

EMBARBOED UNTIL 6PM, TUESDAY 14 AUGUST 2018

New Zealand's food story: The Pukekohe hub

Quick stats on horticulture in New Zealand:

Value of horticulture (excludes wine):

- \$5.68 billion: \$3.44 billion total exports; \$2.24 billion domestic
- 128 export markets
- 116,145 hectares used for growing

Pukekohe hub:

- 4,359 hectares, 0.01% of the size of Auckland
- 3.8% New Zealand's land under fruit and vegetable production
- 26% of New Zealand's value of production (revenue) of vegetables, and to a lesser extent fruit - by value, \$327 million
- Current economic contribution (value-add) of the hub's horticulture industry is \$261 million. This comprises a direct and indirect contribution:
 - Annual direct contribution to the regional economy \$86 million
 - Annual indirect contribution \$175 million
- Contributes to 3,090 full time equivalent jobs to the region – direct in horticulture 1,458; intermediate industries 1,632
- Pukekohe town's population is expected to grow to 50,000 by 2043
- It is estimated by 2043, demand for fruit and vegetables in the Auckland region will be about 33% higher than today

Land use:

- Urban growth from 1996 to 2012 – 10% increase in the size of towns and cities.
- Between 2002 and 2016 – 30% reduction in vegetable growing land across New Zealand.

Health:

- Between 2010 and 2050, the demand for fruit and vegetables will increase by 90%, and significantly exceed estimated global population growth of 30%. (International Food Policy Research Institute)
- The Ministry of Health recommends New Zealand adults eat at least three serves of vegetables and two of fruit each day. According to the most recent New Zealand Health Survey:
 - 62% of New Zealand adults meet the minimum vegetable intake requirement
 - 54% of New Zealand adults meet the minimum fruit intake
- 70% of consumers are concerned about where their fruit and vegetables come from and aim to purchase local produce to support local growers.

Questions and answers:

What does this report tell us?

The time is right to look at the “big picture” of food production in New Zealand to match the Government's environmental and health imperatives with planning for urban growth while

being able to provide affordable fresh and healthy food. The most logical way to do this is to protect growing hubs around rapidly developing urban centres. This lowers freight costs and environmental burdens and ensures a daily supply of fresh food to help with good health outcomes. Pukekohe is a national asset of opportunity and we want to be sure all the facts are on the decision-makers' tables.

The Pukekohe hub comprises 4,359 hectares of some of New Zealand's most fertile and productive soils. It is a small area – just 0.01% of the size of Auckland. While Pukekohe accounts for just 3.8% of the country's land under fruit and vegetable production, it contributes to 26% of the nation's value of production of vegetables and a lesser proportion of fruit, punching well above its weight.

The bulk of the Pukekohe hub's produce goes to Auckland. The city is expected to be home to 2.3 million people by 2043 – up 37% on 2018. This, coupled with changing consumer preferences for sustainable produce and plant-based diets, means the hub could be well placed to meet growing demand.

This report looks at the economic, social and wider benefits of the horticulture industry in Pukekohe hub and current constraints which could impact on this value, using the Treasury's Living Standards Framework. The report also models the future of the hub over the next 25 years under two scenarios - one where threats are effectively managed and the counterfactual scenario, where the inability to manage future constraints leads to higher consumer prices and reduced economic activity.

Consumers in Auckland will bear the brunt of the counterfactual scenario's impact, through higher prices for vegetables and fruit, job losses and lost value of production.

Limitations to production include biosecurity risks, urban encroachment, availability of skilled labour, and access to water.

Deloitte makes six recommendations in the report which Horticulture New Zealand agrees with and will continue to work on.

What does the report recommend?

There are six recommendations in the report:

- Considered planning on, and adequate tools for, land use to balance the needs of housing and horticulture.
- Increased use of technology to manage the intensification of cropping with environmental limits.
- Investment in the development of new varieties of produce to manage changing conditions, diseases and consumer preferences.
- More funding and investment in horticulture education to provide for, and attract, skilled talent into the industry.
- Sustainable margins and returns on capital by developing a more commercial, demand driven supply chain.
- More certainty on access to resources through deliberate water allocation systems that balance household and horticulture demands.

Why use the Living Standards Framework?

The notion of measuring value through a multi-dimensional platform is gaining traction. The New Zealand Government has formally made a change towards broader reporting through the Treasury's Living Standards Framework (LSF). The LSF draws on the concept of

fostering holistic wellbeing through reporting on the growth and distribution of four independent capitals: social; financial; human; and natural capital.

Horticulture New Zealand believes this holistic view is particularly relevant to Pukekohe and that came through strongly in the report. The contribution to the community from fruit and vegetable production businesses is far greater than just dollars and jobs. The intergenerational families and the families of those who work in the horticulture industry make a strong social contribution to this unique area and are custodians of the natural capital.

