The 'now normal' future

Food and fibre in a world emerging from Covid-19
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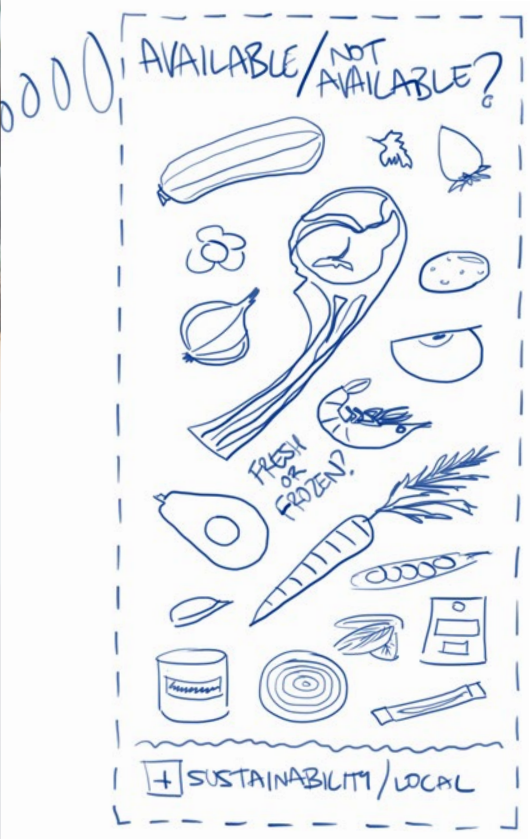
Recovery will come from putting the consumer at the centre of the 'now normal' future

The global disruption wrought by Covid-19 has challenged the foundations of our current way of life to an extent not seen since the end of the Second World War. In a world where change at historically unprecedented rates has become a way of life and organisations have built capability to handle continuous change, the last few months has seen businesses making major, and at times existential, decisions on a daily basis.

To date decision making has had to be instinctive, reactionary; there has been little hard data to rely on. However, as conditions stabilise the time to move forward and start thinking more about how to navigate the 'now normal' is coming. The recovery from the Global Financial Crisis (GFC) suggests that the boldness with which an organisation commits to developing and implementing plans to realise the opportunities inherent in its new reality has a major bearing on how quickly it recovers and its long-term prospects.

The sector has been privileged to trade through the lockdown as an essential industry. Food and fibre is the only sector positioned to lead our national economic recovery, meaning the need to step into this next phase of the crisis and the commitment shown in responding to the 'now normal' will not just determine organisations' futures and that of the sector but will play a big part in shaping the length and depth of the recession that New Zealand experiences.

This paper provides one view of the 'now normal', however in these dynamic times organisations should seek as many diverse inputs into their thinking as possible. Now is the time to engage with the young people in your business and use their talents. It is also the time to ensure you are engaging with people that bring diverse opinions to the table due to their backgrounds, training and experience so that you are exposing yourself to a range of perspectives on what the future could look like.



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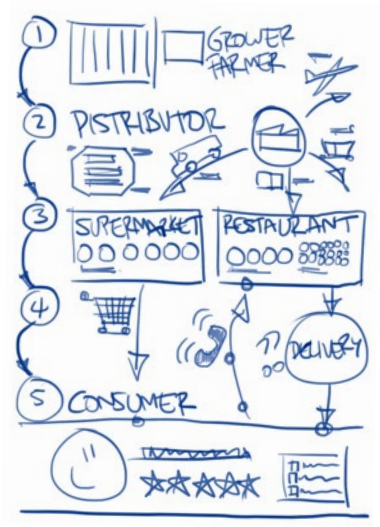
You should also ensure you are putting your consumer at the centre of your planning, making the effort to understand how they are interpreting what has happen around them over the last few weeks and what their 'now normal' looks like. Understanding what has happened to their jobs and income, how they feel about the safety of the community they live in or how focused they are now on their health will help you to deduce what they are now expecting from the organisations they purchase from. While much has changed, the necessity to put their needs at the centre of your business is one thing that remains absolutely consistent with years gone by.

One of the challenges that many organisations will face as they work through what their 'now normal' future looks like is the fact that we can't tie our current circumstances back to any relevant historical data points. We may try to find analogies, as I did earlier in this piece with the GFC. But the reality is we don't know how the future is going to unfold, making it critical that we look at the environment around us with eyes that challenge what they are seeing rather than taking things at face value and tying them to pre-existing conventional wisdom.

During last year's Te Hono Bootcamp at Stanford University we were told that the biggest strength we bring to our roles is our experience, but this is also our most significant drawback as it conditions how we see and think about the world around us. This educated incapacity can be overcome but it requires us to constantly challenge the assumptions we are making to ensure we are seeing the world as it is, and not how we think it should be. Given the disruption we have experienced and the fact none of us have worked through a similar period in global history there is no better time to draw on diverse opinions and break our educated incapacity.

While we are facing massive disruption, with disruption comes opportunity. This paper explores some of the opportunities inherent in the 'now normal'. From what we see, the potential for the food and fibre sector to accelerate value creation and lead New Zealand's economic recovery makes for a more exciting future than we could ever have envisaged in last year's reality.

