping and to attend church. Some groups of workers run their own church services on-site, further limiting contact with the local community.
- Much of the newer, purpose-built accommodation has its own volleyball court and soccer/rugby field so workers remain on-site during non-work hours.
- Workers have little spare time at the height of the season when the employer may require them to work seven-day weeks.

⁹⁵ Refer <https://www.fruitofthepacific.org/>

Women RSE workers

A Strategy is currently being developed by MBIE and MFAT to “guide efforts to increase the number of opportunities for the temporary employment of Pacific Islands women in New Zealand”. The following findings (together with findings from the Pacific stream) will inform this work.

In 2017/18 women made up 10.4 percent (1,007) of total PIC worker arrivals (9,673). Over the four years 2014/15 - 2017/18, the number of PIC women arriving on RSE visas has stayed roughly the same at approximately 1,000 women, but as a percentage the participation rate has dropped as the total number of PIC RSE arrivals has gone up. In 2014/15, the female participation rate was 13.5 percent; 12.5 percent in 2015/16; 11.3 percent in 2016/17; and 10.4 percent in 2017/18. Within the overall female participation rate, there are variations by PIC. Kiribati (38.5%). Papua New Guinea (29.8%) and Nauru (28.6%) have the highest female participate rates (as a percentage of the total number of RSE arrivals from each country), while Samoa (3.5%) has the lowest. In terms of absolute numbers, the largest numbers are recruited from Vanuatu (a total of 383 in 2017/18).

RSEs employ women workers for less physically demanding tasks such as packhouse work, picking blueberries, picking and thinning citrus, and kiwifruit thinning. A female informant noted that women are physically capable of doing more demanding tasks, such as winter pruning of kiwifruit (a task which she performs). Over the years the Pacifica Labour and Skills Unit in MBIE has actively encouraged employers with suitable work to recruit women from Kiribati and Tuvalu especially, given the small numbers that were being recruited from these countries. In 2017/18 55 of the 134 RSEs were employing women with three having over 100 women in their RSE workforce. However, women’s participation in the RSE scheme is limited in some regions (e.g. Hawke’s Bay) because of restrictions on their employment in the packhouse.

Accommodation and pastoral care providers describe women RSE workers as being easier to look after than male workers. Unlike some of their male counterparts, women are unlikely to drink and don’t bring visitors of the opposite sex back to their accommodation. Women workers are also described as being more proactive about getting to church and organising religious activities at their accommodation. However, when women workers do have concerns or issues, they are likely to be more complicated than those experienced by males. For example, an RSE employer said that while the rate of worker pregnancies has declined over the years (which he attributes to being proactive about sex education and supplying free condoms), three of his company’s workers became pregnant in 2018. He said that the women usually keep their babies which can cause problems at home if they are already married. Some of his women workers have been disowned by their family when they returned home with their baby. Further, a Liaison Officer describes the problems experienced by women workers as often being hidden – women may be more reluctant to share concerns such as separation from their spouse and children, or problems in their extended family at home.

The difficulty for women ni-Vanuatu workers to exercise independence while they are in New Zealand has been observed by informants who have contact with ni-Vanuatu workers. Customary gender roles are transferred to the New Zealand context. One informant summarised the gender dynamic thus: “Ni-Vanuatu men are very hard on the women.” Other informants told of male team leaders and workers speaking on women workers’ behalf or directing women how to spend their earnings. Ni-Vanuatu women are described as faring better when they are living and working away from the men.

While endorsing the equity concept underpinning the Strategy's aim to increase paid work opportunities for women, three New Zealand-based Pacific informants expressed caution about the disruption that women's participation in RSE may cause to children's wellbeing, and family and village life. To this end, the Government of Tonga has a policy that strongly discourages women with children under five years from participating in the scheme. The impacts of women's participation in RSE will be examined in more detail in the Pacific stream.

For those women who want an opportunity to become an RSE worker, the following New Zealand-based factors may act as a barrier to their employment.

- There have been changes in RSE employment practices arising from the previous National Government's directive that Pacific RSE workers should have work available for the entire seven-month period of the Limited Purpose Visa (or nine months for workers from Kiribati and Tuvalu). This has had two consequences - some employers, who had women working in the packhouse on a three-four month contract, now favour men for packhouse work because they can stay on after the packing season and do winter pruning. It has also led to employers making more use of joint venture arrangements with other RSEs. These developments are reducing opportunities for women workers who may only want to work in NZ for three-four months to minimise their absence from children and home.
- In general, RSE employers prefer male workers for the more physically demanding tasks, such as picking apples and pruning kiwifruit.
- From an accommodation management and pastoral care point of view, it is easier for employers to employ either women or male workers, rather than a combination of genders.
- There are expectations in some Pacific cultures about work that is suitable for women. For example, Tongan women are not expected to do hard, physical work in the garden or plantation (unlike women in Melanesia).

The issues discussed in this section will be examined further in the Pacific stream.

Part 3. Implications of key findings

This section begins with a summary of the key impacts (community-related and others) to which the RSE scheme is contributing, and then discusses some of these impacts. It should be noted that the summary is a work in progress – findings from the NZ stream about RSE workers (e.g. cost of living in NZ, how workers raise and resolve issues of concern, women’s participation in RSE) will be examined further in the Pacific stream. In addition, new impacts will be identified in the Pacific stream.

Summary of key impacts to which the RSE scheme is contributing

As noted above, this study aims to establish (or discount) the *contribution* of the RSE scheme to observed impacts (rather than attempting to *attribute* RSE to observed impacts) using an analytical approach called contribution analysis. The literature on contribution analysis suggests identifying the strength or magnitude of contribution e.g. great, substantial, some, little, none. Our initial analysis of the data revealed that we needed to adopt a more descriptive, systems-based approach to making claims about contribution. This is because the impacts of RSE on, and for, individual communities are influenced by a range of contextual and influencing factors as identified in the impact tables at the beginning of the sections in Parts A and B. Therefore, when we make a claim about the contribution of RSE to an observed impact, we need to specify the nature of the scheme’s contribution. Using a system-lens, we have developed a typology that characterises seven types of contribution such as: direct contribution, an enabling contribution, an inhibiting contribution (Appendix A provides the full typology). Table 14 provides a high-level summary of the impacts that RSE is contributing to (as identified from the NZ stream findings) and identifies how the scheme is contributing to each impact. Positive impacts are shaded in green and negative impacts in orange. Impacts which could be positive or negative (depending on perspective) are unshaded.

Table 14. Summary of key impacts identified from NZ stream

How RSE is contributing to the impact	Impact	Impact recipient(s)
Direct contribution <i>Definition: RSE is making an unequivocal contribution to an observed impact (positive or negative).</i>	RSE employers are making significant productivity gains because of the reliability, quality and consistency of RSE labour.	RSE employers.
	The certainty of labour provided by the RSE scheme gives H/V enterprises the confidence to invest and expand.	RSE employers.
	Although RSE workers are a relatively small component of the total seasonal workforce, they have become a necessity for RSE employers, not just a preferred source of labour.	H/V industries. RSE employers.
	Expansion of RSE enterprises is generating more employment opportunities for NZ workers, in permanent and seasonal jobs, as H/V enterprises shift towards year-round production, crop varieties change, and greater volumes are produced.	NZ workers. Community.
	Increased numbers of RSE workers in the community provide local criminals with a new target and opportunities for illegal behaviour.	Local criminals. Police.

<p>Enabling contribution</p> <p><i>Definition: RSE (by itself, or in conjunction with something else) is enabling a positive impact.</i></p>	<p>RSE employer expansion generates multiplier effects as businesses that directly support H/V enterprises, such as land and land services, transport and distribution, agricultural services and equipment, construction, and accommodation services also expand.</p>	<p>Local businesses linked to H/V industry.</p>
<p>Enabled contribution</p> <p><i>Definition: Something else has to be in place or happening (e.g. a contextual factor) in order for RSE to have a positive impact.</i></p>	<p>Strong consumer demand and high prices for NZ exports make it economically profitable for H/V businesses to operate and expand. Without demand from international markets NZ's H/V industries would be smaller - they would be focused on the domestic market and they would not have the same demand for RSE labour.</p>	<p>RSE employers. H/V industries.</p>
<p>An inhibiting contribution/effect</p> <p><i>Definition: RSE inhibits or gets in the way of something else</i></p>	<p>Demand for RSE accommodation is leading to fewer low-cost rental houses being available for permanent residents. In some communities the scheme is placing pressure on local housing markets which may already have a shortage of low-cost rental housing.</p>	<p>Residents seeking low-cost rental housing.</p>
	<p>RSE employers in expansion mode require more RSE workers creating more demand for worker accommodation which may in turn put more pressure on the low-cost housing market.</p>	<p>Local low-cost housing markets</p>
<p>A tipping point contribution</p> <p><i>Definition: A certain amount/quantity of something creates a tipping point for something else to happen</i></p>	<p>Continued expansion of the H/V industries leads to increasing demands for labour and official labour shortages in several regions. These labour shortages are of a great enough magnitude and provide enough 'evidence' to support industry cases to Government to increase the RSE cap.</p>	<p>RSE employers. H/V industries</p>
<p>A positive or reinforcing feedback loop contribution</p> <p><i>Definition: Something facilitates more of the same</i></p>	<p>Expansion by RSE employers fuels greater reliance on RSE labour.</p>	<p>RSE employers.</p>
<p>A negative or balancing feedback loop contribution</p> <p><i>Definition: A regulating mechanism that results in a reduction of a particular action. This reduction creates stability within the system.</i></p>	<p>The lack of seasonal worker accommodation in some communities (e.g. Te Puke) acts as a stabilising mechanism, limiting the pace of industry growth and associated increases in RSE numbers.</p>	<p>RSE employers. H/V industries.</p>
	<p>The pastoral care provisions in the RSE scheme help ensure workers adjust to working and living in New Zealand without requiring intervention from the police. These pastoral care provisions have an inhibiting effect, limiting some activities (e.g. alcohol consumption) that could lead to problems. As a result, RSE workers place minimal pressure on local police time and resources.</p>	<p>RSE workers. Police.</p>

Confirming community capacity to cater for RSE workers

The summaries of the six communities in Appendix D highlight the differences among them that are more complex than those that are immediately obvious such as population size, and industry-related differences, such as the timing and nature of seasonal labour demand. The impact tables at the beginning of the sections in Parts 1 and 2 list the factors that influence the nature and extent of

impact of the RSE scheme on and for a local community. This is an important finding of the study, namely, that the impacts of RSE on, and for, individual New Zealand communities are influenced by a range of contextual factors and are therefore variable.

This finding has implications for the H/V industries' expectations about future increases in the RSE worker cap. While higher RSE worker numbers will provide economic benefits to communities via the increased production of local H/V enterprises and job creation for New Zealand workers, ongoing increases in worker numbers are not feasible unless the community's capacity to cater for them is confirmed. As the findings have shown, important aspects of community capacity are accommodation (discussed further below), policing and health services. This balancing of RSE worker numbers with community capacity assumes greater importance in smaller communities such as Roxburgh and Renwick (near Blenheim) where there is a risk of permanent residents feeling "crowded out" by workers if RSE numbers increase. Communities with large influxes of seasonal workers every year, such as Te Puke, Hastings and Blenheim, illustrate what can happen when the balance or equilibrium is exceeded – tensions may surface within local communities where residents are competing with RSE workers for finite resources, such as low-cost housing and local medical services.

Implications of future industry expansion for RSE accommodation

Most of the six communities we visited are close to, or at capacity in their ability to accommodate RSE workers in existing housing stock. As noted above, Government has urged RSE employers to ensure that RSE accommodation does not take residential properties away from permanent residents. Planning for expansion by RSE employers individually, and industry as a whole, must take account of the need for additional RSE accommodation. Explicit connections need to be made between planning for expansion and accommodation planning. Making such connections is problematic in the viticulture industry where there is fragmentation of the key drivers of production: investors, growers and labour hire contractors. Horticulture RSE employers that have a policy of not owning worker accommodation but rely instead on accommodation providers will need to consider whether this business model will be able to cater for ongoing increases in worker numbers.

The construction of new worker accommodation or modification of existing properties is challenging for employers, especially for smaller RSEs that lack access to the level of capital required. Planning for worker accommodation needs to be given more prominence at the regional level - it requires industry leadership, collaborative working by employers and accommodation providers, local government participation, and innovative investment solutions. Councils have a part to play by reviewing the current restrictive planning requirements for the location and use of seasonal worker accommodation, and lengthy and expensive consenting processes.

As part of the Agreement to Recruit (ATR) application process that employers must go through to hire RSE workers, INZ officials must be satisfied that employers are able to provide suitable accommodation for the number of workers they are seeking to employ. Greater prominence could be given to worker accommodation in RSE processes. For example, requests from Regional Governance Groups to the National Governance Group for increased RSE numbers could be required to specify how and where additional workers will be housed.

Implications of RSE as a necessity for RSE employers

While the emphasis of the NZ stream was on impacts for New Zealand communities, other findings have emerged. One of these is confirmation of the importance of the scheme for RSE employers. The RSE policy is acting as intended to support change and growth in the H/V industries by providing RSE employers with a reliable, sustainable seasonal labour supply, supporting their transformation into high value export-driven industries and, through industry expansion, generating employment opportunities for New Zealanders.