To understand the value of social and wider benefits of the Pukekohe hub, Deloitte undertook industry consultations with a diverse mix of industry participants, including growers, distributors and retailers.

What's the problem?

While population growth and changing consumer preferences mean demand for fruit and vegetables will increase, significant and often swift land-use change to accommodate housing is putting pressure on horticulture growing hubs, like Pukekohe. The cost of land means growers need to intensify production and do “more with less”, and they face competition for water. A great deal of water is underground and once that ground is covered over with concrete for housing, the water table is not replenished, as rain runs off into drains instead of soaking into the soil.

As prime growing land is built over with houses, or subdivided into lifestyle blocks, there are some reverse sensitivities as those new to the area come to understand what is involved in a highly productive horticulture business.

Most people want to buy fruit and vegetables grown locally, and we cannot assume we will always be able to source food from other countries when we want and need it, particularly fresh vegetables.

What is so special about Pukekohe?

The Pukekohe hub has something most other regions don't: exceedingly fertile productive soils; a temperate climate; easy and direct access to transport routes; and immediacy to our largest city, Auckland. This means the hub's ecosystem can meet a hungrier Auckland in the future and provide significant value to the regional economy – and New Zealand as a whole – but only if the challenges to production, including access to appropriate land, are managed in the most effective and efficient way.

Fruit and vegetables grown in the hub provide nutritional benefits and food at an affordable price.

The area is also home to intergenerational family-owned businesses and a multi-cultural workforce which makes the Pukekohe town unique.

What grows in Pukekohe?

The hub largely focuses on vegetable growing and processing for the domestic market, particularly potatoes, carrots, leafy greens (lettuce, spinach and Asian greens), brassicas (broccoli, cauliflower and cabbage), tomatoes and onions – of which its Longkeeper onion variety is world-famous. Some kiwifruit are also grown, largely for export.

Who was involved in this report?

Deloitte spoke to a range of growers, distributors and retailers to understand benefits and issues in the hub. There are two case studies included and quotes from interviewees throughout.

What area was studied?

What is referred to as the Pukekohe hub in the report covers Pukekohe, Patumahoe, Mauku, Aka Aka, Puni, Te Kohanga, Onewhero, Pukekawa, Tuakau and borders on Pokeno and Paerata.

People need houses, so why can't horticulture move?

Horticulture New Zealand believes houses and horticulture can exist side-by-side as they always have. For this to continue to be successful, it will require collaboration between central and local government and the horticulture industry. In the case of the Pukekohe hub, we believe Auckland Council and Waikato Regional Council need to understand this productive land's contribution to New Zealand's food security.

Auckland is now a big city and like other big cities in the world, we believe consideration should be given to going "up not out" and to developing land for housing that is not suitable for food production. Not all land in New Zealand is suitable for horticulture.

While some growers have extended their growing operations into the Waikato, that region is not without complications either. The Waikato District Council's draft District Plan, released last year, also shows future urban growth planned on good growing land around Tuakau and Pokeno (Land Use Class 1-3). Waikato District Council's Plan Change 1 will also place restrictions on horticulture. When land is zoned future residential, rates increase accordingly, making the cost of keeping land for vegetable production a consideration.

Pukekohe is a national and natural asset and we want to protect it.

Are the issues affecting growing in Pukekohe affecting growing in other regions too?

Although this study has focused on the Pukekohe hub, loss of productive land to urban growth and lifestyle blocks is occurring throughout New Zealand. Ten percent of high-class land is now occupied by lifestyle blocks, and the area of lifestyle blocks has been increasing rapidly in recent years.

Pukekohe is also not the only growing hub facing issues around water and nitrogen allocation regimes that do not provide for growing vegetables.

In Canterbury, the Land and Water Plan adopted an approach to nitrogen allocation that has left growers unable to rotate vegetable crops. The proposed Waikato Healthy Rivers Plan does not provide for crop rotation and makes new commercial vegetable growing a non-complying activity. In the Horowhenua and Ohakune growing hubs, regulated by the Horizons One Plan, the nitrogen allocation framework was designed for pastoral farming and does not provide a consenting path for vegetable growing.

Providing crop survival water to enable crops for human consumption to be kept alive during water shortages is inconsistently regulated throughout New Zealand, leading to the risk of crop failure during droughts in many regions.

Won't technology developments address food production issues? And is vertical or urban farming the answer?

While technology may help with labour supply issues, we can't plan for what doesn't exist in the hope that someone will invent it. Technology development is expensive and it is often a long time before it can get to market at an appropriate cost. Every solution has to consider the cost of healthy food, as well as impact on the environment. Vertical farming is in its infancy and is mainly bankrolled by venture capitalists. It uses a lot of energy – coal fired electricity in the United States – so does not necessarily meet environmental imperatives. It is more applicable to very large population centres with harsh climates a long way from food production, as you see in the United States and some Asian countries.