The awareness of food and its importance in our lives is greater today than it has been in decades



The last few months have seen hundreds of millions of people forced to make radical changes to their daily lives in response to the invisible threat of Covid-19, a virus which creates unprecedented contagion in confined spaces making social interaction and events impossible to conduct safely. In response, governments around the world have taken away individual freedoms by closing borders and restricting travel, banning events, requiring business closures and locking people down in their homes to break the transmission of the virus.

Taking away work, travel, friends, sport, social lives, school and everything else that keeps our day to day lives full has left us to focus on the few things that remain available to us; our closest family, our homes, our health and the food we eat. Panic buying as countries effectively shut down left people queueing to access empty shelves. Food that had always been available on demand was suddenly not obtainable and the threat of going hungry became real for many people for the first time in their lives.

The last few months has clearly highlighted to many the importance of food in our lives. This goes beyond the availability of food and its role in providing the fuel we need to function. It has emphasised the role food plays in maintaining and enhancing our health in the face of a virus that has been deadly to those with compromised immunity. The complexity of food supply chains have been revealed as it has become more difficult (and in some cases impossible) to move products globally in ways that we have become accustomed to.

The global food system has been the target of more activist campaigns in recent years than any sector except petrochemicals. Challenges have covered everything from animal welfare to the use of genetic technologies, the impact of agriculture on developing communities through to its impact on the climate, land and water. While the world has consistently demanded more food, the expectation has been that this will be produced in ways that are more ethical, sustainable and safe.

These challenges gain momentum when there are no concerns about food availability. Wider recognition that food supplies are not as secure as they have appeared and that food choices and production systems impact health outcomes, has seen farmers, growers and fishers repositioned from exploiters of natural resources to essential workers.

This presents an opportunity for the food industry to reshape the narrative surrounding the food supply, explain the science and technology being deployed, the livelihoods supported, the career opportunities available and the focus on farming sustainably in perpetuity. To take advantage of an opportunity not afforded to every generation requires rapid engagement with the community in a compelling way, a commitment to openness and a desire to do things better every single day. Today, people recognise the fundamental role food plays in society. Whether people still recognise this next year or in a decade depends on how the industry globally explains itself to the world in the coming weeks and months.

In the following pages we explore some of the shifts we have observed in the global food system over the last few weeks and consider what these may signal for the future of the system.

The pandemic has highlighted the risks of globalisation

A key response to the pandemic adopted by many governments has been to impose entry controls at their border to limit the flow of both citizens, visitors and the virus into the country. The isolation restrictions imposed on communities have also impacted trade pathways across borders, including those for food, as performing freight movements has become more difficult. This has clearly highlighted where countries rely on global sourcing for essential products including food, medical supplies and, most notably, personal protective equipment.

Prior to Covid-19 popularism had gained momentum around the world, which had seen governments step back from free trade and introduce initiatives to protect (or recover) domestic jobs and industries. With health systems and consumers facing shortages of key products we're already observing governments looking to accelerate onshoring production of crucial products society requires, including food. Amid the most significant pandemic in a century many international supply partners failed to deliver. The limitations of globalisation have been brought into stark focus and left countries and governments exposed, making it more likely they will place greater reliance on domestic sourcing into the future.

Signals to the future

Vietnam, the world's third largest rice exporter, saw their government in March ban rice exports to protect food supplies for the domestic population. This move came at a massive cost to rice farmers and increased the pressure on global markets, leaving consumers around the world unable to access food they expected to be available. **An inability to rely on international markets to supply enough food will see support lifted for domestic producers via direct subsidy, innovation funding and non-tariff barriers (that will penalise international suppliers that failed to deliver in recent weeks)**.

Covid-19 border restrictions have decimated passenger air travel. The reduction in flights has had a material impact on air cargo capacity available, space that is used to move high value, fresh food around the world. Reports suggest air cargo capacity has fallen 50% during the crisis. Demand has been supported by urgent needs to source and ship protective equipment, meaning the cost of space has risen exponentially. **The fundamental change in the economics of air freight require producers to explore new business models, for instance freighting produce boxes on collaborative charters, if they wish to continue to deliver product into a market to secure a premium**.

Net food exporters, like New Zealand, rely on an ability to sell products into multiple markets to maximise the value of the products they produce. A shift away from a rules-based approach to trade and towards protectionism risks the viability of exporters and could ultimately lead to food shortages. Global trade benefits not only exporters but the populations of the countries importing the food. **Exporting nations need to ensure the benefits of international trade are realised widely throughout society rather than being concentrated in the hands of a few**.

Food availability will no longer be taken for granted

The availability of food in developed countries has largely been taken for granted since World War II. The need to queue to get into a supermarket, only to face empty shelves and shortages of staples has undermined this belief. Add to this an inability to go out for dinner at a restaurant or grab something quickly from a takeaway means that people are appreciating food more than they have done in decades – that first post lockdown sip of coffee or burger from the drive through is reinforcing what people really appreciate about the food they love.

Having to self-cater three meals a day, seven days a week has challenged the culinary skills of many over the last few months. The lockdown has contributed to a dramatic rebalancing of food spending. In 2015, for the first time in human history, more food was consumed outside the home than prepared at home however this has reversed spectacularly in the first quarter of 2020. Many food outlets will not survive lockdowns and social distancing makes it unlikely that food consumed outside the home will recover to pre-crisis volumes soon, suggesting there are likely to be changes in how food is designed into our lifestyles in the coming months.