What may have been unintended, was the speed and scale of industry expansion over the past decade, driven by consumer demand from international markets, and the associated reliance on RSE labour to support this growth. Although RSE workers are a relatively small component of the total seasonal workforce in most regions, they are a necessity for RSE employers, rather than labour that is merely preferable. Pacific RSE workers provide a temporary 'band aid' for a long-standing, intractable problem, namely the lack of availability or interest of local workers to perform horticultural work. The horticulture industry is working hard to address this issue, with a range of initiatives to make the H/V industries more attractive to New Zealanders.⁹⁶ However, industry growth is happening on such a large scale (especially kiwifruit in and around Te Puke) that even if the H/V industries become more attractive employment prospects, there are not enough New Zealanders to do the work. The H/V industries will remain reliant on the RSE scheme to meet their future labour needs. If that specific condition is not met – if RSE labour isn't supplied – the H/V industries cannot function as intended.

The RSE scheme is not, however, designed or intended to become the primary model for the H/V industries' labour needs. It is simply one 'lever' or option available to growers to meet their seasonal labour requirements. There is a risk that the scheme could generate distortion and dependence effects,⁹⁷ where employers make decisions based on the assumption that RSE labour will continue to be available (such as expanding production in areas where little local labour is available, and avoiding raising wages when local workers are no longer willing to do the work). There is also a potential risk that and RSE workers, their families and communities could become dependent on the waged employment provided by the RSE scheme rather than developing ways to build a sustainable income at home. The PIC stream will examine this potential risk.

There is no question that RSE labour is now considered a critical component of industry development. The findings from the NZ stream have, however, revealed employment, pastoral care and accommodation practices that are not congruent with this notion of the criticality of RSE labour. While we do not have evidence that the following practices are widespread across RSE employers, we gathered reliable information indicating that they may be occurring. Interviews with RSE workers in the Pacific stream will shed further light on such practices.

- Some return workers are being paid the minimum wage despite their experience and skills.

⁹⁶ Horticulture New Zealand (2018a)

⁹⁷ Martin, P (2006). Managing labour migration: Temporary worker programmes for the 21st century. Paper presented at the International Symposium on International Migration and Development, Population Division, Department of Economic and Social Affairs, United Nations Secretariat, Turin, 28-30 June, 2006 (p.36).

- There are variable standards of accommodation and pastoral care being delivered (discussed further below).
- There can be a lack of transparency about pay/piece rates.
- Workers may experience work downtimes over the season. Despite having no earnings, they still need to pay for living costs, depleting their savings.
- The cost of workers' rent is steadily increasing (with no improvement in standards or services delivered) and without comparable increases in wages (or other financial rewards).

Opportunities for occupational mobility

Around eight percent of the 16,222 RSE workers who were employed between 1 July 2013 and 30 June 2017 had worked in New Zealand for at least nine consecutive seasons. Some of these regular returnees are team leaders in the orchards and packhouses where they are employed. A change they and their employers would like to see made to the way the current scheme works is to allow for more occupational mobility among the RSE workforce as this workforce gains more skills in orchard and packhouse-related work. Opportunities to take on equipment operator roles as well as managerial responsibilities would allow for on-going skills development as well as income growth.

Interviews with team leaders in New Zealand and former RSE workers in Tonga who have decided not to return to seasonal employment suggest that there is increasing dissatisfaction with continued employment on contracts or hourly rates pegged to the minimum wage. They would like more recognition of their skills and experience in the workplace, as well as their loyalty to particular employers, in the remuneration they receive for their valuable contributions to seasonal work in the horticulture and viticulture industries.

Diverse approaches to pastoral care and accommodation

In the course of our fieldwork we came across RSE employers that are going beyond the regulatory requirements for RSE accommodation and pastoral care, such as sports facilities, well equipped recreation rooms, regular meals and cleaning services. While these may be viewed as small contributions, they signal a more diverse landscape in the areas of pastoral care and accommodation that needs to be acknowledged. Such employers are modelling what is required for the RSE scheme to maintain its international reputation.⁹⁸

A comprehensive stock-take of accommodation provided for workers employed under the scheme, covering all RSE employers and involving an inspection, would be useful, especially when put in the context of rents charged.

⁹⁸ An address by Dr Manjula Luthria from the World Bank at the RSE Conference 2017 informed participants that the International Labour Organisation describes the RSE scheme as a model for other countries to follow.

RSE workers and communities

Many informants talked about the sacrifices that workers and their families make in order for their family member to participate in RSE. Someone who spends five to seven months of the year in a community and returns to spend a similar period in successive years, is very different from a one-off backpacker worker or a tourist in terms of their potential engagement with services, facilities and people in the community. For these reasons, there is scope for communities (beyond churches, marae and NGOs) to do more to welcome and proactively engage with the RSE workers living among them.

While RSE workers may not be inclined or have time to be active participants in their local community, there may be interest in attending community events and participating in other leisure activities when time allows. For example, Councils could put on an event to welcome workers at the beginning of the season, workers could be encouraged to use local public facilities such as swimming pools and libraries, public venues (e.g. halls) could be made available for workers living in the suburbs to hang out on wet days. For their part, pastoral care providers could inform workers about free community events and activities. Inter-employer sports competitions for workers could be organised (if they are not already happening).

More flexible visa for RSE workers

RSE workers gain entry into New Zealand via an RSE Limited Purpose visa for the term of their employment contract for periods of up to seven months (or nine months in the case of workers from Kiribati and Tuvalu) in any 11-month period.⁹⁹ If a worker returns home during this time, they must apply for a new visa to re-enter New Zealand. The cost and processing times involved in doing so are significant barriers for workers who need to return home for the sickness or death of a close family member or to attend to other urgent family matters. Given that some RSE workers are returning to New Zealand to work year-on-year, increased flexibility is needed around visa arrangements to facilitate workers' movements between their home and New Zealand.

The single-entry provision of the current RSE visa could be changed into a multiple-entry visa, allowing workers to make visits home to attend to urgent family affairs, with approval of their employer, without having to acquire a new visa. This would be especially useful for workers who are being encouraged to spend the full seven months (or nine months in the case of Kiribati and Tuvalu) in New Zealand through more extensive use of joint ventures. Introducing a multi-entry visa would reduce the financial costs of participation for RSE workers, and would be in keeping with one of the RSE policy's critical success outcomes – namely, to ensure Pacific workers are able to generate money and savings that may contribute to development at home. The ability to visit their families in the islands without having to apply for and purchase a new visa to return to New Zealand was raised frequently by team leaders.

⁹⁹ <https://www.immigration.govt.nz/new-zealand-visas/apply-for-a-visa/about-visa/recognised-seasonal-employer-limited-visa>

Conclusion

The RSE scheme has had a number of positive economic impacts on small and medium-sized towns in New Zealand, which are located in regions where horticulture and viticulture are prominent industries. Communities are sharing the economic benefits of RSE employers' increased productivity and expansion, with new jobs being created for New Zealanders and more work available for enterprises servicing the H/V industries. There has been a significant shift in some communities away from concerns about groups of Pacific Islanders congregating in town, towards acceptance of them as a regular addition to the local population especially around crop harvest time.

There have been negative impacts, especially on the supply of rental housing stock in some communities where RSEs do not provide accommodation for their seasonal workers. There have been pressures on local medical centres during times of the year when there are significant influxes of temporary workers to pick and pack fruit and vegetables, or to prune trees and vines. But RSE workers are just one dimension of the seasonal influxes of labour, and for some crops, such as kiwifruit and grapes, just a small share of the seasonal workforce. They are also just one component of the temporary migration flows in towns such as Kerikeri, Motueka and Blenheim which are also destinations, or transit towns, for large numbers of tourists who also want accommodation and, at times, medical services.

Discerning the "impact" of the RSE scheme on community services and infrastructure is not straightforward or consistent across communities. Impacts are mediated very much by community and region-specific attributes of economy and society. The clearest examples of impact are the ways the scheme has contributed to increases in productivity of H/V enterprises, and the expansion of production in this sector of the economy.

The general conclusion that can be drawn from the New Zealand stream research is that the RSE scheme provides a very welcome, essential stability to a critical component of the seasonal labour force to ensure the H/V industries achieve their productivity targets, all other factors (including weather and market prices) being equal. But there are clear signs of capacity limits in available accommodation and, possibly, some medical services, especially for some of the pre-existing conditions that may not have been identified in the screening of RSE workers. Looking ahead, continued growth in the RSE scheme will benefit from more deliberate and conscious planning for accommodation and other service provision in New Zealand's communities located in the major horticulture and viticulture regions.

Appendix A. Use of contribution analysis

This appendix explaining how contribution analysis was used in the NZ stream should be read in conjunction with Appendix C: NZ stream methods.

Logic underpinning contribution analysis

The logic underpinning contribution analysis is summarised below. This summary outlines the 'theory' behind the process we used, described in the rest of this section.

The logic underpinning contribution analysis is to reduce uncertainty about the contribution an intervention is making to observed results through an increased understanding of *why* results occurred (or did not occur), and the roles played by the intervention and other influencing factors. It is a structured analytical reasoning process, as follows.¹⁰⁰

- i. The intervention is based on a reasoned theory of change (i.e. the assumptions about why the intervention is expected to work are explicit and plausible).
- ii. The complexity of the context within which the intervention is being implemented is acknowledged.
- iii. The intervention is confirmed as being implemented as planned.
- iv. Factors unrelated to the intervention that are 'at play' are identified, their influence understood, and accounted for.
- v. Data relating to the intervention are analysed.
- vi. An initial contribution hypothesis (or hypotheses) is developed in light of iv. and v.
- vii. Data is collected about observed results.
- viii. Rival explanations about why the observed results occurred are identified, and either discounted or included in the analysis.
- ix. The initial contribution hypothesis is modified (if necessary) in light of vii. and viii.
- x. In light of the above analysis, it is concluded that the most likely explanation for the observed results is that the intervention has made a contribution.* (Alternatively, it is concluded that the intervention is not contributing to the observed results; or that further data is required to determine contribution).
- xi. The strength and nature of this contribution is identified (as appropriate), for example, significant/adequate/minimal; direct influence/indirect influence etc.

* In summary, a contribution claim addresses the following questions:

- Has the intervention made a difference (contribution) to the observed change (impact), or are there other factors (unrelated to the intervention) that have influenced the observed change (impact)?
- If the intervention is deemed to have contributed to the observed change (impact):
 - How much of a difference (contribution) has the intervention made?
 - How/why has the intervention made this contribution?
 - What other factors (if any) support this contribution?

¹⁰⁰ Mayne, J. (2012). Contribution Analysis: Coming of age? *Evaluation*, 18: 370-380.

Mayne, J. (2001). Addressing attribution through Contribution Analysis - Using performance measures sensibly. *The Canadian Journal of Program Evaluation*, 16: 1-24.

Existing RSE theory of change revised

A theory of change identifies the change(s) that an initiative or intervention is intended to bring about. It describes the mechanisms that are designed to make such change occur, the assumptions that underlie how and why the intended change is supposed to happen, and identifies the risks that may impede the intended change from occurring as expected. The theory of change acts as the key reference point for the research project. Data that are collected about observed changes are compared to the theory of change, divergences identified, explanations sought, and the theory of change revised.

The high-level theory of change developed for the 2010 evaluation of the RSE scheme was based on the notion of the scheme as two interacting sub-systems: one sub-system referring to New Zealand stakeholders (principally RSE employers, the horticulture and viticulture industries and officials in the Department of Labour); and the second sub-system referring to PIC stakeholders (principally RSE workers and officials in the relevant Labour Sending Units). While the principle underpinning this theory of change is still relevant – the need to balance benefits for New Zealand with benefits for PICs – the original theory of change fails to account for two stakeholder groups whose significance has emerged over time, namely, RSE communities in New Zealand, and PIC workers' families and communities. These two stakeholder groups were included in an expanded high-level theory of change for RSE (refer RSE Impact Study Research Plan, Appendix A).

We have chosen not to revise this expanded high-level theory of change in response to the NZ stream findings at this stage. We are taking a whole-of-system perspective on the RSE scheme (and the overarching research questions). Therefore, any further revision of the theory of change must also include and account for the findings from the Pacific stream.

Identifying potential alternative explanations

Contribution analysis requires the researcher to systematically seek out and identify factors (unrelated to the research subject) that may account for any observed change, either by being the cause of the change or influencing it in some way.

Based on a review of literature which was conducted as part of the research scoping stage, we identified 10 potential factors unrelated to the RSE scheme that could influence the impact of RSE at the community level (listed in Appendix B in the Research Plan). We were unable to do more in-depth work to understand the influence of such potential factors (as described in step iv. above) because of tight timeframes to get into the field before the 2018-19 season reached its height in early 2019 (which was likely to affect informants' availability). To address this, we sought out additional potential factors (unrelated to RSE) during the fieldwork stage, as follows.

- Our interviews with people in the community (e.g. community leaders, community-based NGOs such as multicultural centre) asked questions about social and economic changes in their community since 2006, and their explanations for such changes.
- We asked RSE employers to identify the extent of the scheme's contribution to observed changes (positive or negative) in their enterprise and in their community, and other factors that may have influenced observed change.
- We examined data about the H/V industries to understand what other factors may be contributing to economic changes at the regional and industry levels.

- We developed a profile of each community using secondary economic and social data, supplemented by information from interviews with local government officials working in economic and community development roles, Chamber of Commerce, NGOs, church ministers etc. (Appendix 4).

Identifying influencing factors (unrelated to the RSE scheme)

The coded data was first summarised at the community-level and a summary produced for each community enabling an initial account of tentative changes (i.e. economic, social, accommodation, health services, and policing) to which RSE *appeared to be contributing in some way or another*. This approach enabled the communities (and changes) to be compared. The examination highlighted contextual factors influencing the nature and extent of the scheme's effect at the local level. For example, if the capacity of medical services is only just adequate for permanent residents, the effects of RSE worker demand for such services will be problematic. Taking this example further, another influencing factor is the number of other seasonal workers and tourists in the community who may also be seeking medical services. We did further analysis to identify contextual factors, which we refer to as influencing factors, for each of the topics examined (economic, accommodation, medical services, policing, social) and sought to understand the nature of their influence on RSE.