What are other countries doing about this?

Tension between housing and horticulture is not unique to New Zealand. Deloitte also did a study in Melbourne of *The economic contribution of Melbourne's foodbowl*, which is available [here](#).

Melbourne currently protects some of its horticultural land as part of a green wedge surrounding the urban growth boundary, as do some other capital cities of Australia. But this green wedge policy has not consistently protected food production in the past, as it either does not protect all of the prime horticultural land, or the green wedge policy has lacked teeth and the green wedge has been lost as urbanisation moved in.

The loss of food producing regions surrounding Australia's capital cities is becoming a particular concern because of the vulnerability of other Australian food-producing regions to climate change and drought. Prime land surrounding large cities offer food security, through the unique ability to use treated wastewater as an irrigated water source. Treated wastewater gives the food producing regions surrounding cities a rainfall independent source of irrigation water, which other food producing regions don't have, allowing for food production even in drought or worst case scenario climate change. But if the prime land surrounding cities is lost to urbanisation, this opportunity to secure food production is lost.

In 2010 Australia's Prime Minister's Science, Engineering and Innovation Council outlined a national approach to food security. In the United Kingdom, there is a focus on increasing supply-side measures ahead of exiting the European Union.

How does this report fit with local government plans such as the Auckland Plan 2050 and Waikato Healthy Rivers Plan?

We hope this report will help inform future planning and Horticulture New Zealand will be referencing it in future submissions. (See answers to questions: **People need houses, so why can't horticulture move? Are the issues affecting growing in Pukekohe affecting growing in other regions too?**)

Where to from here?

The Pukekohe hub is an ecosystem that contributes widely across the four LSF capitals and is a significant contributor to the Auckland regional economy. We are not sure people realise what is on their doorstep, but we want to make sure they do.

There needs to be informed, evidence-based planning to balance the need for housing and infrastructure to meet a growing population while caring for the natural environment and feeding people in our urban areas with affordable fresh produce. Auckland is obviously the biggest case study and it has the unique Pukekohe food hub we want to see some protection for.

We hope New Zealand can lead the way in addressing the complexities of keeping a growing population healthy, to reduce the cost burden that comes with people being unhealthy throughout their life. Our food is valued throughout the world, we might need to value it more at home.

To this end, we want to see the proposed National Policy Statement for Versatile Land and High Class Soils progress. This Statement will recognise there needs to be a balance between urban development and protecting prime growing areas. This is a balance that has gone too far towards urban development and needs to be reset.

This Government has shown a willingness to collaborate with horticulture to get this right, and this report is part of the evidence-base we will bring to the table as we work on finding answers to the questions it poses.

Deloitte has made some recommendations in the report which we agree with and will continue to work on.

As a land of plenty, does New Zealand really need a food security policy?

We certainly want to have a conversation about that. This report is the first step to addressing the need to ensure that our fresh fruit and vegetables are grown throughout New Zealand, with an even spread, so that climatic or biosecurity events do not stop us from being able to feed New Zealanders. The Pukekohe hub is a very important part of ensuring New Zealand has a steady supply of healthy food, as are other major growing hubs throughout the country.

How valid is the worst case scenario/counterfactual?

Deloitte modelled a base case scenario and a counterfactual scenario with two 'sensitivities':

- Flexible – Where growers have the ability to change their practices and input mix in response to land access and other constraints on production
- Rigid – Where land scarcity is further constrained by land use restrictions

Modelling a base case, and a counterfactual with two sensitivities, means a range is arrived at in terms of economic impact, fulltime job losses, value of production, and consumer prices.

The 'rigid' sensitivity is the 'worst case' scenario – so it is at the upper end of the range.

Out of the two sensitivities, Deloitte considers the rigid variation more likely to occur than the flexible. This is because growers' ability to respond to production constraints is more likely to be limited by environmental constraints, external regulations - like new taxes or land-use restrictions, or limited access to capital that could support alternative growing methods.

Deloitte isn't saying the rigid scenario will happen – but it could happen under the circumstances described.

Won't those lost jobs from horticulture go elsewhere as housing/population grows in the Pukekohe area?

This is true, to an extent. Some of the jobs in horticulture may go to other areas of the country, which would offset some of costs to New Zealand as a whole but will still mean economic loss to the Pukekohe hub. This report focuses on the value of horticulture to the hub, both directly and indirectly, and there is no guarantee that lost value would be made up by jobs in other industries in the hub. Product from further afield may be more expensive

because of a longer supply chain. As a result, consumers may consume less fruit and vegetables, or they may switch to imported produce. In both case, horticultural jobs are lost to New Zealand overall.