Signals to the future

A notable trend of lockdown cuisine has been people reverting back from their modern, globally inspired diets to the home cooked, comfort food they perceive they recall from childhood (the evidence has been very clear on social media streams). People having the time to cook, the desire to bake and a willingness to reconnect with simple food has paused, at least temporarily, the shift towards the globalisation of the consumer palate. **Change will slow in the global food system as a result of the pandemic; food innovation will switch from ethnic discoveries to the comforts of home over the next 12 to 24 months**.

The buzz of a packed bar or restaurant is what makes a venue attractive to patrons, but it also means they will be among the last businesses to return to 'normal' operation given the virulent nature of Covid-19. This leaves millions of people missing an important part of their life - the opportunity to dine out and enjoy food with colleagues, friends and family. **New eat out models developed by fine dining establishments as the virus impacted daily life will become established and have the effect of shifting the white table cloth from the restaurant to the front room**.

A future food growth trend we have signalled for the last five years has been the emergence of more nutritionally complete and easy to use 'on-the-go' food. With the virus bringing the world to a grinding halt, it is likely higher hygiene standards will be imposed on public assets, including transport systems, transforming how this category now evolves. Add to this that tens of millions of people have just discovered the ease of remote working, **it is likely that the 'on-the-go' segment will develop much more slowly in coming years than we had previously believed**.

Despite many people struggling to access food in recent weeks there have been stories reported around the world about farmers dumping food because the supply chains their products are grown for, particularly food service, have closed. The amount of food that is grown but wasted is well known but the pandemic has brought this challenge into stark focus. Effective food recovery systems are critical to ensuring a secure national food supplies. **The charitable, community organisations that predominately deliver food recovery services need greater government and industry support to enable them to effectively improve the access to food for all**.

If the first food choice a consumer usually makes is not available, the natural reaction is to look for the closest alternative offered. In the case of some traditional animal protein products the closest substitute today may now be a plant-based alternative which delivers a similar eating experience. **As the pandemic has limited food availability, some consumers will have experienced these novel plant-based foods for the first time, and some are likely to change their first-choice preference as a consequence**.

Food security becomes a high priority for all governments

Outside of OECD member countries, food has always been a high priority for governments as their ability to secure enough, affordable food has often meant the difference between maintaining order and ultimately power. While many social groups within the OECD lack access to adequate nutrition, predominately due to cost, the reality is that in recent decades the food supply has been secure and resilient for the majority of the population. This has reduced the priority governments have placed on developing national food strategies to ensure a secure food supply for all the population.

In recent weeks, the challenges associated with maintaining a secure food supply have come into stark focus. Across the world there are millions of people that have been unable to access affordable food or cook a meal and are facing significant nutritional insecurity for the first time in their lives. This is, at minimum, doubling the demands on social agencies and foodbanks. The need to limit social interaction has highlighted the many ways that people access food within a country, and specifically the significant volumes of food that are accessed outside of the mainstream supermarkets. Lockdowns have highlighted the reliance that is placed on a few key supply chains for a large proportions of mainstream food supply and the problems that arise if these supply chains are broken, even for a short period of time. It is unlikely that governments will be willing to be as *laissez faire* in respect of food security as their countries emerge from the pandemic.

Signals to the future

Lockdowns to break community transmission of the virus are contributing to the emergence of a new group of food-insecure citizens. People who lose their jobs or their way of purchasing affordable food are faced with limited options and may need to seek food support. Evidence from the GFC suggests that once people start to receive food support, they continue to draw on that support, increasing pressure on limited resources available. **Urgent efforts are required from all food system participants to ensure that the newly food–insecure are provided interim support to access nutritious, affordable food in an attempt to avoid them becoming long term users of food support services**.

Governments have historically used price controls, intervention stocks and subsidies to influence the global food system to ensure availability of affordable food for their domestic populations. Even with these interventions, the events of the last few months have highlighted that food availability can be compromised at times of crisis, making it likely that governments around the world will seek to increase the influence they have over the food supply to their citizens. To provide electorates with the confidence that their food supply is secure, **we expect to see governments develop or revisit national food strategies, with a focus on lifting domestic production and reducing reliance on supply chains which compromised food availability during the pandemic**.

When a Smithfield processing plant in South Dakota was identified as a Covid-19 hotspot and forced to close, it took out 5% of the pork industry's US capacity with flow on effects up and down the supply chain. The pandemic has highlighted how dependent food security is on certain producers and infrastructure around the world and when these operations are disrupted the impacts are felt around the world through product availability and price. **Governments will be less likely to rely on the market to deliver food security, they will instead assess national exposure to systematic risks in the food supply chain with a goal of mitigating these to lift confidence around food availability**.

The traditional governmental response to an economic crisis is to build roads to get people back to work and money into the economy. As governments around the world design stimulus packages, there is the opportunity to use these programmes to build infrastructure that also lifts the country's food resilience. **Investing in water storage and distribution, rural connectivity and enhancing rural healthcare and education services present the opportunity to use stimulus programmes to improve the productivity and reliability of domestic food production**.