Developing contribution claims

Developing claims about the contribution of RSE to observed impacts is an emergent process. It involved searching out additional secondary data to either confirm or refute a tentative contribution claim. For example, analysis of the interview data revealed informants' concerns about the pressure the scheme is putting on low-cost housing in their community. We then sought out additional secondary information about the housing markets in the six communities to build a more comprehensive picture of the nature and cause of housing pressures, other than those attributed by informants to RSE.

Testing and refining contribution claims

Contribution claims and their supporting evidence about the community-level impact of RSE on economic, social, accommodation, health services, and policing were developed further for scrutiny by a panel of five academic and practitioner experts in Pacific labour mobility and/or research methodology.¹⁰¹ The Expert Panel (who will also be used in the Pacific stream and the Synthesis stage of the study) scrutinised (i) the associations between RSE and observed impacts identified by the research team, and (ii) the evidence underpinning such associations. The panel brought their expertise to check and further strengthen the research team's interpretation of the data and the contributions identified.

Understanding different types of contribution

The literature on contribution analysis describes identifying the strength or magnitude of a contribution claim e.g. great, substantial, some, little, none. Our initial analysis of the data revealed that we needed to adopt a more descriptive approach to contribution claims. This is because the impacts of RSE on, and for, individual communities are nuanced and contingent. The impacts are

¹⁰¹ The members of the Expert Panel are Dr Rochelle Bailey, Associate Professor Sandy Morrison, Associate Professor Robin Peace, Brendan Quirk, Dr Hala Rohorua.

influenced by a range of contextual/influencing factors as discussed above. Therefore, when we make a claim about the contribution of RSE to an observed impact, we need to describe the nature of the contribution and any influencing factors. Using a system-lens, we developed a typology of types of contribution listed below.

A direct contribution	RSE makes an unequivocal contribution to an observed impact which may be positive or negative. e.g. RSE creates certainty of labour supply which boosts productivity.
An enabling contribution	RSE (by itself, or in conjunction with something else) enables a positive impact. e.g. Increased productivity from a guaranteed labour supply gives RSEs the confidence to invest in their business creating more jobs for New Zealanders.
An enabled contribution	Something else has to be in place or happening (e.g. a contextual/influencing factor) in order for RSE to have a positive impact. e.g. Strong consumer demand and high prices for NZ exports makes it economically profitable for H/V enterprises to remain in business and expand (without demand from international markets there'd be no real need for RSE as H/V producers wouldn't have a large enough/viable market to sell their products).
An inhibiting contribution/effect	RSE inhibits or gets in the way of something else, resulting in a negative effect/impact. e.g. Demand by RSE workers for treatment of minor complaints (e.g. boils and strains) at the local medical centre creates delays for locals to get a G.P. appointment.
A tipping point contribution	A certain amount/quantity of something creates a tipping point for something else to happen. e.g. The number of RSE workers in a community exceeds the capacity of the low-cost housing market to accommodate them, contributing to a shortage of properties for locals seeking a low-cost rental.
A positive feedback loop contribution	Something facilitates more of the same i.e. success facilitates further success. e.g. In recent years RSE employers have recognised the benefits of sharing RSE workers to increase their worker numbers and extend the length of time they have access to workers. As a result, there has been a significant increase in use of joint recruitment and employment ventures in recent seasons.
A negative feedback loop contribution	Maintains system equilibrium e.g. increasing role of the labour inspectorate in monitoring RSE employers' standards (especially accommodation).

Appendix B. NZ stream research sub-questions

The research sub-questions for the NZ stream are shown in below. The NZ stream included interviews with RSE team leaders. Research sub-questions relevant to these interviews are also included below (under the heading *overarching research question two*).

Overarching research question one:

What are the social and economic impacts of RSE on, and for, RSE communities in New Zealand?

ECONOMIC IMPACTS

1. To what extent and in what ways has RSE impacted on RSE enterprises' productivity and other economic-related aspects of business?
2. What is the contribution of RSE enterprises' spending on the local economy? (e.g. services and goods).
3. What is the contribution of RSE worker spending (e.g. accommodation, food, goods etc.) to the local economy?
4. What, if any, are the additional economic impacts (positive and negative) of RSE for the community/region?

IMPACTS ON INFRASTRUCTURE AND SERVICES

5. What are the effects of the annual arrival of RSE workers into the region on the affordability, availability and suitability of low-cost housing?
6. What strategies and initiatives have been developed to mitigate adverse effects for RSE workers and locals? How successful are they?
7. What gaps/deficiencies exist in the provision of affordable and suitable low-cost housing for RSE workers?
8. What are the effects on local medical services of the annual arrival of RSE workers into the region?
9. What strategies and initiatives have been developed to mitigate adverse effects for local medical services? How successful are they?
10. What gaps/deficiencies exist in the provision of medical services for RSE workers?
11. What are the effects on local policing of the annual arrival of RSE workers into the region?
12. What strategies and initiatives have been developed to mitigate adverse effects for local policing? How successful are they?

SOCIAL IMPACTS

13. What are the social impacts for RSE enterprises from employing a workforce made up of workers from PICs? How significant/important are these social impacts for RSE enterprises?
14. To what extent, and in what ways do RSE workers effect the social fabric/dynamics of the local community (positive and negative effects)?
15. How do local iwi/hapu, NGOs, churches, and other local organisations support RSE workers' welfare?
16. What gaps/deficiencies exist in the provision of support to RSE workers?

NZ-BASED PIC COMMUNITIES

17. What is the impact(s) of a large group of RSE workers of one nationality on the NZ-based PIC community?

Overarching research question two:

What are the social and economic impacts of RSE for PIC workers and their island-based families?

ECONOMIC IMPACTS FOR WORKERS

19. What are the impacts (actual and potential) for RSE workers as a 'compliant' workforce?¹⁰²
20. To what extent do RSE workers raise disputed employment issues? What mechanisms/avenues do workers use? How effective are these? What additional avenues/mechanisms are required?
21. What barriers exist for workers to raise employment issues?
22. What is industry doing to mitigate potential and actual negative impacts for workers as a 'compliant' workforce? What shortcomings/gaps are evident and where?
23. To what extent are the industry's productivity gains over the period 2008-2018 reflected in RSE workers' pay rates? Terms and conditions? Promotion/advancement opportunities?
24. What is the effect of rising accommodation and living costs on the amount of earnings that workers can save or remit home? What trade-offs are workers prepared to tolerate?
25. To what extent, and in what ways, are skills gained through workers' employment and living in New Zealand contributing to economic and social impacts for workers and their families?

SOCIAL IMPACTS FOR WORKERS (NZ-end)

26. To what extent do RSE employers and pastoral care providers support workers' wellbeing while they are in New Zealand? (i.e. faith-based and cultural activities; maintaining contact with home; mental and physical health)?
27. To what extent do RSE workers experience support from the local NZ community they are living in?

¹⁰² This term refers to the limitations placed on RSE workers as a result of their temporary work visa in NZ which restricts their employment to a particular RSE employer.

Appendix C. NZ stream sample, methods and analysis

Community and RSE employer sample

The NZ communities and RSE employers are shown in Table 15. The PICs and specific villages where workers live (who will be participating in the Pacific stream) are not shown in the table to ensure their anonymity.

Table 15. Community and RSE employer sample

Community	RSE employer	Crop/employer type*
Kerikeri	Employer 1	Grower – citrus, berries Large employer Employs female RSE workers
Hastings	Employer 2	Grower - apples, pears, summerfruit Mid-sized employer
	Employer 3	Grower cooperative – pipfruit, summerfruit, grapes Large employer Employs female RSE workers
	Employer 4	Labour hire - horticulture and viticulture Large employer
	Employer 5	Grower - apples Large employer Employs female RSE workers
Te Puke	Employer 6	Grower – kiwifruit Small employer
	Employer 7	Packhouse – kiwifruit Large employer Employs female RSE workers
Motueka	Employer 8	Grower – apples, kiwifruit Large employer Employs female RSE workers
	Employer 9	Grower - apples Mid-sized employer
Blenheim	Employer 10	Labour hire - viticulture Large employer Employs female RSE workers
Roxburgh	Employer 11	Grower cooperative – pipfruit, summerfruit, grapes Large employer
	Employer 12	Grower – berries Small employer

* Small employer <50 workers; medium-sized employer 50-200 workers; large employer 200+ workers

Methods

The methods and data sources used in the NZ stream are described in Table 16.

Table 16. Methods and data sources

Method	Informant/data	Data details
Face to face interviews	Community-based, industry, and other informants *	Face to face interviews were completed in each of the six communities by a team of three researchers, working by themselves (Te Puke, Motueka, Blenheim) or in pairs (Hastings, Kerikeri, Roxburgh) from mid-November 2018 to beginning April 2019 using one of 12 topic guides. ¹⁰³ A small number of interviews were done on the telephone after the fieldwork visits due to an informant being unavailable when we were visiting, or to 'back-fill' areas of information that initial analysis identified as needing to be strengthened. 136 interviews were completed with 179 informants in the period November 2018 - April 2019. The types and numbers of informants interviewed in each community are shown in Table 17.
Document review	Official research and papers	Included RSE Remittance research, RSE Employer Annual Survey 2012-2018, Evaluation of Strengthening Pacific Partnerships and Vakameasina 2016, Vakameasina Design 2017, Pacific Women and Labour Strategy (draft, undated), RSE Operational Review, MBIE Risk Register.
	Scan of relevant research literature	The research literature on the NZ and Australian seasonal work schemes was reviewed in the research scoping phase to identify impacts of labour mobility on workers, families and communities. The review was re-scanned to identify RSE worker experiences while working in NZ.
	Media review	A review of media information relating to the RSE scheme that appeared in community-level media in the previous five years (2013-2019) in each of the study's targeted communities and their wider environs. In addition to print and electronic media, content was retrieved from social media and blog sites.
Descriptive statistical analysis	Industry/regional/ other statistical data	Sources included: research on patterns of worker engagement in RSE; Horticulture/Viticulture industry data for regions; regional economic activity/labour market information; census data; regional housing stats (e.g. rent levels, housing affordability, homelessness); RSE health insurance statistics.

* Informants included:

- Community-based informants e.g. Chamber of Commerce, local government economic adviser/local economic development agency, PHOs/medical centre practice managers, NZ Police, local government community development advisers, church ministers, Pacific community leaders, Community Law Centres, NGO informants and local retailers.
- Informants involved directly in the RSE scheme: RSE employers, pastoral care providers, accommodation providers, Regional Governance Group members, and Vakameasina tutors.
- PIC team leaders: Our reason for interviewing team leaders during the NZ stream without interpreters is that they are recruited for their English language communication skills, along with their leadership skills. They expect to communicate in English in the workplace and are described as likely to be affronted if a Pacific researcher translated in the interview.
- Regionally-based government officials: Work and Income, Labour Inspectors, and RSE Relationship Managers.

¹⁰³ The twelve topic guides were developed using a matrix based on the research sub-questions. The completed guides were reviewed by team members. An information sheet and consent form were produced for use with informants.

- National informants: industry stakeholders, Union official, Pacific Liaison Officers, Orbit Insurance, MBIE and officials from the Ministries of Health, Social Development, and Primary Industries.

A coding frame was developed for a thematic analysis using a 'top-down' approach (i.e. based on the research questions) and 'bottom-up' approach (i.e. themes emerging from the data). Coding was done using NVivo software (NVivo 10) which provides for 'cases' to be established. This enables data between informant groups and communities to be compared, and the NZ and Pacific data to be linked and compared. The interviews were coded by two members of the team. Appendix A describes the data analysis procedure, and process used for developing, testing and confirming contribution claims.

Table 17. Number of interviews by community and informant type

Informant types	Blenheim		Hastings		Kerikeri		Motueka/ Nelson		Te Puke		Roxburgh		National informants		Total inter-views	Total inform-ants
	No. of inter-views	No. of inform-ants	No. of inter-views	No. of inform-ants												
Community ¹⁰⁴	6	8	4	3	4	6	4	4	7	10	2	2	0	0	27	33
Economic, ¹⁰⁵ Work & Income	3	6	3	8	2	2	1	1	3	3	2	2	0	0	14*	22*
Health	1	2	2	5	1	1	1	2	1	1	1	1	2	3	9	14
Industry ¹⁰⁶	2	2	2	2	0	0	0	0	1	1	1	1	3	5	9	11
Local government	2	2	2	4	1	1	1	1	1	1	0	0	0	0	7	9
PIC Liaison Officers	0	0	0	0	0	0	0	0	0	0	0	0	4	4	4	4
Police	1	1	1	1	1	1	1	1	1	1	1	1	0	0	6	6
RSE employers	1	2	4	5	1	2	2	5	2	3	2	2	0	0	12	19
RSE officials ¹⁰⁷	0	0	3	3	1	1	3	4	1	1	0	0	3	3	11	12
RSE service providers ¹⁰⁸	3	4	5	5	3	3	5	5	5	5	6	12	0	0	28	35
RSE worker team leaders	1	2	2	2	1	1	1	2	1	2	2	3	0	0	8	13
Union	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1	1
Totals	20	29	28	38	15	18	19	25	23	28	18	25	13	16	136	179

¹⁰⁴ Includes community boards, iwi representative, church ministers/pastors, PIC community leaders, Community Law Offices, community-based NGOs, other key community members.

¹⁰⁵ Includes Chamber of Commerce, real estate agent, Provincial Development staff, retailers that cater for RSE workers (multiple retailers were spoken to in each community. They are counted as one interview per community).

¹⁰⁶ Includes Regional Governance Group chairs, national industry leaders.

