



TREND REPORT 2020

# DO THE RIGHT THING (RIGHT)

A GUIDE TO SUSTAINABILITY IN  
THE FRESH PRODUCE BUSINESS

PRODUCED BY



*Rabobank*

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IN COOPERATION WITH

**FRUITNET**

MEDIA INTERNATIONAL



## IMPRESSUM

### FRUIT LOGISTICA TREND REPORT 2020 **DO THE RIGHT THING (RIGHT)**

A special trend report for the international fresh produce business,  
commissioned by Fruit Logistica and produced by Rabobank.

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# PREFACE

***Dear members of the fresh produce trade,***

Welcome to our fourth annual FRUIT LOGISTICA Trend Report.

In previous editions, we have invited our research partners to explain how specific aspects of the international fresh produce business are changing: new production trends, notable shifts in consumer behaviour, and the emergence of new distribution channels. This year, however, the focus of our research has been on a trend that in practice can apply to any individual part of the global fruit and vegetable sector – sustainability.

How can fresh produce companies ensure they are making their own operations more sustainable in every way possible, while at the same time contributing to the long-term future viability of the industry as a whole? Given that sustainability is achievable in so many different areas – best summarised under the headings environmental, social and commercial – the aim of this report is to address that question with a series of answers. Of course, the word 'answers' is a little simplistic; we still arguably have much to learn and discover when it comes to saving the planet, treating people fairly and running successful businesses. So perhaps 'suggestions' is more appropriate.

The report's findings will be presented at FRUIT LOGISTICA 2020 and then be made available to all as a free download from the event's official website. We hope that the information it contains will be helpful to all of our customers and partners in the fresh produce sector, who together have enabled FRUIT LOGISTICA to remain the leading global platform for the fresh fruit and vegetable sector. As always, we want to keep sharing information with the fresh produce industry and to maintain close ties with all of you. We therefore look forward to hearing your views on this new report and would welcome your suggestions for future studies.

With kind regards as always,  
**Your FRUIT LOGISTICA team**



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# METHODOLOGY

*Do The Right Thing (Right)*, the FRUIT LOGISTICA Trend Report 2020, reflects the views expressed in expert interviews, a survey among 139 fruit and vegetable industry experts and stakeholders, external data sources and literature and websites mentioned in the list of references.

Report Author

**Cindy van Rijswijk, RaboResearch**

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AMT Fruit  
Koppert Biological  
Hortifrut  
Agricola Famosa  
IDH  
Nature's Pride, SIFAV  
Rabobank RaboResearch Food & Agribusiness  
Eosta  
Riverford Organic Farmers

# SUMMARY

✓ **The fruit and vegetable business finds itself in a great position** to make the global food system healthier for both people and planet. That's because it is a source of healthy food with relatively limited environmental impact.

✓ **The fresh produce industry is moving towards circular business models.** Looking far beyond the horizon, it will re-use waste streams, using renewable resources efficiently and minimising any environmental and social impacts.

✓ **There is a strong business case for sustainability,** including a reduction of risks and establishing a long-term position as a trusted partner for internal and external stakeholders.

✓ **There are, of course, challenges too:** the industry must address issues relating to water, food waste, packaging, chemical use and energy consumption in the coming years.



✓ **Issues relating to workers should also be considered a high priority,** especially when considering the challenges the horticulture sector is experiencing with respect to labour.

✓ **Various examples in this report underline the importance of technology and biology.** These two key areas offer solutions to sustainability challenges: technology including closed greenhouse production systems, precision agriculture technology (such as sensors) and weeding robots; biology including things like heat from geothermal sources, or natural methods of crop protection.

✓ **More radical innovations might be needed in order to make larger leaps forward.** Most sustainability-related innovations are incremental developments that reduce the current environmental impact by improving existing systems and products, as is the case with more advanced irrigation systems and precision agriculture technologies. More sustainable methods of production in the future may ultimately look very different to the ones in use today.

✓ **Certification fills the gaps that governments don't cover, but this should be used together with metrics.** Tools like the Life Cycle Assessment (LCA), footprinting or so-called 'true cost' calculations are useful ways of identifying areas of commercial activity that need improvement, or delivering relatively quick wins for individual companies. In horticulture, the development and application of metrics is still in its infancy. Cooperation within the industry is needed to develop proper, affordable footprinting tools for the whole fruit and vegetable industry.

✓ **Transparency is essential** for any business wanting to truly incorporate the values associated with sustainability. To do the right thing right, those metrics mentioned above will be indispensable. Any communication about sustainability performance will need to be evidence-based.

✓ **Companies are advised to focus on a handful of goals** in developing an efficient sustainability strategy.

✓ **And finally, communication could be crucial.** Telling people about sustainability may affect competitive positions if companies start to demonstrate certain performance metrics and others do not, or perform worse.

# INTRODUCTION

Consumers are becoming more sophisticated in terms of how they shop, as highlighted in last year's FRUIT LOGISTICA Trend Report *Surprises in Store*. They expect information on where and how fruit and vegetables are produced. Resources have to be used in a better way and the negative impact of production, packaging, storage and transportation has to be reduced. At the same time, as a major source of healthy food, fresh produce companies can play a vital role in creating a more sustainable global food system. Lowering the negative environmental and social impact, and being transparent about this, is becoming part of the fresh produce business.

This year's FRUIT LOGISTICA Trend Report *Do The Right Thing (Right)* will picture a framework of the most important sustainability issues for the fresh produce industry. The sustainability concept includes three pillars: people (social), planet (environmental) and prosperity (economic). This report will focus on people and planet, assuming that economic viability is a condition for any company to remain in business. It will touch upon the business case of sustainability and the benefit of labels and metrics in sustainability. Finally, it will roll out a proposed roadmap towards making sustainability an integral part of the business. After all, a 'just do it' attitude is the only real force bringing sustainability in the fresh produce industry to a higher level. Throughout this report, compelling examples show how producers, distributors and retailers are contributing to an increasingly sustainable industry.