Covid-19 has demonstrated very clearly the impact that a major disease incursion can have on an economy. Moving forward, this will lift the focus governments place on protecting their borders against future incursions, be they human, animal or plant-based; they all have the potential to have catastrophic economic consequences. **We expect to see more stringent biosecurity protocols and screening introduced by governments around the world as they seek to protect the health and wellbeing of their citizens and their economies**.

Regaining confidence in the safety of the environment will take time

The spread of the pandemic has been accompanied by a cacophony of government advertising informing citizens about the risks inherent in everyday environments and the comparative safety of home. Food courts, street markets, bars and restaurants have been closed because they are vectors for the transmission of the virus. Having been confined to our homes for everything but essential activities, it will take many people significant time to rediscover the confidence to move freely within and interact comfortably with wider society as the risk associated with the virus dissipates.

In addition to the constant messages to avoid interacting with anything or anyone, environments have been modified to enable businesses to continue to operate. Whether it is the need to wear gloves or masks, the installation of screens to protect check out operators or the suspension of 'select your own' services, the constant message has been what was normal is no longer safe for you to participate in. While Covid-19 is in some respect an unusually virulent disease, it is by no means the only transmittable disease that exists within our environment, raising questions as to whether some of our day to day practices will ever be socially acceptable again in a world that it is more aware of its health than ever.

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Signals to the future

While contact tracing apps, personal protective equipment, contactless service and copious amounts of hand sanitiser are enabling businesses to restart some of their operations, these measures do not create environments in which customers feel comfortable or receive a great experience. They deliver stark, functional, impersonal and unnerving environments, situations that do not inspire loyalty and raise more questions about safety than answers. **While everyday life is altered consumers will question the safety of their environment, making it more likely that they will shift away from physical food supply channels in favour of the proliferation of digital options**.

Food safety failings occur regular throughout the supply chain, with reported incidents globally increasing in recent years. Concerns about Covid-19 has amplified food safety concerns, with efforts being made to reduce the human handling of food products and therefore reduce the risk of the virus being transmitted. This has seen self-serve bins and service counters (such as delicatessens and seafood facilities) closed to reduce the risk of contamination. **We expect to see further efforts to reduce the human handling of food throughout the supply chain, to provide consumers with greater confidence that their food is safe and contamination free**.

Two distinct philosophies have emerged in recent years in respect of packaging; the North Asian approach, where items are packaged to reduce product handling, and the European approach where packaging is minimised for sustainability reasons. The focus on circularity in the food system has seen the European approach gain dominance, with retailers launching plastic free stores, government banning single use plastics and the rise of bring your own container models. With the pandemic raising awareness of food safety and the risk of contamination through handling, the North Asian model is likely to appeal to more consumers. **Moves to reduce packaging are likely to be put on hold for the foreseeable future, with investment being directed into packaging that delivers confidence around food safety while being inherently reusable**.

Food markets serve different purposes to different parts of the population. For some they provide access to large quantities of affordable food while for others they offer the opportunity to connect to premium, artisan food producers. Their common attribute is the gathering of large groups of people in a single location. As a consequence, markets have been closed in response to social distancing rules. The informal, face to face approach to business creates concerns about the safety of the physical environment and will result in markets being amongst the last businesses to reopen. **It is unlikely that all markets will survive the pandemic as stall holders find new ways to connect to customers, however this could leave some of the most food-insecure citizens with materially less access to affordable food**.

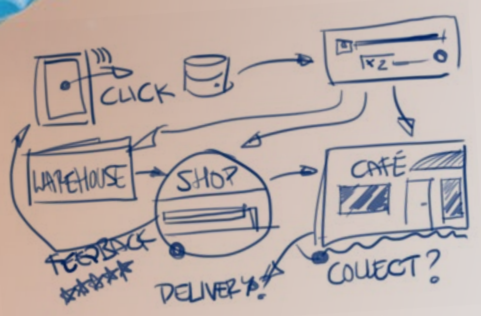
Over the last few years it has become increasingly difficult to order your own plate of food in a restaurant, as shared plates and family style dining has unpinned the menu design of many establishments. While this gives patrons the opportunity to try more of the menu it does mean that people are sharing utensils and food, something that many people will not feel comfortable with after lockdown. **Restaurants will need to redesign their menus in the post Covid-19 world, removing shared plates, buffets and banquets in favour of individual tasting plates, to assure customers their dining experience is safe**.

Social isolation has accelerated the uptake of digital solutions

The imposition of social isolation on large swathes of the global community has been accompanied with an explosion in consumers using digital channels to source food. Many consumers have chosen to use these services for the first time, to avoid queueing or for their personal safety. Across the world, many retailers have lacked the capacity to meet the demand for click and collect and delivery services, with waits of three weeks or more not being uncommon, resulting in rapid moves to expand these services.

As more consumers adopt digital channels to purchase groceries, the friction of buying from multiple suppliers reduces as the need to invest time and effort to visit multiple specialist stores (like fishmongers, greengrocers or butchers) is eliminated. The shift online of niche suppliers presents consumers with an easily accessible basket of products, reducing the need to rely on the supermarket as a sole point of supply. **The explosion of digital food retailers creates a 'virtual food high street' which becomes the go to location for quality food choices globally**.