¹⁰⁷ Includes Pacific Liaison Officers, RSE Relationship Managers, Labour Inspectors.

¹⁰⁸ Includes RSE pastoral care providers, RSE accommodation providers, transport providers, Vakameasina personnel.

Appendix D. Descriptions of the six communities

Kerikeri

Kerikeri, with an estimated population of 7,500 in 2018,¹⁰⁹ is the largest town in Northland and a key service town, known by local residents as the “hub of the north.” Between 1996 and 2016 the Far North District’s resident population grew by 8,000 to 62,000, with 85 percent of that growth occurring in and around Kerikeri.¹¹⁰ Residents from periphery towns come to Kerikeri for schools, shopping, services and many for employment. As Kerikeri has grown in size, regional services have become centralised, leading to a reduction in services available in periphery towns and placing growing pressure on Kerikeri’s infrastructure, especially roads, parking and wastewater.¹¹¹

Kerikeri has an ageing, relatively affluent population, due in large part to continued growth in numbers of retirees and lifestyle migrants from the Auckland region. Almost 21 percent of the Far North District’s population is aged 65 years and over, compared to a national average of 15.3 percent.¹¹² The town’s relative affluence is in contrast to the surrounding area that includes some of New Zealand’s most socioeconomically deprived towns (e.g. Kaikohe, Kawakawa and Moerewa).¹¹³ The District has a high Maori population (approximately 44%), and Maori are projected to become the majority ethnic group by 2033.¹¹⁴

Primary production (agriculture, forestry and fishing) is the backbone of the district’s economy, accounting for more than 14 percent of the district’s GDP in 2018.¹¹⁵ Forestry is a significant contributor to regional growth, injecting close to \$380m into the Northland economy in 2017 and accounting for 1.5 percent of all employment in Northland.¹¹⁶ In the Far North District a large forestry block owned by Ngāti Hine Forestry Trust (near Kaikohe) and the Waipapa Pine sawmill employ substantial numbers of local workers, along with the freezing works in Moerewa. Forestry and meat processing are important sources of employment for lower skilled workers, alongside horticulture.

Construction has been a key driver of the economy in recent years, with growth in residential and non-residential developments.¹¹⁷ Residential developments are largely driven by growing numbers of retirees and lifestyle migrants. Kerikeri currently has four retirement villages, two of which are under expansion, and a fifth retirement village is in the planning stages.¹¹⁸ Several informants noted that

¹⁰⁹ MBIE Regional Economic Activity Web Tool

¹¹⁰ Far North District Council (2018). Long-term plan 2018-28. Proposed infrastructure strategy. <https://www.fndc.govt.nz/communication/consultation/long-term-plan-2018-28/ltp-2018-documents/4.-Proposed-Infrastructure-Strategy.pdf>

¹¹¹ ‘Kerikeri planning not by the numbers’, *The Northland Age*, 21 June 2018, <https://www.pressreader.com/new-zealand/the-northland-age/20180621/281569471449508>

¹¹² MBIE Regional Economic Activity Web Tool <http://webrear.mbie.govt.nz/theme/population-by-age-group/map/timeseries/2018/far-north/65-years-and-over?accessedvia=northland&right-transform=absolute>

¹¹³ Far North District Council (2018).

¹¹⁴ Ibid.

¹¹⁵ <https://ecoprofile.infometrics.co.nz/Far%20North%20District/Gdp>

¹¹⁶ NZIER (2017a). Plantation forestry statistics. Contribution of forestry to New Zealand. Wellington: NZIER.

¹¹⁷ Infometrics (2018). Quarterly economic monitor. Far North District, December 2018.

¹¹⁸ <https://www.stuff.co.nz/auckland/local-news/northland/106298856/is-kerikeri-the-retirement-mecca-of-new-zealand>

retirees do not make a large direct contribution to the economy, but they do place pressure on the community's infrastructure and services. A challenge facing the district is the increasing fragmentation of horticultural land, especially on the outskirts of Kerikeri, as a result of subdivision into lifestyle blocks and residential housing expansion. The District Plan is currently under revision and includes specific provisions designed to identify and protect horticultural land and prevent further land fragmentation.¹¹⁹

Tourism is another major contributor to economic growth. Kerikeri has one of the fastest growing regional airports in the country, and large numbers of tourists drive through the town on their way to the Bay of Islands. In 2018 the tourism industry accounted for 14.4 percent (\$278.2m) of regional GDP, and was the district's biggest employer, employing 4,371 people.¹²⁰

The horticulture industry and RSE in Kerikeri

Horticulture plays a significant role in the local economy, contributing \$30.2m to the Far North District's GDP in 2018.¹²¹ Kiwifruit is Northland's largest crop, with the region producing around 3.6m trays of green and gold kiwifruit for export in 2017. Citrus is the region's second largest crop with significant volumes of lemons and mandarins, and the area has become a prime growing region for avocados, accounting for 45 percent of New Zealand exports.¹²²

With an ageing, affluent local population, most people living in Kerikeri aren't involved in seasonal work unless they own a horticultural enterprise. The local labour pool for seasonal work in Kerikeri is small. However, there's a large pool of potential labour available from periphery towns with high levels of unemployment. The Far North District's unemployment rate was 7.4 percent in December 2018, well above the national average of 4.3 percent.¹²³ Work readiness, trainability and reliability have been cited as issues to employing locals.¹²⁴ Transport, in particular, is a problem. Many locals don't have transport or it isn't cost effective for them to drive when earning minimum wage, and employers are concerned about the reliability of workers travelling from other towns.

Nonetheless, Kerikeri's large horticulture employers make a concerted effort to recruit and retain New Zealand workers from periphery towns (e.g. providing transport to/from work and meals for workers). These employers work closely with Work and Income (W&I) to provide employment, and, according to the local W&I broker this relationship has been strengthened through RSE. New Zealand workers are employed for the packhouse and for orchard work, whereas RSE workers are employed solely for orchard work. Data provided by W&I on RSE's forecast employment numbers for 2019 show New Zealand workers will make up 60-75 percent of the total workforce each month, with the largest numbers of New Zealanders employed during the peak period of March to June. Local workers are also employed on smaller, family-run farms that are not engaged in the RSE scheme.

¹¹⁹ Far North District Council (2018). Draft District Plan.

¹²⁰ <https://ecoprofile.infometrics.co.nz/far%20north%20district/Tourism/TourismGdp>;
<https://ecoprofile.infometrics.co.nz/far%20north%20district/Tourism/TourismEmployment>

¹²¹ <https://ecoprofile.infometrics.co.nz/Far%20North%20District/Gdp/Structure>

¹²² <https://www.northlandnz.com/business/sectors/horticulture/>

¹²³ Infometrics (2018). Quarterly economic monitor. Far North District, December 2018.

¹²⁴ Ministry of Primary Industries (MPI) (2016). Mid to far north employer engagement. *MPI technical paper no. 2017/12*. Report prepared for MPI by Research New Zealand. Wellington: MPI.

The number of RSE employers (8) in Kerikeri is small and there are relatively few RSE workers (334 workers in 2017-18). The largest number of RSE workers (49%) come from Tonga, with smaller numbers from Vanuatu (28%), Kiribati (14%) and Fiji (4.5%). Until 2018, there was only one large RSE in Kerikeri, Turners & Growers (T&G), that recruited the majority (77.5%) of RSE workers. The other seven RSEs had 75 workers between them. T&G produces a range of crops in Kerikeri including citrus, berries and, until recently, kiwifruit. Because of the range of crops produced there are no significant peaks in production and no associated spikes in the numbers of RSE workers entering the district. Workers are needed year-round for a range of tasks and they are a constant presence in Kerikeri.

RSE workers are accommodated at two sites: a holiday park in central Kerikeri and a motor camp on the outskirts of town. Transport to and from work is provided, and all workers access one medical centre. The impacts of the RSE on local housing, services and infrastructure are therefore relatively limited.

Looking ahead

Northland's subtropical climate and wide diversity of soil means the area has strong growth potential for kiwifruit, especially for the SunGold variety.¹²⁵ The industry's contribution to regional GDP is expected to more than double from \$30.6m in 2015/16 to \$72m by 2030, and generate nearly 900 full-time equivalents (FTEs).¹²⁶ Significant expansion of kiwifruit orchards is taking place on the outskirts of Kerikeri and, linked to this, increasing consolidation and corporatisation. Smaller growers are being squeezed out due to the high costs of licenses for SunGold plantings (currently \$270,000/ha), and they are being replaced by large-scale producers, mainly from the Bay of Plenty who are entering the region and purchasing sizeable tracts of land. New Zealand's largest kiwifruit producer, Seeka, recently purchased T&G's kiwifruit business and post-harvest facilities for \$40 million, and is in the process of building a multi-million dollar, highly automated packhouse facility to handle their kiwifruit production in the region.¹²⁷ The area is attractive to Bay of Plenty producers because land prices are lower, growers have access to the Kerikeri irrigation scheme,¹²⁸ and (at this stage) there is no shortage of accommodation for seasonal workers.

Other types of horticultural production in Kerikeri are changing as well, with a reduction in plantings of citrus, and significant expansion in berries and avocados. These changes are driven by market demand, both domestic and international, and are driving the shift to year-round operations.

¹²⁵ https://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=11986919

¹²⁶ Scrimgeour, F., Hughes, W. & Kumar, V. (2017). The economic contribution of kiwifruit industry expansions to the Bay of Plenty, Northland and New Zealand economies. Hamilton: Institute for Business Research, University of Waikato.

¹²⁷ Seeka is an integrated orchard management and post-harvest business that handles around 20% of NZ's export kiwifruit crop each season. Seeka has been operating in Northland since 2013 and has one of the largest land holdings for producing kiwifruit and avocado orchards covering 288ha (<https://www.seeka.co.nz/SeekaNorthlandOrchardPortfolio.pdf>). The \$40m sale includes all of T&G's post-harvest facilities used for packing and storing avocados, kiwifruit and citrus, and 80ha of kiwifruit orchards (<https://www.stuff.co.nz/business/farming/103277038/turners--growers-sell-40m-kiwifruit-business-to-seeka>).

¹²⁸ The Kerikeri water scheme is a community irrigation scheme developed in the 1980s that supports the long-term viability of the region's horticulture industry.

Continued expansion of kiwifruit, especially, will result in increasing demands for seasonal labour. With a small local labour pool, more workers will need to be drawn from periphery towns and/or businesses will require additional RSE workers. One informant noted that if a port or rail link is developed in Whangarei, Kerikeri will see further growth in horticulture.

While the impacts of RSE workers on housing and infrastructure are negligible at this stage, continued industry expansion may place pressure on the community in future. Housing, especially, may come under pressure due to current restrictions on building residential units on horticultural land. The proposed District Plan includes zoning to protect horticultural land and development, but little thought has been given to the potential need for onsite worker accommodation. Restrictions surrounding the use of horticultural land, and the lack of provisions for accommodation, may act as a constraint to any significant future growth in RSE numbers.

Te Puke

The town of Te Puke, located in the Western Bay of Plenty and with an estimated population of 8,350 in 2018, is at the heart of New Zealand's kiwifruit industry. Kiwifruit is the primary driver of the Western Bay of Plenty District's economy, accounting for around 65 percent of the district's economic output.¹²⁹ The Bay of Plenty is one of New Zealand's main fruit producing regions, with over 13,000ha of fruit grown. The region consists predominantly of kiwifruit (10,787ha in 2017/18) and avocados (2,319ha in 2017/18), and has smaller plantings of citrus, berries and vegetables. In 2017/18 the Bay of Plenty produced 81 percent of New Zealand's total kiwifruit crop and 47 percent of avocados.¹³⁰ Both industries are supported by substantial Maori investment, and contribute significantly to regional employment. The kiwifruit industry employed an estimated 10,762 FTEs and contributed \$867 million to regional GDP in 2015/16.¹³¹ The avocado industry values at \$152 million (2017/18) and at peak times employs approximately 1,391 FTEs in the region.¹³²

New Zealand's kiwifruit industry is undergoing rapid growth following recovery from the PSA crisis, first discovered in November 2010.¹³³ This expansion is driven by high demand from export markets, especially China. Zespri is the sole global exporter of New Zealand kiwifruit – all kiwifruit operations must be registered with them – and the company has a target of doubling industry value from \$2 billion in 2017 to \$4 billion by 2027.¹³⁴ Zespri is currently releasing SunGold licenses for up to 700ha per year based on forecasts of "extraordinary global demand". By 2027 it is anticipated that two-thirds of kiwifruit grown in New Zealand will be the SunGold variety.¹³⁵ SunGold is labour intensive, with a sharp peak for picking the majority of crop within a four-week period. This is in contrast to

¹²⁹ Western Bay of Plenty District Council (2016). Seasonal worker accommodation review. Retrieved from <http://www.westernbay.govt.nz/our-district/current-projects/Documents/Research%20Report%20-%203%20-%20Seasonal%20Worker%20Accommodation%20Review%20-%20%28for%20Public%20release%29.pdf>

¹³⁰ Horticulture New Zealand (2018b). Submission on proposed smart growth future development strategy.

¹³¹ Scrimgeour, F., Hughes, W. & Kumar, V. (2017).

¹³² Horticulture New Zealand (2018b).

¹³³ *Pseudomonas syringae* pv. *Actinidiae* (Psa) is a bacteria that can result in the death of kiwifruit vines. It was first discovered in NZ in November 2010 and caused severe, widespread damage to the country's kiwifruit industry.

¹³⁴ NZKGI (2018). New Zealand kiwifruit labour shortage.

¹³⁵ The current split between the SunGold and Haywood (green) plantings is roughly 50/50 (NZKGI, 2018).

green kiwifruit that has two peaks over a longer period of 8-10 weeks.¹³⁶ The high yields and short harvest window for SunGold is placing additional pressure on an industry that is already struggling to meet its labour needs.