**WHAT'S THE POINT?**



## Contributing to a sustainable global food system

In order to establish a global food system that can feed the future population in a sustainable and healthy way, changes are needed all along its constituent supply chains (Figure 1). A change towards a healthier diet, which is generally a more efficient diet using fewer resources, is a win-win for people and the planet; various prominent research studies, like the Barilla pyramid, the EAT-Lancet report, WWF's Livewell research, and the Planting up Progress project<sup>1</sup>, have concluded as much. It is also an area where the fruit and vegetable industry, as a major source of healthy food, can make a great contribution. The EAT-Lancet report suggests consumption of fruit and vegetables has to *double* by 2050 in order to reach the goals of a sustainable food system. At the same time, however, the fresh produce industry needs to reduce its negative impact, using resources more responsibly, reducing food waste along the supply chain and reducing the impact of its production, packaging, storage and transportation.

FIGURE 1.

### NECESSARY CHANGES IN THE FOOD SYSTEM

Source: Rabobank 2020



## The comprehensive business case for sustainability

Although there is a comprehensive<sup>2</sup>, long-term business case for sustainability, some companies still see sustainability as a burden taking up too much cost, time and effort. Traditionally, business models try to create value for shareholders, often in the short term. In a sustainable business, long-term value is created for all stakeholders – shareholders, employees, supply chain partners, local communities and the planet. A company with a sustainability agenda is better positioned to manage economic, social, environmental and regulatory changes as they arise<sup>3</sup>. Sustainable practices can help to manage risks and create value (Figure 2). »

## Sustainability risks = business risks

There is a strong link between commercial risks and risks associated with sustainability. Every year, the World Economic Forum undertakes a global survey of business leaders to identify the risks that concern them<sup>4</sup>. In the most recent survey, seven out of ten risks – including the top three – related to sustainability. These included things like extreme weather events, lack of climate change resilience, water crises and loss of biodiversity.

Often, sustainability risks are evident over the long term. The chances that some of these risks, like a severe flood in your sourcing areas, or a case of modern slavery discovered in a packhouse, may seem to be rather minor in terms of importance. However, their impact can be huge. Naturally, an individual company's specific characteristics and sphere of operation will define how relevant such risks are. The regions in which a company operates and from which it sources make a big difference. In some areas, crises linked to water supply or the safety of workers are much more of a risk than in others.

Reputational risks are more at stake for fresh produce companies that supply leading supermarket brands compared with suppliers who sell their fruit and vegetables through wholesale markets. Products that are grown in open fields will have a different environmental

impact and risk compared with products grown in high-tech greenhouses. Insurance companies, banks and investors increasingly take sustainability risks into account as well (see below). Companies with higher risks linked to sustainability may find that their financing costs are higher as a result. Improved performance in terms of sustainability can therefore create better financial conditions.

## Sustainability challenges = business opportunities

There is growing evidence that positive financial performance and sustainability performance are linked, although it is unclear which affects the other; the link is evident only in some organisations<sup>6</sup>. Returns on investments in sustainability are often long term; the most obvious benefits at company level are associated with cost savings, like improved efficiency of water and energy use, or minimising waste.

On the income side, sustainability can also pay off, although it is difficult to price so-called green products with a premium. Organic and fair trade products do fetch a higher price, however. Many consumers indicate in surveys that they are willing to pay a higher price for green products, but the translation from intention into actual behaviour is not evident<sup>7</sup>. Even worse, if a company attempts to charge a premium for green

# BANK SUPPORTS BUSINESS TO BOOST SUSTAINABILITY

The global market for green financing – products like bonds and loans – barely existed in 2013. Five years later, it had increased roughly tenfold<sup>5</sup>. By incorporating a number of different sustainability criteria into loan agreements, banks can increasingly play a role in supporting a transformation towards more sustainable practices.

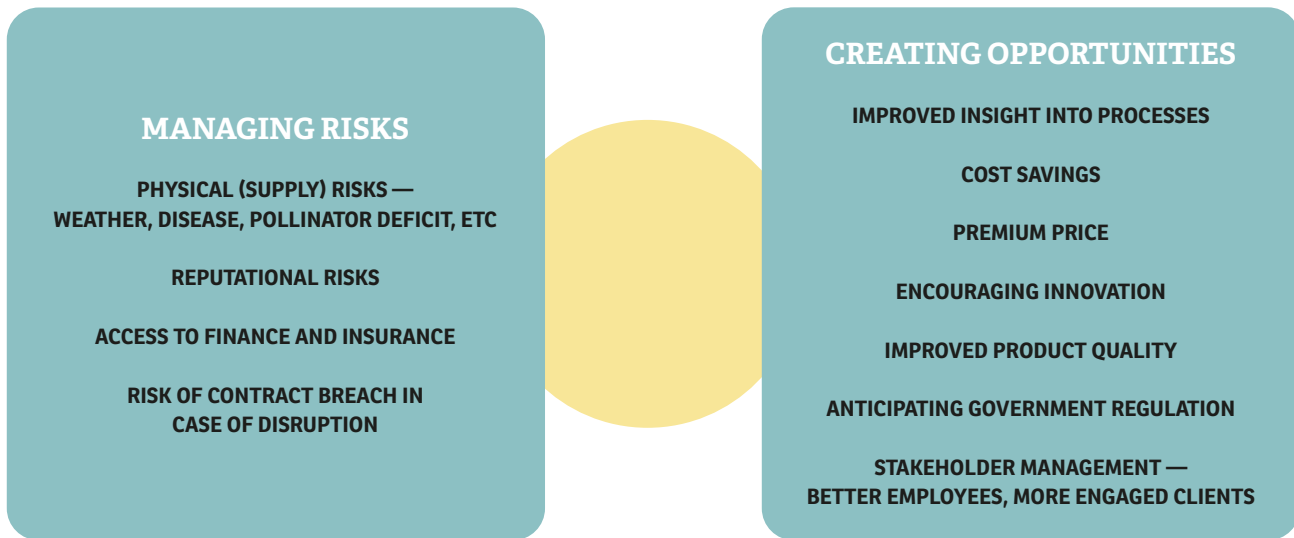
One good example is the loan Rabobank Chile recently provided to Chilean firm Hortifrut, one of the world's largest berry companies, to support an acquisition in Peru. Within its sustainability