Food is more than fuel for dedicated foodies, it is a journey of discovery to find new tastes, textures and experiences. For many people undercovering an indigenous food or eating at a world-famous restaurant is a critical part of their travel experience. Covid-19 restrictions mean the ability to undertake global food discoveries will be restricted for the next year or more, however these consumers will continue to seek out new experiences as they plan their future travels. We have written in the KPMG Agribusiness Agenda for some years that digital technology provides an opportunity for producers to tell their stories and connect with consumers in an immersive way, that if it used cleverly, could make a producer a local food supplier to the world. **While travel is impossible, developing immersive online experiences to engage with consumers that become global ambassadors for products is more important than ever**.



The rapid switch to digital channels has created an opportunity for many food producers to connect directly with consumers for the first time. Many have introduced new digital B2C channels or scaled up an existing service in response to this unprecedented demand. This has been done on the fly and has been accompanied by rapidly designed and implemented logistics solutions to enable orders to be processed and fulfilled. Looking at where the market stands today, there are many food businesses supplying food through minimum viable digital services to enable them to continue to operate through lockdown. The need to refine offerings and delivery will be at the forefront of the minds of many businesses, particularly if the shift to digital becomes permanent for many consumers.

Signals to the future

While many food producers have often wished it was easy to connect directly with their consumers the reality has been far from simple for most, meaning the majority of producers have continued to work through distributors, food service operators and retailers as their key channel to market. However, with social isolation increasing the number of consumers that are now prepared to explore product options online and use digital platforms for purchasing, the need to have a direct to consumer online presence has become a top priority. **The ability to bypass traditional distribution channels has become real and the pandemic has made a direct to consumer channel a must have for food producers, specialist food retailers and hospitality operators**.

There are food sector businesses that have been designed for digital, but for the majority of organisations any digital offering has usually been a bolt on to their existing, traditional business. A food delivery platform has been used to utilise spare capacity in a kitchen early and later in the evening or a supermarket delivery service that has sent pickers round a store using on shelf inventory to fulfil orders. The growth in online orders during lockdown has caused organisations to rethink and reengineer order fulfilment, resulting in the rapid establishment of dark stores and kitchens, facilities that are not also used for traditional business activities but exist only to fulfil digital orders. **Pandemic led growth in digital demand requires businesses to recognise that the channel is more than a side-line and needs dedicated processes and resources to maximise the opportunity**.

Industries that depend on migrant labour will need alternatives

For many people there is a stigma attached to a career in the production and processing of food and fibre products; the jobs are seen as being low skilled, low paid roles which are done by those for which there are no other employment options. While such perceptions are a million miles away from the truth, they have made it difficult for organisations to recruit the labour force they need, even in countries with significant levels of unemployment. As a consequence, the industry places significant reliance on transitory labour, be that foreign migrants, people taking working holidays or gap years and, in the most extreme cases, undocumented illegal immigrants.

Travel restrictions will present new challenges to these now traditional labour sources. If borders are closed and travel is less free and significantly more expensive it will mean transitory labour will not be available to organisations, requiring them to rethink their resourcing strategies. The probable lift in unemployment levels around the world will also see an expectation being placed on organisations to make efforts to employ locals whenever possible. This will require careful management as in many cases trying to fit the newly unemployed workforce into vacancies in primary production sectors will be akin to fitting square pegs into round holes.

Signals to the future

The opportunity to mechanise some of the highly physical processes required as part of producing food and fibre has been on the agenda for many years, however the availability of relatively low-cost migrant and casual labour has reduced the incentive to accelerate commercialisation. **With the structural changes to labour availability, the pandemic will create the incentive to develop robotic and mechanised solutions to some of the physical labour challenges which now exist has increased, initiating significant change in how labour is utilised in primary production**.

The immediate impact of the pandemic on labour availability, in particular the loss of seasonal and migrant labour, has required some businesses to prioritise available resources to process volume at the expense of producing premium products that require more time and specialist handling. Whether it is the wine sector, where ultra-premium wines require grapes to be handpicked or horticulture, where premium fruit offerings need specialist handling and packaging, securing a premium in market requires people to be available to create the value. While some of these premium activities may be able to be mechanised in future, **the reality is that people with the right skills will continue to be required if market premiums are not sacrificed in future seasons**.

The gap year student yearning for some pocket money, the research scientist seeking overseas experience, the migrant dairy worker looking to create a better future for their family or the wine maker traveling the world to participate in vintage have all contributed to the success of New Zealand's agri-food sector. The border restrictions in place mean these labour resources are not available to the industry in the short to medium term, requiring alternatives to be found if the sector is to continue to grow, particularly in light of the productivity impacts social distancing requirements will have on businesses for the foreseeable future. **There is a need for a public/private alliance to establish pathways that enable unemployed New Zealanders to take up opportunities in the sectors, including providing retraining and relocation support**.

Consumers seek products that build immunity and support health

For several months governments around the world have advised or instructed their citizens to stay at home and keep healthy. The importance of our health has never been in such sharp focus and consequently it is not surprising that consumers are thinking more about the foods they eat and the impact that these will have on their long-term health and wellness. It is apparent that consumers are searching out diet and lifestyle choices that will boost immunity and minimise the risk of them and their families being infected by the virus.

