



RISK & INNOVATION

A Matter Of Taste And Trade: Securing Tomorrow's Food Supply

OVERVIEW

By 2050, the world's population is expected to rise close to 40 percent: from the current 7 billion to almost 10 billion. This will put an enormous strain on the world's resources, and none more so than food.

The UN Food and Agriculture Organization (FAO) predicts that food production must increase by 70 percent by 2050 to feed this expanding population – approximately 1 billion tons more wheat, rice and other cereals, and 200 million more tons of livestock per year. Yet the same report found that 33 percent of the world's farmland is already highly or moderately degraded, reducing output and increasing the challenge for producers.

On top of this, multiple risk factors will put further pressure on the world's ability to meet this challenge:

- Growing political unrest and protectionism could sever supply chains.
- Climate change could devastate agricultural ecosystems.
- Cyber attacks could cause chaos in an increasingly mechanised and connected food industry.
- And all the while, perennial risks like flooding and disease will persist.

Addressing food security will be a major challenge for everyone, consumers, businesses and governments alike. While food producers and retailers may be affected particularly hard by these rising trends, all industries will be able to learn a lesson or two from the growing pressure on the world's resources as it gets more crowded.

IN DEPTH

There are at least five major factors that will shape food production and distribution over the coming years:

- **Demographic trends:** As our population grows, global demand for food will increase. Rural-to-urban migration may also affect how and where food is produced and distributed.
Case Study: According to the FAO, feeding the growing population will mean that we need to grow about a billion more tons of rice, wheat and cereals, and produce 200 million tons more livestock – even as available arable land
- **Environmental factors:** Changing weather patterns, and the accompanying storms, floods and droughts, will affect food production and increase pressures on viable agricultural land.
Case Study: A severe drought from 2012-2016 in California – where 90 percent of U.S. avocados are grown – meant that the price of the fruit increased from \$25 to around \$76 per crate from 2015 to 2016.
- **Geopolitical factors:** Shifting political landscapes and changes in trade agreements, wars, and even terrorism can all disrupt food supply chains.
Case Study: Canadian trade barriers have been accused of costing the U.S. dairy industry \$150 million a year.

- **Economic factors:** Fluctuating currencies and commodity prices can affect the price and availability of food products.
Case Study: In the weeks following the Brexit referendum in 2016, a range of food products (including, to the outrage of the British press, the popular spread Marmite) shot up in price in response to a falling pound.
- **Changing consumer habits:** Consumer preferences including trends, as well health scares, can change what food is in demand.
Case Study: In the US, consumers are becoming more aware of how their food is produced and how it affects their health: "Consumers are moving to foods that they perceive to be healthier and those that are grown with a certain set of standards. You can see this with how food companies are responding: Organic, antibiotic free, cage-free, no added sugars and the like," says Tami Griffin, U.S. Food, Agribusiness & Beverage Practice Leader, Aon.

Against these larger issues, food producers must also contend with a range of more traditional, day-to-day risks.

Economic Risks

Commodity prices impact every industry. So it's not surprising that the agribusiness sector rated this as the number one risk in Aon's 2017 Global Risk Management Survey (GRMS). If the price of a raw ingredient goes up, because of harvest failures or a surge in demand, then those costs are passed down the supply chain – and ultimately to the customer.

Ciara Jackson, Director of Aon's Agri-Food & Beverage Practice, Ireland, points out that geopolitics can also impact prices: "With Brexit and the U.K.'s departure from the European Union, we're likely to see fluctuations of the pound and possible tariffs double the price of foods – especially for exporters that are reliant on U.K. trade."

Damage To Reputation

Food scares can ruin a company's reputation – it's why this was rated as the second-most pressing risk by the agribusiness sector in the GRMS. In 2013, food producers across Europe were found to have been using undeclared horse meat in their beef products. As a result, hundreds of millions of pounds were wiped off the valuations of the retailers involved. The damage to reputation can be even worse if products cause harm.

Any resulting recalls can be extremely costly. Around 50 percent of recalls cost a company more than \$10 million. Recall risk by itself was rated the sixth biggest by sector respondents.

Severe reputational issues like this can also affect the sector more broadly. In 2011, Spanish cucumbers were blamed for a deadly e-coli outbreak – which actually came from infected bean sprouts. Nevertheless, Spanish cucumber exporters reported losses of around \$200 million per week.

Regulatory Changes

From the United States Food and Drug Administration to the EU's European Food Safety Administration, regulators often keep a close watch on the food industry, which can cause uncertainty for businesses – that's why they rated it their third biggest risk.