loan contract, Rabobank clients must commit to various, tailor-made environmental and social conditions, something which helps them to produce in a more sustainable way. For Hortifrut, the loan motivates the company to achieve the same high sustainability standards in Peru as it already has in Chile; plus it encourages further improvement on those standards. Furthermore, the modern financing solution provides Hortifrut with a means of formalising and communicating its commitment to social and environmental issues, as well as to governance and transparency.

FIGURE 2.

**THE BUSINESS CASE FOR SUSTAINABILITY**

Source: Rabobank 2020



products but the reality is that consumers – or the media – view these products as greenwashed or not so environmentally friendly, then this can damage a company’s reputation severely. Just being sustainably produced is not enough; quality, transparency and communication are equally important. Communication about sustainability is essential.

More and more employees are focusing on companies ‘with a purpose’<sup>8</sup>. Talking about sustainability performance in a public forum can

improve recruitment, develop closer ties with existing clients or help to find new customers. Through frequent discussions with all stakeholders, a company with a sustainability agenda is better positioned to anticipate and react to changes that are happening in the outside world. Sustainability standards, issues or requirements can also inspire innovation that brings a positive

benefit. Some companies have turned waste streams into new successful products. Others have been able to improve product quality by adopting a more sustainable system of production, for example growing strawberries on table tops instead of in soil – a raw material that may degrade if fertilisers and crop protection are used too intensively. ●

# BUSINESS SUPPORTS BANKS TO PROMOTE BIODIVERSITY

New Zealand-based Balle Bros is an intergenerational family-owned business that grows and markets thousands of hectares of field vegetables – including onions, cabbage, carrots, potatoes – for domestic customers and export markets worldwide. With its headquarters on the fringes of Auckland, the company has several farming operations across the country.

Inspired by their parents Bernard and Norah’s efforts to plant trees since the 1950s, the family has continued actively to support biodiversity via reforestation. One of its recent projects is the restoration and protection of the Mauku Stream that runs through its Pukekohe farm. The waterway contains the remnants of native forest and wetlands, supporting various rare and endemic fish and

bird species. But it suffers from poor water quality, low summer flows and elevated temperatures caused by activity across its course. Replanting its banks with indigenous plants could help address such issues. Balle Bros sped up the restoration progress through intensive planting in conjunction with a local school, planting almost 10,000 plants across its farms in 2018.

A 3D rendering of the Earth, showing continents and oceans, with an orange straw inserted into it. The straw is bent at a right angle and extends upwards. The Earth is positioned above a small pool of water, which reflects the globe and the straw. The background is a solid blue color.

# AREAS OF CONCERN

## Five key areas for the fresh produce industry

There is a large range of environmental and socio-economical sustainability aspects related to the fresh produce industry that can have an impact in various stages of the fruit and vegetable supply chain (Figure 3). Our industry survey, which excluded economic sustainability topics, suggests stakeholders view five topics as the most important in the fresh fruit and vegetable industry: water, food waste, packaging, chemical use and energy (Figure 4). Literature reporting on research into consumers' main sustainability concerns suggests similar items related to water, land and climate<sup>9</sup>, but different concerns are raised depending on the product: for bananas they might be concerned about growers' livelihoods, while for strawberries it might be chemical use. The same applies to companies: field crop growers are more concerned about soil fertility than greenhouse growers using alternative substrates; for a grower with plant and animal habitats on their own land, biodiversity is obviously an important theme. »

FIGURE 3.