The peak kiwifruit season runs from March to October and leads to a large influx of seasonal workers into the Bay of Plenty, particularly around Te Puke where the bulk of orchards and packhouses are located. A key feature of the industry is the widespread use of contractors, with around 360 in operation. Contractors provide a range of services including contract growers, labour suppliers, and transport providers (for kiwifruit labour). All growers and packhouses registered with Zespri must meet GLOBALGAP and GRASP regulations (which includes auditing)¹³⁷ and this includes their contractors. Lack of compliance in the kiwifruit industry is, however, an ongoing issue. This is due, in large part, to the number of non-RSE contractors that operate. RSEs comprise only a small group in the industry (a total of 24 RSEs in 2017/18).

In 2017 the kiwifruit industry employed 15,678 seasonal workers (all sources) to pick and pack 123 million trays. New Zealand workers are the industry's primary source of labour, comprising 56 percent of the seasonal workforce. Backpackers are the second largest source of workers (22%) followed by RSE workers (17%).¹³⁸ While RSE workers make up a small share of the total seasonal workforce, they are considered an essential and "permanent" component of the workforce. Unlike backpackers, many RSE workers return for multiple seasons and they provide a core of reliable, skilled workers for picking, packing and pruning.

In contrast to other communities, such as Kerikeri and Hastings, where RSE workers are used solely for orchard work, in Te Puke RSE workers are employed in the packhouse as well as the orchard. They are of particular value for night shift work that enables packhouses to operate 24/7, especially as New Zealand workers and backpackers are reluctant to commit to night shift work on a regular basis. One RSE employer noted they were packing 21 million trays in 2007 and are now packing 41 million trays. In her view this would be impossible without RSE workers doing night shift work. The majority (42%) of RSE workers in the region come from Vanuatu and they are mainly men due to the physical nature of kiwifruit pruning.

The industry's current phase of rapid expansion is affecting the size, scale and workflow for picking, packing and pruning and leading to substantial shortfalls in labour. Contractors are competing for workers and offering "premium" rates for picking during harvest,¹³⁹ and for winter pruning which is critical for the quality of the crop in the next season. An official seasonal labour shortage was declared

¹³⁶ Scrimgeour, F., Hughes, W. & Kumar, V. (2017).

¹³⁷ GRASP (GLOBALGAP Risk Assessment on Social Practice) is an add-on to the main certification scheme and assesses social practices on the farm including workers' health, safety and welfare (https://www.globalgap.org/uk_en/for-producers/globalg.a.p.-add-on/grasp/).

¹³⁸ NZKGI (2018). New Zealand kiwifruit labour shortage.

¹³⁹ In 2019, pay rates for kiwifruit picking during peak harvest had increased to \$23.50 an hour, up from \$21/hour in 2017 (see NZKGI (2018); <https://www.stuff.co.nz/business/farming/111867770/industry-scrabbles-to-find-fruit-pickers-offering-2350-an-hour>).

in 2018, and again in 2019. This season the industry estimates they will have a shortage of 3,800 workers at peak harvest period.¹⁴⁰ Barriers to securing seasonal labour include:¹⁴¹

- A low unemployment rate (4.8% in December 2018, slightly above national average of 4.3%)
- Fewer backpackers and students seeking seasonal work
- The short-term nature of work with a short peak period is a disincentive for New Zealand workers; and
- The industry has a “bad image” with poor perceptions around pay rates and workers’ welfare which makes it hard to attract local workers.

Unemployed youth (18-24 year olds) are a particularly difficult group to place and retain in seasonal work. This is due to a range of factors such as: unstable living conditions, the lack of a driver’s licence / transport, drug and alcohol issues, and lack of motivation and incentives to work. The industry also faces competition for lower-skilled workers from other industries such as construction, forestry and tourism.

Expansion of the kiwifruit industry has had both positive and negative impacts on Te Puke and the surrounding area. Positive impacts relate primarily to the multiplier effects of expansion. Migrant seasonal workers (including RSE workers) make a direct economic contribution to the district through the money spent on food, goods and services and so forth. According to one informant, the Te Puke retail sector relies quite heavily on migrant workers following the development of the toll road bypass in 2015, and there has been obvious growth in the numbers of dollar shops, second-hand businesses and Asian and Indian food shops catering to migrants.

Development of kiwifruit orchards also has flow-on effects for those sectors that support the industry including machinery firms, irrigation and agricultural suppliers, transport and distribution services, and the accommodation sector. The kiwifruit industry has not made any real investments into accommodation infrastructure; the industry relies heavily on third-party providers. This is due, in part, to the short-term nature of seasonal work in kiwifruit and the large numbers of small contractors operating in the industry that cannot afford the capital investment.¹⁴² RSE workers are housed in a range of accommodation types around the district, including backpacker hostels, holiday parks, campgrounds and rental houses (often onsite at orchards and packhouse locations). Third-party providers are also used for transport services, driving RSE workers to and from work each day in shuttle buses and minivans.

Alongside the positive impacts, several negative impacts of expansion were noted. The region has a shortage of suitable accommodation for local families and migrant workers. This is especially problematic in the Western Bay of Plenty where the majority of orchards and packhouses are based.¹⁴³ Industry growth is placing pressure on land, water supply and infrastructure. An additional 7,000ha of irrigatable land is required to meet Zespri’s target of \$4bn by 2027, and New Zealand

¹⁴⁰ <https://www.tvnz.co.nz/one-news/new-zealand/labour-shortage-declared-in-bay-plenty-kiwifruit-industry-short-3800-workers>

¹⁴¹ NZKGI (2018).

¹⁴² NZKGI (2018).

¹⁴³ Western Bay of Plenty District Council (2016). Seasonal worker accommodation review.

Kiwifruit Growers Incorporated (NZKGI) is in the process of developing a new Water Strategy for the kiwifruit industry to ensure sustainable use of the region's water supply.¹⁴⁴

The district has seen significant increases in traffic volumes associated with the freight of kiwifruit from orchard to post-harvest facilities and on to the Port of Tauranga, and there are now more seasonal workers on the road. Traffic volumes are also increasing due to regional urban development.¹⁴⁵ In 2017 the development of a major industrial park (Rangiuru Business Park) was announced. This will accommodate a wide range of business, including freight distribution and storage services for Tauranga's port, and is expected to become a key industrial hub for the region.¹⁴⁶

Looking ahead

As part of Zespri's growth strategy, production volumes are set to increase from 123 million trays in 2017 to 190 million trays in 2027. To support this growth the industry needs an additional 7,000+ seasonal workers over the next 10 years.¹⁴⁷ Much of the future growth is expected to occur in and around the Western Bay of Plenty, and will place additional pressure on local accommodation, infrastructure and services.

Automation of the kiwifruit industry will play an important role in future. There is already significant mechanisation in the packhouse, and work is underway for mechanised picking, but developments are still more than a decade away. A recent report by NZKGI (2018) argues the shortage of labour facing the industry has reached a critical stage and, without intervention, could severely constrain further growth and thwart efforts to double revenues by 2027.¹⁴⁸ The industry will increasingly look to the RSE scheme as a potential solution.

Hastings

Hastings city is one of two major urban areas in the Hawke's Bay region, and the largest community included in the RSE Impact Study, with an estimated population of 80,600 in 2018.¹⁴⁹ Hastings has a relatively multicultural population with 75 percent identifying as being of European/Pakeha ethnicity, almost 25 percent as Maori, six percent as Pacific Peoples, and more than 4 percent as Asian. The Maori and Pacific Peoples populations are projected to increase over the next 30 years, accounting for approximately 27 percent and 12 percent respectively of the total population by 2045.¹⁵⁰

Hastings is undergoing a sustained period of growth linked with the development and expansion of the horticulture industry. Property prices in Hastings increased 10.8 percent between September 2017 and 2018, well above the national average of 4.1 percent over the same period. The district is

¹⁴⁴ <https://www.coastandcountrynews.co.nz/news/4190-water-strategy-evolving-kiwifruit.html>

¹⁴⁵ Horticulture New Zealand (2018b).

¹⁴⁶ https://www.nzherald.co.nz/bay-of-plenty-times/news/article.cfm?c_id=1503343&objectid=11864073

¹⁴⁷ NZKGI (2018).

¹⁴⁸ Ibid.

¹⁴⁹ MBIE Regional Economic Activity Web Tool <http://webrear.mbie.govt.nz/summary/new-zealand?accessedvia=hawkes-bay>

¹⁵⁰ Economic Solutions (2009). Heretaunga Plains urban development study phase 2 technical analysis. Demographic and economic growth outlook 2015-2045.

also experiencing strong retail growth, with consumer spending demonstrating confidence in local retailers and indicating a buoyant local economy.¹⁵¹

Agriculture, forestry and fishing is a major driver of the regional economy, accounting for 12.1 percent (\$752.1m) in 2018 (second only to manufacturing). Within that, horticulture (3.3%), sheep, beef cattle and grain farming (3.1%) and forestry (2.3%) make significant contributions.¹⁵² The Hawke's Bay is New Zealand's largest pipfruit growing region, accounting for 66 percent of the national volume, and many of the large corporates have their headquarters located there.¹⁵³ The Port of Napier is a major export and transport hub for pipfruit, and in the year to September 2018 apple exports exceeded 23,000 containers (TEU) for the first time.¹⁵⁴

The Hawke's Bay is the country's oldest wine region (dating back to 1851) and the second largest with a total of 4,681ha planted in grapes. In 2018 and the region produced 41,000 tonnes, equivalent to 10 percent of the country's total wine production.¹⁵⁵ Hawke's Bay is also New Zealand's second largest summerfruit growing region (31%), behind Central Otago (59%).

Alongside horticulture, forestry is a key driver of regional economic growth, with a large amount of forestry coming on stream over the past decade. In the 12 months ending September 2018, the export of logs was up 35 percent on the previous year (2,240,000 tonnes in 2017/18). Steep growth in exports is set to continue for the next 10 years, with volumes expected to reach approximately 3 million tonnes by 2026.¹⁵⁶

Tourism is also important, accounting for 5.6 percent of regional GDP in 2018 and employing 5,446 people.¹⁵⁷ Cruise tourism in the region is flourishing with 103,000 passengers visiting the Port of Napier in the 2017-18 cruise season (October to April). 72 cruise ships (125,000 visitors) are expected to visit Port Napier in 2018/19 with passengers expected to spend around \$28 million. Vineyard tourism is especially popular with cruise passengers.¹⁵⁸ As one informant noted, the role of the port in economic activity is "huge for both exports and tourism".

The horticulture industry and RSE in Hastings

Following deregulation of the pipfruit industry in 2001 (18 years ago) the pipfruit sector has gone through a sustained period of consolidation and corporatisation as smaller family-owned enterprises have merged with larger corporates. The area planted in pipfruit has increased from around 5,400ha

¹⁵¹ <https://greatthingsgrowhere.co.nz/services/strong-retail-growth-continues-in-hastings-district/>

¹⁵² <https://ecoprofile.infometrics.co.nz/Hawke's%20Bay%20Region/Gdp/Structure>

¹⁵³ Horticulture New Zealand (2018a).

¹⁵⁴ <https://www.napierport.co.nz/napier-port-releases-annual-results/>

¹⁵⁵ NZ Winegrowers (2018). Annual report. Retrieved from <https://www.nzwine.com/en/news-media/statistics-reports/new-zealand-winegrowers-annual-report/>

¹⁵⁶ <https://www.napierport.co.nz/napier-port-releases-annual-results/>.

¹⁵⁷ <https://ecoprofile.infometrics.co.nz/Hawke's%20Bay%20Region/Tourism/TourismGdp;>
<https://ecoprofile.infometrics.co.nz/Hawke's%20Bay%20Region/Tourism/TourismEmployment>

¹⁵⁸ [https://www.napierport.co.nz/napier-port-releases-annual-results/;](https://www.napierport.co.nz/napier-port-releases-annual-results/) https://www.nzherald.co.nz/hawkes-bay-today/business/news/article.cfm?c_id=1503458&objectid=12146224

in 2010 to 7,274ha in 2019,¹⁵⁹ and two producers, Mr Apple and T&G, dominate the industry accounting for approximately 55 percent of apple production.¹⁶⁰

Associated with the expansion has been growth in all industries that feed into horticulture including construction (Sunfruit Group built a 12,000sqm packhouse and coolstore in 2018 for \$25 million),¹⁶¹ expanded transport and distribution services, irrigation, agricultural services, training (e.g. OH&S, driving licensing and Vakameasina courses for RSE workers) and accommodation services. One RSE estimates the company spends \$500,000 per year leasing their accommodation, and another \$530,000 per year leasing vans for worker transport.

Industry expansion, in turn, is supporting greater employment of New Zealand workers. As horticulture enterprises grow and shift towards year-round production with new varieties coming online, recruiting and retaining skilled, productive New Zealand workers has become a priority. Employers need permanent, local staff to do the development and infrastructure work in the orchards and “get the fruit on the trees” (e.g. tractor driving, spraying) before RSE workers arrive for the peak season.