The increasingly important role that product attributes play in guiding consumer purchasing decisions has been something we have highlighted regularly in recent KPMG Agribusiness Agendas. Consumers, particularly in Asian countries, have recognised the connection between the food they eat and their health outcomes for millennia and have long between discerning consumers when it comes to the health attributes of a product. While we have observed more people engaging with this trend in recent years, the importance of connecting a food product to a health benefit in a scientifically valid way, particularly one that enhances immunity to viruses, we expect will become a significant value driver in the coming months.

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As consumers panic purchased in the lead into lockdown there was a spike in the demand for fresh produce. Evidence suggests this demand fell away as lockdowns took effect. Despite the health benefits of fruit and vegetables being recognised it appears consumers are less likely to eat fresh vegetables when they are cooking at home compared to when they eat out. **Innovating with fresh fruit and vegetables formats will be necessary to restart consumption for a population that has rebalanced towards eating at home**.

In recent years, consumers have been more interested in understanding how the products they are being offered have been produced. They could be interested in how animals are treated, the antibiotic treatments and sprays that have been applied or whether labour has been appropriately paid. This has resulted in a range of front of package attribute claims that producers have been making to differentiate their products and attract purchasers. With the pandemic raising consumer focus on health we expect that the proven health benefits of a product will become a front of pack attribute with consumers seeking out and paying a premium for immunity boosting products. **To be able to make attribute claims around health there is need for these to be scientifically verified. For products that can boost immunity, verifying claims should be a high priority in the short term**.

We have observed in recent years the gap between the food system and the health system becoming blurred as food companies have sought to develop functional foods and pharmaceutical companies have moved into nutraceutical products. The pandemic is likely to accelerate this trend and we expect to see demand for functional foods and nutraceutical products going stratospheric in the coming months as people seek to ensure that their diet is giving them the best chance to remain safe and healthy. **For food producers this will require more investment into understanding the health properties inherent within the products they produce, including the by-products and co-products that are generated, so that innovative, natural nutritional products can be offered to consumers before pharma companies introduce compelling offers**.

One of the arguments that the traditional food production sector has used to challenge the validity of novel plant-based and cell-cultured foods is that they lack the nutritional complexity of animal proteins. This has always overlooked the fact that many novel foods have been designed to deliver specific nutritional benefits. It is likely the pandemic will cause consumers to look more closely at the comparative nutritional profiles of the traditional product and its novel comparison. In a world where people are focused on their health, **the product which delivers the best outcomes will be the one that will appeal most to consumers and secure a premium; this could be the making of a novel product or leave it as a niche offering that the world moves past**.

The economic impacts of the Covid-19 downturn will be long lasting

While the (very) early economic indicators suggest the economic fallout from locking down the world are unlikely to rival the great depression in terms of damage there are few other positives to draw from a sea of red indicators currently. It is already clear that many countries around the world are facing significant increases in unemployment, large reductions in GDP, higher government debt, a return to quantitative easing and reduced export receipts. The counter balances to this may come in part from lower exchange rates and increased spending on domestic goods and services while international travel remains restricted.

The extent of the economic damage will depend on how quickly society controls the virus. If a vaccine or antiviral treatment is identified quickly the likelihood is the world will experience a deep 'V' recession but returns to growth within the year. The longer a treatment protocol takes, the greater the risk of second and third disease peaks and the greater the economic damage that it wreaked. We already know this will be a bigger shock to the economy that the global financial crisis, so having spent much of the last decade recovering from the GFC it is important we take the learnings from that experience on board and action them. When looking back, it was companies that were bold in refocusing their business and prepared to continue to invest in income creation that recovered fastest and took advantage of the opportunity's major disruption inevitably creates.

Signals to the future

While there is currently much uncertainty about what the future holds, one thing most commentators agree on is that significant unemployment is likely and hundreds of millions of people will have less spending power than they had last year. The impact of these income cuts will fall on consumers from all segments of the market and means that product specifications, formats and price points that were matched to a market only a few weeks ago may no longer be optimised to appeal to the consumers a business is targeting. **Rapidly rethinking the size of a product, channels it is sold through, price point and frequency of purchase is critical to ensuring the product offering is fit for purpose in a market where austerity is likely to be top of mind for many potential customers**.

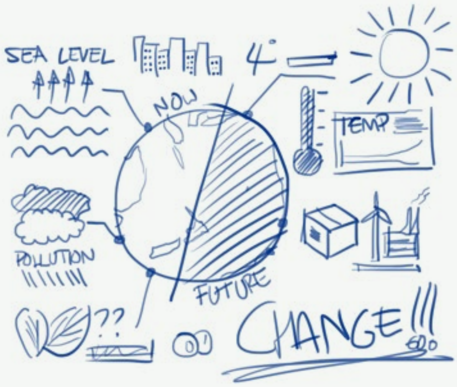
A deep recession will materially reduce the purchasing power of millions of consumers globally. The costs of producing natural animal-based proteins will continue to rise, reducing the number of consumers able to regularly afford to purchase these products. This will likely increase the demand for the novel plant-based and cell-cultured protein products. **Demand for novel foods will increase exponentially post pandemic as the products commoditised and targeted towards a lower, mass market price point than they have been to date**.