### SUSTAINABILITY IMPACTS ALONG THE FRESH FRUIT AND VEGETABLES SUPPLY CHAIN (NOT EXHAUSTIVE)

Source: Rabobank 2020

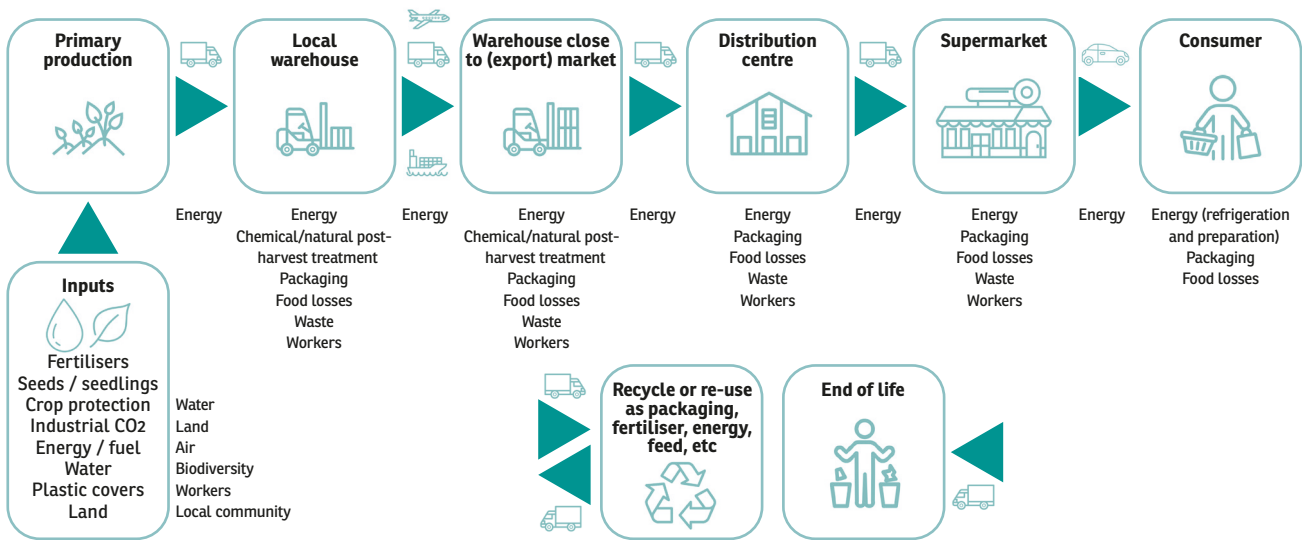
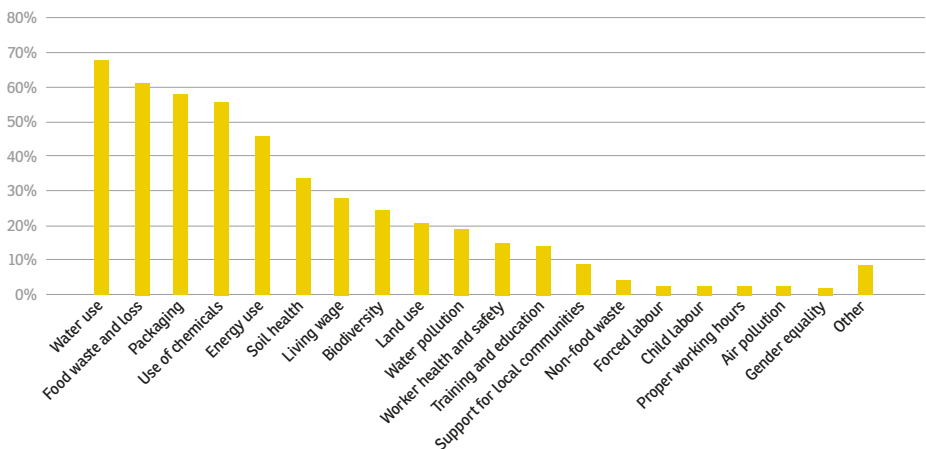


FIGURE 4.

### TOP SUSTAINABILITY ISSUES FOR THE FRESH FRUIT AND VEGETABLE INDUSTRY

Source: Rabobank 2019



## Water-related issues reach beyond quantities used

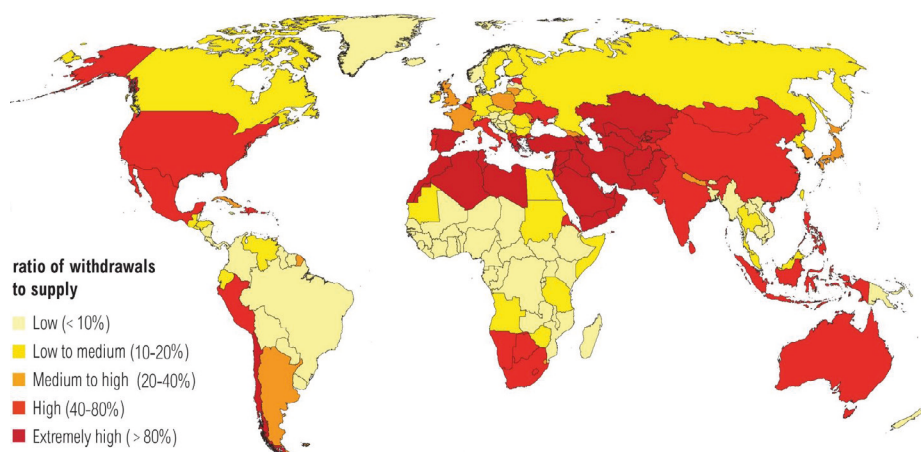
Water is the number one issue on the agenda of the global fresh produce sector. Everything we eat or use requires water to make it. Clean drinking water is a major issue in various parts of the world. In most regions of the world, agriculture is responsible for over 70 per cent of fresh water use, and its water withdrawals are predicted to increase by at least 15 per cent by 2050<sup>10</sup>. As a result, many parts of the world are expected to suffer water stress in the future (Figure 5). As direct consequences, water use will become more expensive and restricted. Fruit and vegetable suppliers may ask whether or not they still want to source fruit from certain regions. Large production areas like California, Chile, South Africa and Spain already face challenges linked to water availability, so responsible use will remain very high on the fresh produce industry's agenda (see opposite page).

Country-based water stress indicators can paint a detailed picture of what is happening in specific growing areas. For companies in the fruit and vegetable supply chain, gaining access to that information at a local level is very important. Water use can have many different effects on the environment and involves a lot of stakeholders.

FIGURE 5.

### WATER STRESS BY COUNTRY—2040

Source: World Resources Institute



An increasingly popular way of expressing water use is the water footprint. For example, the global average water footprint for apples is 822 litres per kilo, while oranges consume 560l/kg and mangoes 1,800l/kg<sup>11</sup>. But this is a rather simplified metric, because it does not provide information about the water's source or any possible consequences of its withdrawal. Issues around water consumption include the volume required, how efficiently it is used, allocation of resources, re-use of irrigation water and quality. Crop irrigation can affect sources in various ways: changes in water levels; impacts on habitats, plants and animal species; sediment accumulation; temperature changes; algae accumulation; nutrient and chemical run-off; and erosion. To provide a more comprehensive insight into water use, the Water Footprint Network distinguishes between green, blue and grey water footprints to reflect the source of water consumed – either rainfall/soil moisture or surface/ground water – and the volume of fresh water required for assimilation of pollutants.