The peak season for pipfruit runs for eight months from November through until June when high numbers of seasonal workers are required for thinning, picking and packing. There are 24 RSEs operating in the region, employing over 3,500 RSE workers in 2017/18. The largest numbers come from Vanuatu (29%) and Samoa (27%), followed by Tonga (12.5%) with smaller numbers from Fiji, Kiribati, Papua New Guinea, Solomon Islands and Tuvalu. Strong regional economic growth combined with a low unemployment rate (4.6% in December 2018) means the industry is competing with other sectors for lower-skilled workers and this has led to a shortage of labour for the past two seasons. An official seasonal labour shortage was declared in 2018 – the first official declaration since 2010¹⁶² – and a second labour shortage has been declared for the 2019 season. The current shortage covered a six-week period from February to April 2019 and an additional 300-400 workers are needed.¹⁶³

The pipfruit sector works closely with W&I to try and address their labour needs and since October 2018 W&I have placed more than 200 clients in job vacancies.¹⁶⁴ However the region still has an “untapped pipeline of workers” that can be connected to employment opportunities. The percentage of 15 to 24 year olds not in employment, education or training (NEET rate) in Hastings was 17.6

¹⁵⁹ NZ Apples & Pears (2018). Apple & pear industry seasonal labour analysis; <https://www.baybuzz.co.nz/2010/12/18/apples-a-growing-business/>

¹⁶⁰ Mr Apple is the largest vertically integrated apple growing company in the country with 200ha of orchards as well as packhouses and coolstores. The company employs 400 full-time staff with numbers growing to 2,200 at the peak of the season (Christina, G. (2018). Mr Apple gets smarter. *The Orchardist*.)

¹⁶¹ <http://www.waterfordpress.co.nz/build/sunfruit-group/>

¹⁶² <https://www.msd.govt.nz/about-msd-and-our-work/newsroom/media-releases/2018/declaration-of-seasonal-hawkes-bay-labour-shortage.html>

¹⁶³ <https://www.immigration.govt.nz/about-us/media-centre/news-notifications/seasonal-labour-shortage-declared-in-hawkes-bay>

¹⁶⁴ Radio NZ (2019). Govt declares Hawke’s Bay seasonal worker shortage. *RNZ*, 15 February 2019.

<https://www.radionz.co.nz/news/national/382567/govt-declares-hawke-s-bay-seasonal-worker-shortage>

percent in the year to December 2018, well above the national average of 11.9 percent.¹⁶⁵ Some of the larger corporates, such as T&G and Bostock, have a strong philosophy of employing New Zealanders first and growing the local talent pool (through providing jobs, training, qualifications) to help meet their annual labour needs.¹⁶⁶ W&I has a particularly good relationship with these employers - they understand the need to provide "suitable" and "flexible" jobs that are tailored to the often "difficult and precarious lives" of W&I clients. These employers also provide a lot of wrap-around support, often via their RSE pastoral care staff.

W&I's relationship with local RSEs is dynamic. In times of low unemployment W&I focuses mainly on the large corporates where their efforts are likely to produce the best outcomes for W&I clients. In times of higher unemployment, W&I puts effort into their relationships with all RSEs, medium to small growers as well as contractors. Some informants voiced concern, however, that many employers have become reliant on their RSE workers at the expense of local workers, and there's a perception that RSE workers are treated better than local staff. RSE workers are guaranteed 30 hours' work a week, provided with accommodation, transport and pastoral care and they're kept on during down times in the season when local workers are made redundant. This has led to some negative perceptions among the local population towards the RSE scheme.

Nonetheless, RSE workers are well accepted in the local community and their contribution to the economic and social fabric of Hastings is recognised.

Looking ahead

Continued expansion is forecast for the Hawke's Bay pipfruit industry in both production and hectares planted.¹⁶⁷ As one industry informant stated, the industry is already "desperate for labour" and this demand will only increase when the expanded areas come into production. Apple trees grow quickly with some varieties harvested within three years of planting. New varieties are coming online outside of the traditional peak periods which is smoothing out production over the year and providing more fruit for export.¹⁶⁸

Automation is "in the pipeline" and there are already shifts towards mechanisation, especially among the large corporates that consider mechanisation a vital part of their future innovation strategy. T&G, for instance, will use mechanised picking platforms during harvest in 2019. This technology will give T&G access to a wider range of local workers for orchard work because picking will no longer be reliant on a worker's fitness or strength to get up and down ladders. New orchards are also being designed and planted for mechanised picking and pruning in future. According to an industry informant, the major positives of automation are reliability and consistency – you can use machines

¹⁶⁵ MBIE Regional Economic Activity Web Tool <http://webrear.mbie.govt.nz/summary/new-zealand?accessedvia=hawkes-bay>

¹⁶⁶ T&G recently won an award as one of NZ's best primary sector employers (<https://www.beehive.govt.nz/release/awards-best-primary-sector-employers>).

¹⁶⁷ NZIER (2018).

¹⁶⁸ For example Bostock and Mr Apple have joined forces to exclusively grow and market Posy apples for China. The apple, which is NZ's sweetest, is harvested early February, ahead of most other NZ varieties (https://www.nzherald.co.nz/business/news/article.cfm?c_id=3&objectid=12212371).

at any time – however they won't replace people. Rather automation will require a different type of (more skilled) worker that can work in a mechanised environment. This has implications for the future training requirements of both domestic and overseas workers employed in the horticulture sector.

Motueka

Motueka, with a population of 7,606 at the time of the 2013 Census, is the second largest town in the Tasman District. Tasman District has one of the country's most rapidly ageing populations, due to growing numbers of retirees and older lifestyle migrants moving into the district, and younger residents leaving Tasman for study, travel or work. In 2018, 21.6 percent of the district's total population (51,300) was aged 65 years and over.¹⁶⁹ By 2038 the numbers aged 65 years and older will almost double, and will make up more than 35 percent of the district's population.¹⁷⁰

The district's ageing population has a number of social and economic implications. The decline in the size of the working-age population (15-64 years) may lead to future labour market shortages across a range of industries. The primary sector already has a relatively older workforce, with 47 percent aged over 50, and this trend is set to continue. Tasman's population is forecast to grow by almost 6,000 residents to reach 57,200 in 2030. This growth will require land for residential housing developments, especially retirement villages, as well as significant investment in local infrastructure and services including roads, water and wastewater services, and public amenities such as parks and community centres.¹⁷¹

Tasman's economy is driven by primary production (agriculture, forestry and fishing) which contributes over 13 percent to GDP, and is the district's largest employer, accounting for more than 21 percent of total employment in 2018. Horticulture and fruit growing, in particular, play an important role. In 2018 apple and pear growing provided almost 1,400 jobs, accounting for 5.9 percent of the district's total employment. Outdoor vegetable growing (369), kiwifruit growing (320) and grape growing (148) combined accounted for an additional 3.5 percent of total employment.

Tasman has significant forestry and logging operations as well as wood processing facilities, contributing close to 2.5 percent to GDP in 2018¹⁷² and the district has a buoyant construction industry linked with growing residential development. Tourism is another driver of economic growth, employing over 2,500 people and contributing 9.3 percent to the district's GDP in 2018.¹⁷² According to one informant, one of the biggest changes in the district over the past decade has been the growth in tourist numbers and the increasing flow of traffic through Motueka.

The horticulture industry and RSE in Motueka

There are around 340 horticulture and viticulture (H/V) enterprises operating in Tasman, with close to 6,500ha of land under production or prepared for horticultural use. Pipfruit (28%), grapes (18%) and kiwifruit (11%) are the main crops produced in the district, with smaller amounts of berries, olives

¹⁶⁹ MBIE Regional Economic Activity Web Tool <http://webrear.mbie.govt.nz/theme/population-by-age-group/map/timeseries/2018/tasman/65-years-and-over?accessedvia=tasman&right-transform=absolute>

¹⁷⁰ Tasman District Council (2018). Tasman's ageing population.

¹⁷¹ Tasman District Council (2018). Long-Term Plan 2018-2028. Volume 1.

¹⁷² Infometrics (2018). Tasman District. Annual economic profile 2018.

and vegetables.¹⁷³ Expansion of the horticulture industry over the past decade has increased the size and scale of H/V enterprises as smaller operators have merged with larger corporates, leading to the progressive disappearance of family-run farms. Industry expansion has also led to the formation of consortia, such as the Heartland Group, to operate more effectively in both international and domestic markets.¹⁷⁴ Smaller operations have had to become much more efficient enterprises, investing in new varieties and new technologies to remain competitive.

With increasing consolidation of the industry, the ownership structure is also changing. Growing foreign investment is supporting large-scale capital investments in new production facilities (e.g. packhouse facilities), the development of new orchard blocks, and the acquisition of existing orchards that are cleared and replanted in new varieties. This development is supporting significant growth in sectors related to horticulture such as land and land services, transport and distribution, irrigation and agricultural services.

Alongside industry expansion there has been a growing demand for labour. A survey by NZ Apples & Pears indicated a labour shortage of more than 1,400 workers for Nelson-Tasman during the 2017-18 season, with the largest numbers required for picking (57%), thinning (24%) and pruning (13%).¹⁷⁵ A seasonal labour shortage was declared in Tasman District in April 2018 – the first official declaration since 2008 – and some Tasman growers are concerned they will face another labour shortage in 2019.¹⁷⁶ The District's low unemployment rate (4.6% in December 2018),¹⁷⁷ coupled with strong growth in other industries, such as construction and tourism, means horticulture growers are competing for lower-skilled workers. As smaller family-run farms have merged with larger corporate entities, their labour requirements have also increased and they have shifted away from a traditional reliance on local workers, to the use of RSE labour.

In 2017-18 there were 20 RSEs and 750 RSE workers in Tasman, with the largest numbers coming from Samoa (37%), Vanuatu (36%) and Tonga (24%) and employed for the apple harvest. Informants held mixed views on RSEs' engagement with W&I and their efforts to employ New Zealand workers. According to one informant, RSEs have "become complacent" and assume they have Pacific workers "as a matter of right now" which means they make minimal efforts to engage local workers. Other informants held a different view, arguing that it is essential for RSEs to maintain a good relationship with W&I, and employ local workers where possible, in order to secure their RSE numbers.

For growers located around Motueka it can be especially challenging to find local workers because of the small size of the community, and most orchards are based away from the township, requiring a

¹⁷³ Agricultural production statistics June 2017. Retrieved from <https://www.stats.govt.nz/information-releases/agricultural-production-statistics-june-2017-final>

¹⁷⁴ The Heartland Group includes orchard and packhouse operations (Vailima Orchards, Easton Orchards and Compass Fruit Packhouse). Apples are exported internationally under the Luvya brand and domestically under their Kiwifirst brand (<http://www.luvyaapples.co.nz/>).

¹⁷⁵ NZ Apples & Pears (2018).

¹⁷⁶ <https://www.msd.govt.nz/about-msd-and-our-work/newsroom/media-releases/2018/declaration-seasonal-tasman-labour-shortage.html>; <https://www.stuff.co.nz/business/farming/109791562/tasman-apple-growers-expect-bumper-crop-hope-for-enough-workers-to-pick-them?rm=a>

¹⁷⁷ MBIE Regional Economic Activity Web Tool <http://webrear.mbie.govt.nz/summary/tasman?accessedvia=tasman>

daily commute from potential jobseekers.¹⁷⁸ Finding skilled New Zealanders for permanent roles in orchard development and maintenance work, before RSE workers arrive for the peak harvest period, was cited as a major challenge for larger enterprises. One RSE noted that the company has been advertising for several months for a skilled technician to work full-time in the packhouse on an annual salary of over \$80,000. The employer has not been able to fill the position.

Several informants felt the RSE makes an important contribution to the local economy in Motueka, but the benefits are localised. Large horticultural enterprises have benefited the most as they've been able to invest and expand due to the certainty of RSE labour. This is evidenced by the widespread development of new orchard blocks (one enterprise currently has 50,000 trees under development to meet consumer demand in overseas markets) and multi-million dollar investments in new production facilities. Workers are generally housed in purpose built or RSE-owned accommodation, often on orchards, and may not spend a lot of time in town.

RSE workers also contribute to the Motueka community in the context of the cultural capital they bring, as well as their labour. Informants noted there has been a change in local attitudes towards RSE workers over the past decade. The town's largely Pakeha population has come to accept the regular presence of RSE workers in town, and there are growing links between RSE employers, their workers, and the local Maori community.

Looking ahead

Continued expansion of the horticulture industry in Tasman will bring increasing demands for labour - both permanent staff and seasonal workers – placing additional pressure on an industry that already suffers from labour shortages. In future, greater efficiencies are required to manage this expansion. These may be technological developments, or changes to plant varieties, rather than increasing numbers of workers. Some growers already make use of automated platforms for summer and winter maintenance work, and for picking.¹⁷⁹ Other RSEs are experimenting with apple harvesting machines sourced from the Northern Hemisphere, and new blocks are being planted with machine harvesting in mind.

Increasing automation will not remove the requirements for labour, but may encourage a shift towards more skilled workers that can handle and service machinery. The Te Tau Ihu 2077 Regional Growth Strategy (Top of the South Development Plan) is currently in development, and horticulture and viticulture will feature strongly in the strategy as key industries that can provide future employment opportunities.¹⁸⁰

¹⁷⁸ <https://www.msd.govt.nz/about-msd-and-our-work/newsroom/media-releases/2018/declaration-seasonal-tasman-labour-shortage.html>

¹⁷⁹ Ministry of Agriculture and Forestry (2010). Work platforms aid intensive apple orchard sustainability (<http://www.climatecloud.co.nz/CloudLibrary/cc-cs6-eru-apple-vailima-web.pdf>).

¹⁸⁰ The growth strategy is a joint project led by Wakatu Incorporation on behalf of Nelson City Council, Tasman District Council, Marlborough District Council, the eight iwi of Te Tau Ihu and business communities.