When the Chinese economy failed to restart after the New Year Festival the world woke up to the potential scale of the pandemic. A few months later, China is one of the first countries to enter the post Covid-19 'now normal' world, and it will play a significant role in shaping what the future for all will look like. Prior to the pandemic, China was dealing with a major biosecurity incursion, African Swine Flu, which had decimated the domestic pork sector and raised protein prices to a point where the government had started market intervention. Pork challenges remain and much of the imported protein in the supply chain before lockdown has been sold, meaning Chinese buyers have come back into global markets ready to pay good prices as ports have reopened. **The Chinese Government's need to ensure sufficient, affordable food is available to citizens makes further price intervention likely, with the potential that these actions will influence the price of food for consumers globally**.

The closure of ports in China at the end of January had a dramatic impact on global shipping networks; trade routes were disrupted, products were not able to be devanned and containers were not available where they needed to be. These disruptions, together with reduced air freight capacity, have left many exporters with stores full to overflowing and an inability to supply customers that appear ready to buy (although there may be some concern about their ability to pay). **Governments need to support exporters to sell with confidence; this could include funding shipping companies to ensure supplies of containers are available to exporters and providing credit insurance when pricing becomes prohibitive in commercial markets**.

The lockdowns used in recent weeks are blunt, myopic instruments designed to keep people away from each other with little regard to anything other than minimising a single health issue. To be effective they need to be universal, but this means the benefits do not fall evenly on individuals or communities and the consequences can cause real hardship on many. Recognising that Covid-19 is likely to impact our day to day lives for some time, while work to find a vaccine continues, means limits on the freedoms of individuals and businesses will need to be applied more subtly so the cure does not become worse than the disease. This is particularly true in rural communities which are critical to the availability of food; **restrictions on freedom in rural communities should mirror the realities of the disease in the region to ensure the physical, mental and economic health of the community is not damaged beyond repair**.

The era defining issues at the start of 2020 remain acutely important



It was only January this year when the World Economic Forum's annual meeting in Davos was dominated by Gretta Thunberg, President Trump and their perspectives on climate change. While speakers at the Forum held a wide spectrum of views on the extent of the 'emergency', how it will impact the global community and what the future for the planet may be, the profile solidified the issues position as the existential challenge facing society, business and government. As the pandemic has dominated the global news agenda and leadership effort has been focused on handling the immediate challenges Covid-19 has created, the existential challenge of slowing the speed of climate change has fallen out of the spotlight and, potentially, into the too expensive for now basket.

While the news agenda makes it appear that Covid-19 has changed everything, the reality is that not everything is different. Many of the things we were concerned about several months ago remain acutely important to the long-term future of society. How we respond to era-defining issues such as climate change and social inequity will shape our society well after Covid-19 becomes a landmark in economic charts as opposed to a health issue. The challenges of minimising greenhouse gases have not gone away with the temporary grounding of the global airline fleet, particularly as we are likely to be in for a carbon fuelled recovery (if we can draw on history as an indicator of the likely governmental response).

Signals to the future

Growing food and fibre products utilises more of the planet's land and water resources than any other economic activity; this was the case before the pandemic and will be the case afterwards. Given the planet will continue to warm, as the pandemic becomes yesterday's news the pressure will return to industries and organisations that create greenhouse gas emissions to deliver material reductions. Achieving reductions will enhance the provenance of a product. Failing to deliver will potentially leave a producer without a ticket to play in premium global markets. **As strategies are developed to respond to the 'now normal', priority should be given to ensuring initiatives will assist in reducing an organisations carbon footprint, to secure their ability to participate in the global food system into the future**.

The payback on an environmental investment is sometimes measured in decades rather than months or years. Without regulation, such investment is often passed over in favour of projects that deliver more immediate returns. A driver of environmental investment in agri-food has often been the willingness of governments to fund or subsidise projects on the basis that they deliver public good. As governments prepare to commit unprecedented investment into stimulus programmes to drive post Covid-19 economic recovery, **there is a unique opportunity to direct part of this stimulus towards the sustainable production of food. Initiatives could include funding water storage and distribution, deploying farm management systems that utilise AI to support environmental decision making or technologies that increase the circularity of the farm systems through practical uses for by-products, be they animal emissions or biomass**.

History will record this crisis came from a food safety failing

Since the Paris Climate Accord was reached in 2015, countries have, to varying degrees, been planning the steps needed to deliver on their greenhouse gas reduction commitments (in New Zealand's case these plans have been enshrined in the Zero Carbon Act). The commitments made and the delivery pathways were based on economic assumptions that never contemplated this pandemic. Transition pathways need to be carefully reassessed in the coming months as pushing ahead at the pace originally envisaged may ultimately be the least sustainable option if it puts financial viability at risk. **While transition ambitions should be maintained, the pace of adaption needs to align with an organisation's ability to pay; this may mean projects are slowed in the short term but could also mean others, aligned to recovery, are accelerated and they should be delivered in a way that supports long term climate ambitions**.