Some fruit and vegetable companies are tackling water use by investing in more efficient irrigation – often combined with fertigation systems – or adapting their production, for example by growing melons in greenhouses instead of fields. Technology that monitors soil moisture and fertiliser levels can boost efficiency and lead to more sustainable nutrient management. But whether current measures, focused mainly on efficiency, do enough to safeguard the availability and quality of water resources remains open to question. More radical changes might be needed to make a larger leap forward, something which might entail regenerative or ecological agricultural practices to strengthen soil and plant health, and eventually improve the water cycle too. These practices might include a mixed crop plan or zero tillage. Or another alternative might be to adopt a completely controlled, high-tech indoor farming system that optimises water use. Some greenhouse growers already have a closed system which re-uses water instead of discharging it – something which requires prior treatment in the Netherlands. »

# NATURE'S PRIDE TAPS INTO RESPONSIBLE WATER USE



Nature's Pride is a supplier of over 200 different types of exotic fruit and vegetables, ripened ready-to-eat fruit and berries. These products are sourced from 59 different countries around the world and sold in Europe. Avocados and mangoes are among its top products. Some areas in the Dutch group's key sourcing countries, such as Peru and Chile, are known to have water challenges. Because of that, responsible water use is a key focus area in its Sustainable Business Plan 2019-2023. In 2017, the company decided to take a more active role in responsible water use. That same year, World Wide Fund for Nature (WWF) published a report showing that responsible water use is not adequately covered by the common sustainability labels.

With expert help, Nature's Pride started mapping how water is managed in its supply chain, looking at where the challenges are and how to mitigate them. It then created water risk maps and started talking to partner growers about the issue, at the same time making water a part of its supplier agreements and procurement strategy. The company reached out to stakeholders and knowledge partners like WWF, World Resources Institute and Alliance for Water Stewardship. It

also participated in global water forums such as World Water Week. In October 2019, Nature's Pride announced that six of its strategic growers had been certified under GlobalGAP's Sustainable Program for Irrigation and Groundwater use (SPRING). The additional audit incorporates a range of checks concerning responsible water management on farms.

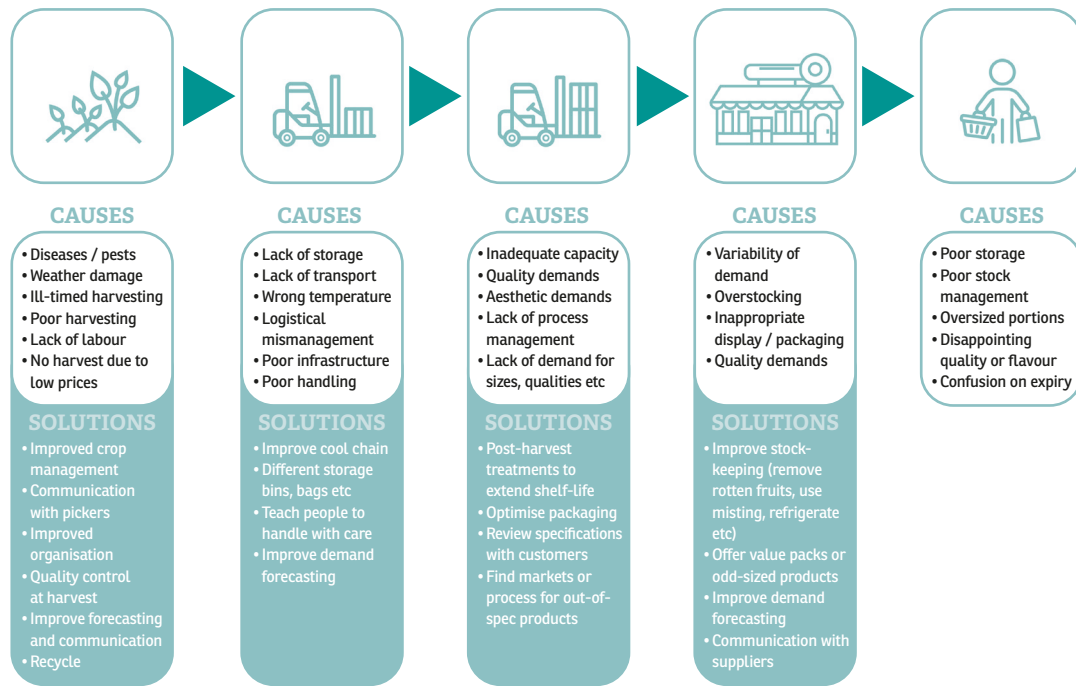
Notwithstanding this progress, certain challenges remain, particularly beyond the farm gate. An important lesson for Nature's Pride is that water efficiency in production is not enough. Broader action is needed as many different stakeholders – society, industry, agriculture – often use water from the same catchment. Coordination between water users is essential and the local regulatory framework and enforcement can be too weak. For these reasons, Nature's Pride has also started to promote collective action in priority catchments in countries of origin. In Europe, Nature's Pride is engaging actively with stakeholders to put water on the agenda of the entire fruit and vegetables sector. Convincing different stakeholders across the entire value chain to collaborate will be crucial in tackling what will undoubtedly become an even greater challenge in years to come.