Blenheim

Blenheim, with an estimated population of 31,600 in 2018, is the largest town in the Marlborough region and widely known as the centre of New Zealand's wine industry. The region has some distinguishing demographic and economic characteristics, with one of the country's most rapidly ageing populations and one of the lowest unemployment rates.¹⁸¹ More than 23 percent of the region's population is aged 65 years and over, compared to a national average of 15.3 percent. The population is also largely mono-ethnic with close to 90 percent of people identifying as European/Pakeha. At the time of the 2013 Census, fewer than one percent of New Zealand's Maori population lived in Marlborough.¹⁸²

Marlborough's economy is strong, with the highest forecast employment growth rate (3.4%) in the country, well above the national average of 2 percent. Almost 3,500 additional workers will be required between 2017 and 2020.¹⁸³ A low unemployment rate (4.2% Dec 2018)¹⁸⁴ coupled with sustained growth has led to a shortage of labour across most industries and types of jobs (permanent, technical, seasonal, skilled, semi-skilled, unskilled). The local economy is heavily reliant on migrant labour, but the region struggles to attract and retain migrant workers. Marlborough is in direct competition with Nelson, Tasman and Canterbury – all of which are better known as migrant destinations – and the region has been “dogged by a reputation for low wages”.¹⁸⁵

Two industries make a sizeable contribution to the regional economy: wine and aquaculture. Aquaculture (comprising marine farming and seafood processing) is located in northern Marlborough, and the region produces around 62 percent of New Zealand's Greenshell mussels, 61 percent of salmon and 8 percent of oysters. In 2015, aquaculture contributed 5.7 percent (\$162m) to regional GDP, and provided employment (859 jobs) for approximately 3.7 percent of Marlborough's total labour force.¹⁸⁶ Forestry, also located in northern Marlborough, is another driver of growth as smaller forestry blocks come on stream and commodity prices remain high.

¹⁸¹ Marlborough Chamber of Commerce (2017). Solving Marlborough's demographic challenges. Blenheim: Marlborough Chamber of Commerce.

¹⁸² MBIE Regional Economic Activity Web Tool

<http://webrear.mbie.govt.nz/summary/marlborough?accessedvia=marlborough>; Statistics NZ QuickStats

http://archive.stats.govt.nz/Census/2013-census/profile-and-summary-reports/quickstats-about-a-place.aspx?request_value=14613&parent_id=14612&tabname=

¹⁸³ Ministry of Business, Innovation and Employment (2018). Short-term employment forecasts 2017-2020.

Retrieved from <https://www.mbie.govt.nz/business-and-employment/employment-and-skills/labour-market-reports-data-and-analysis/labour-market-forecasting/short-term-employment-forecasts-2017-2020-february-2018/>

¹⁸⁴ MBIE Regional Economic Activity Web Tool

<http://webrear.mbie.govt.nz/summary/marlborough?accessedvia=marlborough>

¹⁸⁵ Marlborough Chamber of Commerce (2017, p.11).

¹⁸⁶ NZIER (2015). The economic contribution of marine farming in the Marlborough region. Wellington: NZIER.

The region's construction industry is buoyant with residential and non-residential developments to accommodate the region's growing and ageing population.¹⁸⁷ Significant asset development has occurred in recent years in Blenheim with the development of recreational assets such as the stadium and pool complex redevelopments, the ASB theatre complex and the new Blenheim library and art centre.

Tourism is the region's third largest industry, accounting for 8.3 percent (\$207.7m) of regional GDP and employing 3,185 people in 2018.¹⁸⁸ The industry suffered a downturn following the Kaikoura earthquake in 2016, but the industry "got going again" once SH1 reopened in December 2017. Tourism expenditure grew by 9 percent in the 2018 calendar year, more than double the national average.¹⁸⁹ Wine-related tourism is integral to Marlborough. The wine tourist spends 52 percent more and stays six days longer than the average tourist.¹⁹⁰ Aviation tourism is also important with the Omaka Aviation Heritage Centre (showcasing Sir Peter Jackson's collection) located in Blenheim. Picton Port has become a destination for cruise ships, with bus trips departing around the region. During the 2017/18 cruise season, 112,191 international visitors arrived on 41 cruise ships that berthed in Picton and spent \$18 million in the regional economy, up 80 percent on the previous year.¹⁹¹

The viticulture industry and RSE in Marlborough

Marlborough's wine industry (grape growing and wine manufacturing) is the backbone of the region's economy, accounting for 19 percent (\$477m) of regional GDP in 2015, having grown 300 percent since 2000. The industry directly employed 2,350 people as wine workers in 2016, and indirectly supported another 2,500 jobs in other sectors including land and land improvements, packaging, agricultural support services, freight and distribution and accommodation.¹⁹²

The industry has undergone a sustained period of expansion and consolidation over the past twenty years. The area planted in vineyards grew more than 700 percent from 2,600ha in 1997 to 22,270ha in 2008.¹⁹³ By 2018 the total producing area had reached 26,850ha, with 69 percent of the country's grapevines located in the region. Marlborough accounts for 73 percent (510) of the country's grape growers, 20 percent (141) of wineries, and produces 75 percent (313,000 tonnes) of New Zealand's total wine production.¹⁹⁴

¹⁸⁷ Marlborough District Council (2018). Blenheim urban area 2018. Housing and business development capacity assessment. Retrieved from https://www.marlborough.govt.nz/repository/libraries/id:1w1mps0ir17q9sgxanf9/hierarchy/Documents/Your%20Council/Environmental%20Policy%20and%20Plans/Nat%20Policy%20Statement%20Urban%20Dvpmt%20List/NPS_Urban_Development_Capacity_2018.pdf

¹⁸⁸ <https://ecoprofile.infometrics.co.nz/Marlborough%2bRegion/Tourism/TourismGdp;>
<https://ecoprofile.infometrics.co.nz/Marlborough%2bRegion/Tourism/TourismEmployment>

¹⁸⁹ <https://ecoprofile.infometrics.co.nz/Marlborough+Region/QuarterlyEconomicMonitor>

¹⁹⁰ NZ Winegrowers (2018).

¹⁹¹ <http://www.scoop.co.nz/stories/AK1808/S00516/marlborough-tops-growth-in-spend-by-cruise-visitors.htm>

¹⁹² NZIER (2017b). Contribution of wine to the Marlborough economy. Retrieved from <http://www.wine-marlborough.co.nz/about-marlborough/economic-contribution-of-the-wine-sector/>

¹⁹³ Marlborough District Council (2015). State of the environment. Chapter 5: Land. Wine Marlborough NZ <http://www.wine-marlborough.co.nz/about-marlborough/key-statistics/>

¹⁹⁴ NZ Winegrowers (2017, 2018).

Large wine growers dominate the region, accounting for an estimated 73 percent of hectares in production in 2019/20.¹⁹⁵ Contractors are another key feature of the industry. In 2016 there were 17 RSEs who between them serviced over 75 percent of the total vineyard area. RSEs are predominantly labour contractors although many also offer machinery services. Alongside RSEs there are a large number of smaller non-RSE contractors (estimated to be around 40 in 2016) that provide labour, spraying, machine work and harvesting services.¹⁹⁶

Rapid expansion of the wine industry, combined with the region's low unemployment rate, competition for labour from other sectors (including retail and construction) and a lack of affordable accommodation, has led to a shortage of labour for both permanent, skilled jobs (e.g. tractor, truck and harvest drivers) and for seasonal work.¹⁹⁷ The winter pruning period is particularly challenging when 55 million grapevines need to be pruned by hand. Pruning has traditionally been completed over a three-month period between June and August, but with the shortage of labour pruning work is now starting as early as April, well before leaf fall is completed, and finishing as late as September well after bud burst. This is an "unplanned natural experiment" out of necessity. Grape growers are unsure what the long-term implications will be for the vines and for the quality of grapes produced. RSE workers are an essential component of the summer and winter workforce. In 2016/17 there were over 2,800 RSE workers employed in Marlborough, including those entering the region on joint ventures. Of those workers, more than half (55.4%) came from Vanuatu.

Growth of the wine industry has come at the expense of land for arable farming and led to a drop in food production as land is converted from horticulture, dairying and sheep farming to grapes. Changes in land use are also placing pressure on the environment. There are increasing demands for water for irrigation and frost protection and the industry produces a significant amount of waste (e.g. wastewater, grape marc,¹⁹⁸ chemically-treated irrigation posts, irrigation piping and bird netting). The wine industry has generated a lot of wealth, but many investors are located outside of Blenheim and a number of wineries are foreign-owned. The success of the industry has resulted in widespread investment from overseas companies. Two of the biggest wine companies in the world, Constellation Brands and Pernod Ricard purchased land in Marlborough between 2012 and 2016, along with Australian-owned Treasury Wine Estates which was granted consent by the Overseas Investment Office to purchase 560ha for an estimated \$29 million in 2016.¹⁹⁹

¹⁹⁵ Druce, T. & Anderson, M. (2016). Marlborough Viticulture Labour market survey. Current and future needs of the viticulture sector. Retrieved from https://www.marlborough.govt.nz/repository/libraries/id:1w1mps0ir17q9sgxanf9/hierarchy/Documents/Your%20Council/Meetings/2016/Regional%20Planning%20and%20Development%202016%20List/RP%26D_Item_1_16_June_2016-Marlborough_Viticulture_Labour_Market_Survey.pdf

¹⁹⁶ Druce & Anderson (2016).

¹⁹⁷ Wine Marlborough (2018). Marlborough Recruitment Survey 2018. Retrieved from <http://www.wine-marlborough.co.nz/wp-content/uploads/2018/11/Marlborough-Recruitment-Survey-Report-.pdf>

¹⁹⁸ Grape marc is the sold remains of grapes after pressing for juice. It contains the skins, pulp, seeds and stems of the fruit. Approx. 40,000 tonnes of grape marc is produced by the Marlborough wine industry every year. Grape marc and its leachate have the potential to cause adverse effects on the environment including soil and groundwater contamination (Marlborough City Council, 2018).

¹⁹⁹ <https://www.stuff.co.nz/business/89182742/vineyard-land-and-forestry-plantations-attract-foreign-buyers-in-marlborough>; <https://www.linz.govt.nz/overseas-investment/decision-summaries-statistics/2016-12/201620008>

Among the local community there is some resistance to the industry's expansion (and its foreign-ownership), and the associated changes in land use, the annual influx of seasonal workers, and the pressure this influx places on local housing, infrastructure and services. Informants noted that in the early years of RSE, the community was not particularly welcoming towards RSE workers. The town is more receptive now as people recognise the importance of viticulture to the economy, but there is still some resistance to the annual influx of seasonal labour.

Until recently the majority of RSE workers were accommodated in rental houses in Blenheim which generated some pressure on the low-cost housing market. This pressure has been eased by the recent construction of purpose-built RSE worker accommodation supplying 600 beds, and there are plans for another accommodation complex that will provide a further 240 beds. One informant noted that bikes are a popular purchase with workers as they are an inexpensive form of transport in an essentially flat town, and a good way for workers to move between rental houses and vineyards that are scattered around the district.

Looking ahead

Growth in Marlborough's wine industry is forecast to continue, driven mainly by an increase in area planted.²⁰⁰ Mechanisation is already a feature of the wine industry with machine harvesting, thinning and canopy management during the summer season. There is also automated technology for winter pruning, but this is used less frequently because of the stress it places on vines and on the posts and wires that support them. Some vineyards rotate the use of machines and people for pruning, but it is unlikely machines will permanently replace people for pruning work. Demand for RSE labour is forecast to increase as new vineyard plantings come into production. There are no major efforts to recruit New Zealand workers due to the low unemployment rate, and a perception among local residents that the viticulture industry is not an attractive employment option.

Marlborough is, however, reaching its capacity in terms of land available for planting. Approximately 5,000ha of commercially viable, productive land remains in Marlborough. Assuming continued consumer demand from domestic and international markets, and yield growth, modelling suggests the region may reach land capacity by 2025, and supply limits by 2028.²⁰¹ Wine technology²⁰² is a growing area and, according to one informant, could be an important future direction for the industry, as selling wine technology to overseas markets may become more lucrative than wine.

²⁰⁰ NZIER (2018).

²⁰¹ NZ Winegrowers pers comm. March 2019.

²⁰² Wine technology includes winery design, winery technology, laser plumbing (cooling), tank control software systems, vineyard technology, waste water, and frost technology.

Roxburgh

Roxburgh, with a population of 522 at the time of the 2013 Census, is a small town in the Teviot Valley, Central Otago District, and the smallest community included in the RSE Impact Study. Teviot Valley is a ribbon community located on either side of SH8, alongside the Clutha River, approximately 30 minutes south of Alexandra, two hours west of Dunedin and two hours north of Invercargill. Roxburgh is Teviot's main town and retail hub. The town has an ageing population, with almost 34 percent of people aged 65 years and over at the time of the 2013 Census, more than twice the national average of 14.3 percent. Roxburgh is also largely mono-ethnic with more than 91 percent of the local population identify as being of European/Pākehā ethnicity.²⁰³

Pastoral farming and horticulture are the mainstays of the economy. Pipfruit and summer fruit are the area's main horticultural crops, and berries are also grown commercially.²⁰⁴ Tourism and retail are becoming increasingly important to the local economy. Communities in Teviot have been revitalised with the opening of the Clutha Gold and Roxburgh Gorge cycle trails in 2013. Both trails make a significant contribution to the area's economy with local businesses benefiting from the increased profile and foot traffic. In 2015 over 14,000 trail users accessed the Roxburgh Gorge trail and almost 8,000 trail users visited the Clutha Gold trail, generating combined revenues of more than \$1.25 million.²⁰⁵ The success of the trails has had flow on effects; businesses including cafes and accommodation that are busier because of the cycle trails are, in turn, attracting other visitors that are not cycling the trails but are passing through on SH8 to/from Dunedin.²⁰⁶ Teviot Valley property prices are increasing, with growing interest in the area from buyers coming from other parts of Otago and Southland, and new house builds are having a flow-on effect into the local construction industry.²⁰⁷

The Teviot Valley has relatively few services and social infrastructure. Roxburgh has a rest home, medical centre and pharmacy, a community police officer, a petrol station, grocery store, theatre and town hall. The district has one primary school and Roxburgh Area High School. Growing centralisation of services in nearby Alexandra has resulted in the closure of some services in Roxburgh. Most notably, there are no banking facilities or money transfer operators (MTO) in Roxburgh for workers to send money overseas. Constraints to business development in and around Roxburgh include shortages of skilled labour, the small size of the local market, and the time, distance and transport costs to other markets and suppliers.²⁰⁸ Central Otago's low unemployment rate (2.5% in December 2018),²⁰⁹ coupled with the steady out-migration of Teviot's young people for tertiary

²⁰³ 2013 Census QuickStats about Roxburgh [http://archive.stats.govt.nz/Census/2013-census/profile-and-summary-reports/quickstats-about-a-](http://archive.stats.govt.nz/Census/2013-census/profile-and-summary-reports/quickstats-about-a-place.aspx?request_value=14992&parent_id=14990&tabname=&sc_device=pdf)

[place.aspx?request_value=14992&parent_id=14990&tabname=&sc_device=pdf](http://archive.stats.govt.nz/Census/2013-census/profile-and-summary-reports/quickstats-about-a-place.aspx?request_value=14992&parent_id=14990&tabname=&sc_device=pdf)

²⁰⁴ <https://www.aworldofdifference.co.nz/x,964,713,0/teviot-valley.html>

²⁰⁵ MBIE (2016). Ngā Haerenga NZ Cycle Trail evaluation report 2016. Research and Evaluation Unit, Evidence, Monitoring and Governance. Wellington: MBIE.