This is particularly the case during periods of regulatory transition. For example, leaving the European Union will give the U.K. government the opportunity to thoroughly review existing EU food regulations that apply in Britain – but currently no one knows which will be repealed, which replaced, which modified, and which left as they are. Meanwhile, in the U.S., President Trump has informed Congress that he wants to renegotiate the North American Free Trade Agreement, causing uncertainty for companies in various sectors, especially the food and agribusiness, across the U.S., Canada and Mexico.

Supply Chain Disruption

If you need a sense of how globalised trade has become, go into your nearest supermarket. Food and food ingredients are sourced from every corner of the world, so damage or interruption to supply chains can have a significant global impact, on both consumers and producers. And the industry agrees – supply chain failure was rated the eighth-biggest threat to the industry, according to the survey, and business interruption more generally the fourth.

Natural events in particular can lead to severe consequences – with this risk rated as number ten for the industry. Early 2017 saw unseasonal snows and storms in Spain, which devastated salad crops and sent prices in import markets rocketing up. "Any event that disrupts the growth of the plant impacts yield," notes Griffin. "And there is a ripple effect: If a grain doesn't have enough time to mature or it is damaged because of an adverse weather event, livestock production is impacted because the cost to feed the animals increases."

All the while, new operational risks continue to appear. A Midwestern farmer might be skeptical if you told him to be wary of hackers. But with the increasing connectivity of infrastructure and supply chains, cyber risk is increasingly prominent in all sectors – even agriculture.

Talent Shortages

Everyone fights over top talent, and the food industry is no exception. "Lack of talent in the food industry is a real issue," says Jackson. "Food companies aren't just competing with each other, they're competing with the tech and pharma companies – all of which are seen as more exciting to work for, particularly for younger talent." This lack of talent could also be worsened by protectionist policies putting limitations on worker mobility.

But the industry is responding: "Business leaders and universities are working to attract millennials by offering scholarships, interesting global work experiences, and overall are trying to change the perception of the industry," says Griffin.

Lessons From The Food Industry: Fresh Perspectives

Major risks like those seen above were also cited across multiple industries in both the private and public sectors. And the way the food industry has addressed these risks can be applied across other sectors.

Carrying out audits on supply chains and gaining deeper insight into how your suppliers are working are essential in avoiding crises. For instance, in 2015, hundreds of curry products, sold by more than 40 retail chains, were found to have been made using peanut powder instead of cumin – which could pose a serious health risk to allergy sufferers. While individual third-party suppliers may ultimately be at fault, failure to get proper insight into supply line operations introduces risk to both organizations and to the public at large. These are lessons that can be readily applied across verticals.

Some large-scale trends – like economic or demographic changes – can be met with more strategic responses. As consumer tastes change, such as the move to more organic goods, industries respond with increased R&D to meet the new demand. Similarly, as commodity prices increase, organizations respond in ways such as thinking of new ways to access specific ingredients. Being one step ahead of factors like consumer needs and supply chain disruption is a lesson that can be applied across industry.

A similar approach can be applied to talent: Having an understanding of the types of "ingredients" that are needed to meet current – as well as future – demand. Griffin notes the role Millennials play: "Millennials in particular have the opportunity to not only help change the perception of the industry, but also to change what they don't like about the food system," says Griffin. "There's tremendous opportunity in the industry for emerging talent to make an impact."

While addressing food production is a large, multi-faceted issue, as with any major challenge to something so core to society, a balance of process improvements as well as fresh ideas is necessary. The right investments, including those in innovation as well as talent, are vital to success.

TALKING POINTS



"The world's food system is broken, yet demand is increasing at a record pace. We can't just grow our way out of this global crisis. Issues of infrastructure, food safety, distribution and more must be addressed as part of a long-term, sustainable solution if we are to effectively address global hunger." – Randy Woodson, Chancellor, North Carolina State University



"When 95 per cent of American consumers live outside the U.S., we have to go out and make sure for our own economic interests that we're investing in bringing up the poor in this world. And if we're going to do that, we have to invest in agriculture." – Liz Schrayner, President and CEO, U.S. Global Leadership Coalition



"Massive agriculture intensification is contributing to increased deforestation, water scarcity, soil depletion and the level of greenhouse gas emission. Today, it is fundamental not only to increase production, but to do it in a way that does not damage the environment. Nourishing people must go hand in hand with nurturing the planet." – José Graziano da Silva, Director-General, United Nations Food and Agriculture Organization

FURTHER READING

- Farming The World: China's Epic Race To Avoid A Food Crisis – Bloomberg, May 22, 2017
- Food Groups Warned About Overuse Of Antibiotics In Supply Chain – Financial Times, May 1, 2017
- Food Producers Hampered By Future Skills Gap – Farming Life, May 23, 2017
- Brexit Challenges Agri-Food Industry, Say Lords – BBC
- Standing Up To Weather – Environmental Finance, May 5, 2017