.....  
**ABOVE**—Six of Nature's Pride strategic growers have had their water management certified under the GlobalGAP Spring scheme

FIGURE 6.

**POTENTIAL CAUSES OF AND SOLUTIONS FOR FOOD LOSS AND WASTE IN THE FRUIT AND VEG SUPPLY CHAIN**

Source: Rabobank, 2020



**From food waste to value**

The issue of food waste has gained momentum since a global estimate of the problem was published back in 2011<sup>12</sup>. The results of that study suggest that roughly one-third of global food production for human consumption is lost or wasted. For highly perishable products like fruit and vegetables this share is even higher, roughly ranging between 40 and 50 per cent. This means huge amounts of resources and inputs used to produce the food are wasted, and greenhouse gas emissions caused are also a waste.

There are many causes of food waste along the fruit and vegetables supply chain (Figure 6). Generally in developing countries, most of the food is lost upstream (in primary production), whereas in developed markets, most food is wasted downstream (at the retail and consumer). Each of the possible causes offers a starting point to reduce losses and potentially improve margins and reduce the environmental footprint. A study of 1,200 companies that invested in food waste reduction showed that 99 per cent of them had a positive return on investment<sup>13</sup>. Reducing food waste can be complicated as there might be possible trade-offs with other environmental objectives. For example, food loss and waste can be reduced by increasing the use of coldstorage and packaging, but coldstorage may lead to higher energy use, and increased use of packaging could generate more plastic waste.



Companies have found some very different ways of reducing food waste, involving new behaviour or technology. Cooperation, communication and fine-tuning with supply chain partners is often essential when reducing waste. The circular economy, which by definition requires collaboration, may provide a whole new range of opportunities. UK citrus supplier AMT has successfully discussed new product specifications with its customer Tesco. Part of its citrus waste is no longer sent to landfill but instead feeds two very different types of consumer (see right). Kenyan mango grower and exporter Goshen, meanwhile, has found a way to reduce previously high losses in fresh mangoes (see following page). Furthermore there are various innovations in production, packaging, controlled atmosphere storage and post-harvest treatments – such as sensors in the field that help to improve yield forecasting and optimise harvesting schedules. Other innovations from the likes of AgriCoat NatureSeal, Apeel Sciences, It's Fresh!, Liquidseal, Perfotec, SmartFresh and StixFresh extend the shelf-life of fresh products.

### Packaging pops up as a major issue

A decade ago, no-one had foreseen that packaging would become one of the main sustainability priorities in the fresh produce sector. But campaigns run by the Plastic Soup Foundation and similar groups have quickly raised awareness of environmental issues related to packaging. As a host of stakeholders – consumers, media, regulators – have become increasingly aware that plastic waste can have a harmful impact on the environment if not properly designed, collected, sorted and recycled, producers and users of plastic packaging are faced with severe pressure to reduce their use of – in particular – plastic packaging, and to introduce other options.

Even amid those growing concerns and a raft of anti-plastic measures being taken around the world, demand for plastic packaging continues to grow, largely driven by Asia. Since the material is usually cheap, strong and versatile, it is often the preferred packaging material for fruit and vegetables. The share of fresh fruit sold in packaging has increased over the last decade and currently ranges from only 3 per cent in China to 20 per cent in the US, 47 per cent in the UK and 56 per cent in Germany<sup>14</sup>. The trend for packaged fresh produce is driven by consumer trends like convenience and healthy snacking. »

# AMT FINDS SOME FRESH MOUTHS TO FEED AS IT EATS INTO WASTE

AMT Fresh, part of the Spanish AM Fresh Group, is one of the UK's largest citrus specialists. The company works with more than 350 citrus growers around the world to supply retail giant Tesco with close to 10m boxes of citrus per year. When it comes to waste reduction, the company has taken several steps to reduce the amount of fruit that ends up being thrown away, cutting the volume by 33 per cent since 2015: it has collaborated with Tesco and its partner suppliers to revise and broaden product specifications; it has expanded its sourcing into new countries; it has introduced new product lines; and it donates surplus fruit to charities. In the meantime, broadened product specifications have improved crop efficiency, giving Spanish growers for example an opportunity to deliver 10 per cent more Class I product.

Despite these efforts, AMT Fresh still produces more than 2,000 tonnes of waste each year from its UK operation. Most of this waste is wet, acidic and full of rots and moulds – not suitable, therefore, for use as animal feed. So, in early 2018, the company met with a local business called AgriGrub that is pioneering a sustainable food waste solution in the UK using a remarkable insect called the black soldier fly. AgriGrub now uses AMT Fresh's waste fruit exclusively to feed its black soldier fly larvae, which are sold live as food for pet reptiles and dried as feed for wild birds. Frass, the larvae's byproduct, can be used as an organic fertiliser or bio-repellent, and encouraging trials are already underway with British brassica growers. It's a truly circular economy which, in practice, is helping AMT Fresh become a zero waste operation in the UK by 2025.

# KENYA'S GOSHEN SEES VALUE IN LEAVING MANGOES OUT TO DRY

Goshen is a grower, processor and exporter of Kenyan fruit and vegetables. The company was founded in 2010 by Alex Muli, who at the time was still a university student starting a small horticultural farm. As the company has evolved, its clients in Kenya and abroad have come to require higher volumes, prompting Goshen to begin sourcing from other growers. At present, the group works with hundreds of smallholder farms to source the necessary volume of mangoes, avocados, passion fruit and fine beans. These farms range between a quarter hectare and 7ha in size.

As a result of that expansion, however, Goshen ran into a major issues, specifically the terrible level of waste in Kenya's fresh mango supply chain. Roughly two-thirds of all mangoes harvested were reportedly lost or wasted before reaching the consumer. So, in 2018, Goshen invested in a facility to dry the fruit. This meant that fewer mangoes were being wasted and smallholder farms could sell a notably larger volume, generating a bigger income as a result. The company is now exploring opportunities for other items like dried pineapples, as export demand for dried fruits is growing fast.