²⁰⁶ <https://www.thenews.co.nz/news/cycle-trails-help-local-economy/>

²⁰⁷ <https://www.stuff.co.nz/business/industries/81998468/teviot-valleys-upswing-in-popularity-sees-real-estate-rise>

²⁰⁸ Roxburgh and Teviot Valley Community Plan (2011).

²⁰⁹ <https://ecoprofile.infometrics.co.nz/Central%20Otago%20District/Employment/Unemployment>

study and employment in other towns, is a challenge for those businesses seeking permanent workers, including local horticultural enterprises.

The horticulture industry in Central Otago

Horticulture and fruit growing are an important contributor to the regional economy, contributing 4.5 percent (\$48m) to regional GDP in 2018.²¹⁰ Central Otago is the country's southernmost, and one of the youngest, wine regions and over the last 25 years has developed an international reputation for excellence, particularly in the production of pinot noir. Growth of the region's viticulture industry has been supported by foreign investment, and has had important flow-on effects – those involved in land and land services, agricultural services, tradespeople, machinery operators, surveyors, planners and engineers "have made a good living from the new work generated."²¹¹ Central Otago is New Zealand's third largest apple producing area with exports totally over \$30 million in 2017,²¹² and is the country's largest cherry growing region, producing 85 percent of the country's export crop. Cherry exports are focused on a narrow seasonal window around Chinese New Year (January-February). Currently two-thirds of fruit produced are exported and one-third sold on the domestic market over Christmas.²¹³

The region's H/V industries are unique in their widespread use of backpackers to meet their seasonal labour needs. Over 6,300 seasonal workers were employed across the region in 2017/18, with backpackers accounting for 57 percent of the seasonal workforce. Local seasonal staff, students and jobseekers were the second largest group with more than 1,180 workers (19%), followed by RSE workers (959 workers, 15%). The horticulture and viticulture sectors also employed over 600 permanent staff, an increase of 105 permanent positions since 2014/15.²¹⁴

Despite RSE workers making up a relatively small component of the seasonal workforce, they are considered the "backbone" of both the horticulture and viticulture sectors due to the reliability and stability they bring to the workforce. This is in contrast to backpackers that are a fragile component of the labour market. Backpackers are becoming increasingly "fickle" – working for shorter periods and with a propensity to jump between horticulture and viticulture employers in search of higher wages, whereas RSE workers provide a consistent labour supply year after year.

The H/V industries in Central Otago are highly seasonal, with significant peaks and troughs in their demands for labour. The busiest months are November to April, with peak labour demands of 4,700 workers in January. This is the peak harvest period for cherries, and also a busy time for grape growers with summer pruning work. Labour numbers in January are ten times that of the lowest month of

²¹⁰ <https://ecoprofile.infometrics.co.nz/Central%20Otago%20District/Gdp/Structure>

²¹¹ Perkins, H.C., MacKay, M. and Espiner, S. (2015). Putting pinot alongside merino in Cromwell District, Central Otago, New Zealand: Rural amenity and the making of the global countryside. *Journal of Rural Studies*, 39:85-98 (p.90).

²¹² Roxburgh and Teviot Valley Community Plan (2011).

<https://www.centralotagonz.com/PicsHotel/CentralOtagoRTO/Brochure/Final%20Roxburgh%20and%20Teviot%20Valley%20Community%20Plan%202011.pdf>

²¹³ MBIE (2018). Investment opportunities in the New Zealand cherry industry. Part of the emerging growth opportunities, food and beverage information project. Wellington: MBIE.

²¹⁴ Druce Consulting (2018). Central Otago labour survey: Horticulture and viticulture. Alexandra: Druce Consulting)

June (475 workers).²¹⁵ The highly seasonal nature of the H/V industries, and the large differential between the peaks and troughs of labour demand, presents some challenges especially around the provision of seasonal worker accommodation.

The horticulture industry and RSE in Roxburgh

Horticulture is one of the key drivers of the local economy in Roxburgh and the surrounding Teviot Valley. In 2017/18 there were 645 planted hectares in Teviot,²¹⁶ and 26 growers accessing seasonal labour. Pipfruit is the dominant crop, accounting for 54 percent of the total planted hectares. Cherries are the next largest crop (19% of planted ha) followed by apricots (17% of planted ha). Most of the industry's growth in recent years has been driven by cherry plantings, with a 105 percent increase in cherry plantings from 60ha in 2014/15 to 123ha in 2017/18.

Teviot Valley's fruit industry is heavily reliant on seasonal workers, due in large part to area's low unemployment rate. In 2016/17 approximately 1,180 seasonal workers were engaged in the Teviot Valley. Of those, the majority (60%) were backpackers. The area employed 260 RSE workers (22%) and more than 200 New Zealanders – a mix of locals and non-local workers. Most workers are employed between February and April for the summer fruit and apple harvest and undertake roles as fruit pickers (59%) or packers (40%). Smaller numbers are kept through winter for pruning (13%) and other maintenance and development roles (5%).²¹⁷

Most Teviot Valley horticulture enterprises that utilise RSE workers, access their labour through Seasonal Solutions Cooperative Limited (SSCO). For the 2018/19 season it was estimated there were around 300 RSE workers, employed by SSCO, that were working in Roxburgh and Ettrick over the peak cherry and apple harvest period. The vast majority of SSCO's RSE workers employed in Teviot are from Vanuatu, with very small numbers from Fiji and the Solomon Islands. RSE workers are housed in onsite orchard accommodation around Roxburgh, with a small number accommodated at the Commercial Hotel in town or living in rental properties. Local residents have raised concerns that it is becoming more difficult to buy properties in Teviot as many are now used for seasonal worker accommodation, however these concerns appear unfounded. A 2017 survey of horticulture employers in Teviot found that 75 percent of seasonal workers were housed in onsite orchard accommodation, camp grounds or backpacker hostels. Only a small percentage (13%, a total of 83 workers) were located in houses that were not onsite.²¹⁸

A greater concern relates to growing rates of freedom camping by backpackers working on local orchards, and associated pressures on local infrastructure such as public bathrooms and rubbish services. Freedom camping is especially problematic over the peak periods in January – February. We were informed that when a local motor camp was up for sale for \$450,000 in 2018, no growers were

²¹⁵ Ibid.

²¹⁶ Teviot Valley, with 645ha, has the highest number of planted hectares by sub-region in Central Otago, ahead of Cromwell (597ha) and Alexandra (645ha) (Druce Consulting, 2018).

²¹⁷ It should be noted these are seasonal roles and workers can fill more than one role. Druce Consulting (2017). Support and integration of seasonal workers in the Teviot Valley. Report to the Teviot Valley Community Development Governance Group. Alexandra: Druce Consulting.

²¹⁸ Druce Consulting (2017).

interested in purchasing it for seasonal worker accommodation. This response was disappointing for residents because of the amount of freedom camping in public places (such as local swimming spot Pinders Pond). There are also concerns regarding the risks to the industry from freedom camping (and the lack of sanitary facilities) and associated staff hygiene issues in the packhouse. In an export driven market, this is a major concern because of the risks to export certification e.g. GLOBALGAP.²¹⁹

The small communities of Roxburgh and Ettrick, with a combined population of around 700 residents, experience an influx of almost 1,200 seasonal workers each year, almost doubling the size of the resident population. Perhaps because of the scale of the influx, the local community makes a concerted effort to welcome and integrate seasonal workers through a range of local community events and other strategies, such as the annual Cherry Chaos event, and the development of a community hub in Roxburgh. In a 2017 survey of seasonal workers (backpackers and RSE workers) in Teviot Valley, 97 percent of respondents said they would recommend the Teviot Valley as a great place to work because of the friendly people, the work that's available and the relaxed pace of life.²²⁰

One of the biggest challenges for RSE workers living in Roxburgh is the limited availability of shops and services, especially the lack of banking facilities or a MTO, such as Western Union, to send money overseas. RSE workers have to drive to Alexandra to access banking services or Western Union. This costs them both time and money; workers pay \$80 each time they hire a 10-person van to drive to Alexandra to send money home, or to shop at the New World supermarket. Variable mobile phone coverage while working in Teviot and high costs associated with Wi-fi access were also raised as issues. RSE workers spend money in the local Supervalu supermarket, and at the sole petrol station, but beyond that their economic contribution to Roxburgh is relatively limited. Unlike backpackers, RSE workers don't frequent the local cafés. Due to the centralisation of many services and shops in Alexandra, RSE workers will drive to Alexandra to make any major retail purchases, or they shop online. Nevertheless, there is widespread acknowledgment among Roxburgh's local residents of the essential role RSE workers play in the local horticulture industry and the importance of horticulture to the town's economic prosperity.

Looking ahead

There is marked confidence in the horticulture sector in Central Otago, with fruit plantings projected to grow by 32% (583ha) to almost 2,500ha in 2021/22. Growth will come primarily from 465ha of planned new cherry plantings (an increase of 56% over five years) where the land has been secured, plant stock ordered and land development is underway.²²¹ The majority of this planting will occur in and around Cromwell, where land for cherries is in "hot demand" and buyers are paying as much as \$500,000 per hectare.²²²

²¹⁹ Ibid.

²²⁰ The survey involved 12 (80%) of the 15 employers of seasonal workers in the Teviot Valley (Druce Consulting, 2017).

²²¹ Druce Consulting (2018).

²²² <https://www.stuff.co.nz/business/farming/109721652/cherry-orchards-still-hot-property-despite-miserable-season>

Teviot Valley has the lowest projections for growth in Central Otago, with plans to increase plantings by approximately 20ha (3%) up to around 665ha in 2021/22. This expansion will mainly be in cherry plantings and some increases in pipfruit.²²³ Local growers have indicated that any future expansion plans are predicated on the continued and increasing supply of RSE labour. The industry's growing reliance on seasonal workers, has been identified as a "key fragility in the horticultural sector and wider Teviot Valley business communities...If the supply of seasonal labour was to dry up, it would have a significant [negative] economic impact on the Valley".²²⁴

Across the region the H/V industries are making significant investments in new technology, and this trend is set to continue. In horticulture, the investment is primarily in automation of packhouse facilities. The CAJ Van der Voort packhouse in Ettrick, for example, has recently been upgraded with some of the latest in New Zealand and Dutch pipfruit sorting and packing technology, to cope with a projected 50 percent increase in the business's pipfruit volume over the next few years.²²⁵

In viticulture, mechanical harvesting already takes place, with around 350ha harvested by machines in 2017/18. This is predicted to increase to over 500ha by 2021/11.²²⁶ Several grape growers now use machines for leaf lucking, largely due to the difficulties of accessing seasonal labour. Leaf plucking is performed in January, at the same time as the peak cherry harvest. According to an industry informant, grape growers are struggling to compete with cherry orchards that pay higher wages. Vineyards are increasingly looking to automation to reduce their reliance on labour, and future plantings are being undertaken with automation in mind (e.g. automated tractors for spraying).

Plantings of new fruit varieties, with higher yields,²²⁷ are expected to extend the growing season at both ends and lengthen the harvest period. For cherry growers, this is to capture the Chinese New Year and domestic Christmas markets.²²⁸ As the region's climate becomes warmer, grape growers are experimenting with plantings at higher altitudes (pinot grapes need a cool climate) which will also extend the season. A change from conventional styles of planting to higher density plantings, for cherries and apples particularly, may allow faster picking and less climbing. This may lead to the use of automated picking platforms and robotic pickers further down the track. The influence of automated technologies will start to be felt across the region's H/V industries in the next four to five years.²²⁹

²²³ Druce Consulting (2018).

²²⁴ Druce Consulting (2017, p.4).

²²⁵ <http://www.thenews.co.nz/news/orchardist-upgrades-packhouse/>

²²⁶ Druce Consulting (2018).

²²⁷ New apricot and cherry plantings under a new orchard planting system have shown potential yields of up to 24 tonnes per hectare in their third and fourth year from planting, compared with average yields of 15 tonnes per hectare from fully mature trees grown in conventional configurations (Horticulture New Zealand, 2018).

²²⁸ <https://www.stuff.co.nz/business/farming/109721652/cherry-orchards-still-hot-property-despite-miserable-season>

²²⁹ Druce Consulting (2018).