The decline in economic activity has materially reduced global demand for energy, particularly oil, which has seen prices fall sharply in recent months. While it is unlikely that lower oil prices will reduce freight costs (as the supply equation for transport services has shifted dramatically) there will be a major impact on the food system. This is likely to come from changes in the demand for biofuels; we expect this to reduce given current low oil prices. Farmers with crops intended for biofuel use will need to find alternative markets and will likely direct them towards human food and animal feed markets, reducing prices and enabling livestock farmers to lift feed usage, further increasing food supply. **Reduced energy demand will lower food prices before any impact from reduced consumer demand, suggesting farmers should plan now for lower income in the coming seasons**.

While conspiracy theories may offer a variety of explanations for the pandemic, it appears most likely that it will ultimately be linked back to a cross species contamination issue in a live animal market in Wuhan, China. In its simplest form, it is most likely that the pandemic came from a food safety failing which will undoubtedly result in consumers placing greater focus on traceable, trusted and safe food as a bottom line for purchasing decisions.

New Zealand is being recognised internationally for the way that the virus has been managed and the outcomes that have been achieved, which is reinforcing the global perception that we are a safe country. We have always been a high integrity producer. The response to the virus has seen organisations focus on doing the right thing, recognising that you can survive a drop in productivity, but a drop in integrity brings you down. New Zealand can position itself as the trusted supplier of safe, sustainable food however this requires rapid investment in the technology solutions that will provide consumers with the necessary visibility over the provenance and traceability of the product. Capturing this opportunity requires a co-ordinated approach with all industry participants building their unique stories and product positions on a common platform that is developed as a public/private partnership.

Signals to the future

Plant-based food advocates are highlighting the connection of the virus to the food system and particularly the risks that animals present to the food system. They are arguing that the pandemic could have been avoided if we had an exclusively plant-based food system. The argument is another factor in favour of opting for a plant-based diet and is likely to attract more consumers to swap. **It is likely that the pandemic will accelerate the development and uptake of plant-based foods in the diets of mainstream consumers**.

The global food system deals with many food safety failings every year as supply chains have lengthened, creating opportunities for issues to occur. This provides systems that are located close to their markets and are operated in a highly controlled manner the opportunity to deliver products with a provenance story that will appeal to consumers concerned about safety including a controlled environment, shorter supply chain and minimal product handling. **The focus on safe food has the potential to enhance the investment proposition for vertical and other controlled farming systems**.

The Agenda for immediate action

Having moved past the initial shock of the lockdowns and the significant changes that have reshaped daily lives, strategy needs to be reviewed considering the 'now normal' and adjustments made to grasp the opportunities that rapid and fundamental disruption offers. Organisations that got ahead of change rather than being led by it came out of the GFC faster and stronger.

Now is the time to radically accelerate plans that enhance your position in the 'now normal' while being prepared to cancel projects that have become irrelevant. It is also important to recognise that the change we have experienced is so extensive that plans that had been discarded as impractical or impossible may now be achievable. Now is the time for organisations to be bold in the investment decisions they choose to make.

This initial analysis of change across the agri-food system and what it may signal for the future suggests an agenda for immediate action:

1. Rethink how international trade is executed to ensure that it is inclusive and focused on providing food resilience and security, so that communities do not believe that protectionism is the only appropriate course of action.

2. Explore opportunities to work collaboratively with other organisations to present new product options to consumers around the world, for instance New Zealand product boxes containing a variety of our food and fibre products ordered online and airfreighted direct to the consumer.

3. Review product innovation strategies to meet the needs of consumers that have less disposable income, have reconnected with home cooking and are spending less time on the go and more time working from home.

4. Participate in social impact partnerships of government, community and commercial organisations in an attempt to minimise the percentage of the population that become long term food-insecure as a result of the pandemic. This will be the first step towards the development of a national food strategy that provides all New Zealanders with a secure supply of nutritious food.

5. Assess the approach used to analyse risks facing an organisation in light of the pandemic, with a view to utilising more advanced dynamic risk assessment models that identify the interconnectedness of individual risks rather than considering each in isolation.

6.

Recognise digital as a primary front door to business as a result of the pandemic and ensure that processes are designed, and resources allocated, to present a digital consumer experience that delivers on an existing brand promise.

7.

Analyse every step of a customer's experience with a business through a Covid-19 health and safety lens and where necessary, implement new processes, products and services to ensure every customer feels confident and safe engaging with the business into the future.

8.

Implement or enhance systems that connect with consumers and provide trusted information on the provenance and safety of the products they are considering buying.

9.

Plan labour requirements for next season now, assessing what can be automated in the short to medium term while building alliances with other organisations across the sector and government agencies, in order to implement schemes to attract and train the people required.

10.

Provide exporters with the equipment and insurance to sell and export with confidence, through introducing schemes to secure container availability and provision of government-backed export credit arrangements.

11.

Accelerate work to verify the health claims associated with the food products that we produce, with a particular focus on claims connected with enhancing an individual's immunity system.

12.

Prioritise sustainable recovery initiatives that are able to be delivered in a way that improves an organisation's GHG emissions profile, so progress is made towards zero carbon aspirations in an affordable way.

13.

Support the deployment of government economic stimulus into infrastructure and projects that strengthen the food and fibre sector's long term economic and environmental resilience.

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