Furthermore, packaging is used to extend shelf-life and hence reduce food waste, for hygienic purposes, to make products transportable and to enable suppliers to include information and marketing messages alongside the product.

Despite all the positive benefits of plastic packaging, there have been strong calls for more sustainable options. Yet it is not always crystal clear what the most sustainable options are. Plastic most frequently ends up either in landfill, being incinerated, or leaking into nature, especially in countries with a lack of sufficient waste infrastructure. Currently, the average recycling rate for plastic packaging is very low, with some exemptions like PET bottles. While a very high share of paper packaging is being recycled into new packaging, its production has, for example, a higher carbon footprint than plastic packaging.

Responding to such pressure, some supermarkets have returned to selling certain fruits and vegetables loose (the 'plastic-free aisle' strategy), instead providing shoppers with bags made from paper or reusable textile. Fresh produce companies are also rising to the challenge in various ways. Some, for example, have switched to paper-based packaging including cardboard solutions; others have switched to plastic punnets that are made from recycled materials, or are experimenting with bio-based plastic packaging. Organic fruit and vegetable supplier Eosta, for example, has started to use laser coding to brand its produce instead of stickers or plastic wrap, distinguishing its offer from conventionally grown products. UK-based Riverford Organic Farmers, meanwhile, has conducted in-depth research into packaging before taking measures to ban plastic and cut other materials.

It would be wise for companies reviewing their own packaging strategy to take a deep dive into the pros and cons of different options. The elimination of packaging (especially plastic) is a noble initiative, but this can have negative side-effects, like causing more waste. Each packaging material has its own environmental benefits and disadvantages, so it's vital to teach people and tell them why certain materials are used. Several food and fresh produce industry organisations provide practical information and tools to assist companies in making the 'right' packaging choices – a good example being the Packaging Materials Selector tool developed by the Australian Fresh Produce Alliance<sup>15</sup>. »

# RIVERFORD RESOLVES TO REMOVE, REDUCE, REUSE AND RECYCLE



Over three decades ago, UK company Riverford Organic Farmers began growing organic vegetables and pioneering the delivery of 'veg boxes' in Devon, south-west UK. Riverford now delivers around 50,000 organic veg boxes and meal kits every week to customers nationwide. It supplies produce grown on its own farms, as well as sourcing from various associated farmers and overseas suppliers. As a completely organic company, Riverford works on various environmental issues, packaging being a key focus area. Its mission is to remove, reduce, reuse and recycle packaging, and it has committed to removing all plastic packaging from its produce by the end of 2020. That strategy is not simply a response to a gut feeling: in order to ensure its packaging policy is rooted in fact, Riverford asked the University of Exeter to evaluate the environmental impact of its entire business operation. In some cases, advice from suppliers and even its own intuition turned out to be unreliable. Selecting the right packaging material, it emerged, was an extremely complicated process dependent on several different factors.

Riverford's assessment of packaging's environmental impact considered not only how it was produced but also the damage caused by its irresponsible disposal,

the potential for reuse or recycling, and the need to protect the fruit or veg. Dealing with consumer perceptions is a challenge: most complaints centre on plastic punnets and bags, even if the carbon footprint of paper and cardboard is higher. The research suggested paper bags usually result in roughly seven times the emissions of an equivalent plastic bag. At the same time, plastic bags can linger on land and at sea if not properly disposed.

The research also led to several changes. Riverford now sources UK produce using re-usable wooden bins and plastic crates. Cardboard boxes delivered to consumers can be returned, making an average 3-4 trips per box. Paper punnets have been redesigned to reduce their carbon footprint. Beechwood nets used for some fruits are compostable. Always on the look-out for alternatives, the company uses plastic punnets and bags as little as possible, and aims for fully plastic-free packaging by the end of 2020. All the measures taken seem to pay off. Recently Riverford compared its packaging materials with those used for equivalent organic products in UK supermarkets. Its veg boxes contained an average 7.3g of plastic against an average of 32.2g across comparable lines from seven leading UK supermarkets.

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*ABOVE*—In June 2018, Riverford founder Guy Singh-Watson handed over the reins of the company to its staff, adopting an employee ownership model

# LIMONEIRA TAKES A KEEN INTEREST IN ORGANIC MATTER



Sustainability has become a key priority for US company Limoneira. Founded in 1893 in Ventura County, California, it is now one of the world's largest growers, packers and marketers of lemons, other citrus fruit and avocados. The group certainly takes sustainability seriously, as shown for example by its partnership with soil products specialist Agromin Corporation. The two have worked together to reduce the volume of waste delivered to landfill. Limoneira has set aside ten acres of land, from which Agromin receives over 200 tonnes of organic waste per day that it turns into compost and mulch. In turn, Limoneira can use these on its orchards.

As a result, Limoneira and other growers are apparently making the process of nutrient uptake more efficient; and because the soil's capacity for moisture is improved, water use has been cut by up to a third. What's more, organic mulch reduces weed growth and therefore curbs herbicide use by up to 20 per cent. With the mulch boosting organic matter in the soil, the need for chemical fertilisers is also reduced.

A recent grant from the California Department of Food and Agriculture has funded further research into the project's potential to make agriculture more resilient to climate change. Mulch and compost will be applied to one of Limoneira's young citrus orchards, where soil, water use, plant health and greenhouse gas emissions will then be monitored. The goal is to gain a more comprehensive understanding of how mulch and compost can improve soil health and reduce atmospheric carbon.

Due to last three years, the study got underway recently with the first educational field days for the general public, policymakers, students and local farmers, helping them to understand the benefits of organic soil firsthand. As a next step, Limoneira and partners will transform the existing green waste compost facility into what's known as a biogenic energy park, a 26-acre facility that will convert organic waste not only into compost and mulch but also renewable energy.

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*ABOVE*—Limoneira is one of the world's largest suppliers of fresh lemons

## Technology, biology and the chemical imbalance

Growers should be prepared to come under further pressure on chemical use. Generally speaking, horticultural production involves intensive use of resources including fertilisers and chemicals, inputs which are major contributors to greenhouse gas emissions<sup>16</sup>. In particular, production methods involving artificial fertilisers are extremely energy intensive<sup>17</sup>. Other potential risks associated with the use of fertilisers and chemical crop protection are pollution of land and/or water, loss of biodiversity, and health-related issues among farm workers.

Despite the debate and disagreement in public and scientific circles about what the kind of potential harmful effects chemical inputs can have in agriculture and horticulture, it's very clear that the long-term direction for these sectors when it comes to chemical inputs is towards as little use as possible. The few chemicals left in the future should be considered as medicines in case of emergencies. Despite EU and national regulation on crop protection use, more than a dozen mayors in France have already issued bans on pesticides in their areas. Back in 2015, several retailers took glyphosate for home garden use off their shelves, despite government officials declaring it safe to use.

Technology is a great enabler when it comes to reducing chemical use. Greenhouses, plant monitoring sensors, drones, cameras and even molecular techniques can enable more precise use of inputs. At present, various new ways of eliminating weeds and pests without chemicals are being developed – robot weeders Odd.Bot and eyeSpot, for example, or RootWave which uses electricity to kill weeds. Another start-up called PARS has designed a drone that eliminates harmful flying insects. However, most of these technologies are still in its infancy.

Besides technology, biology is set to become an important factor in making horticulture more sustainable. One pioneer of natural solutions to control pests and diseases in horticulture is Koppert Biological Systems. It produces natural enemies and micro-organisms to combat pests and plant diseases and develops so-called bio-stimulants to strengthen plants and their roots. However, current legislation represents a significant hurdle for those wanting to make »

# TOMATO MARKETER BRIDGES GAP BETWEEN TRADITIONAL AND ORGANIC



The use of chemical crop protection is generally low in greenhouse vegetables production around Europe – most growers use natural crop protection if possible. But even without using synthetic pesticides, these products cannot be classified as organic if they are grown hydroponically in rockwool, coco coir or any other growing media out of the soil. This has motivated some suppliers to come up with new pesticide-free labels, classified as something in between conventional and organic horticulture.

An example is the Sans Pesticides tomato label from French cooperative SaveoL. On its website, SaveoL guarantees that these tomatoes are grown pesticide-free, meaning that they are never treated with synthetic pesticides, from the flower to the plate. The challenge for this kind of 'in-between' label is to educate and inform the consumer correctly. Consumers might be confused with different terminology used on different labels like zero-pesticide, pesticide-free or residue-free.

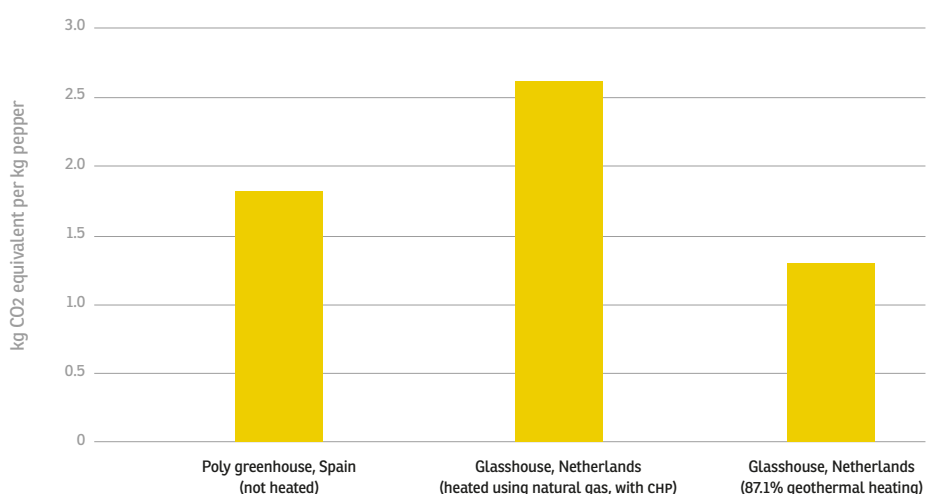
use biological crop protection, making it time-consuming and expensive for providers to get their products approved on the market. Given that extensive research has to be done for each individual crop, in different climate zones and countries, the challenge for horticulture – with such a broad range of products – remains a big one.

Growers can also tackle various challenges with specific rotation schemes, resistant varieties and certain types of soil management. Mulching, for example, provides organic nutrients, suppresses weed growth and slows moisture evaporation (see p22). Integrated pest management (IPM) is already fairly common in horticulture<sup>18</sup>, while organic production has shown steady growth around the globe in the last decade. Organic labels and other ‘in-between’ labels present growers with an opportunity to develop commercial models for more ecological production methods of production (see box, p23).

FIGURE 7.  
**CARBON FOOTPRINT FOR BELL PEPPERS SOLD IN DUTCH SUPERMARKETS, BY GREENHOUSE TYPE**

Source: Consumentenbond, Blonk Consultants, 2018

NB: CHP is combined heat and power installation



### A great deal of energy going into energy

Though businesses have put much effort into energy savings already, they will probably have to take further measures because of the Paris Climate Agreement<sup>19</sup>. For example, the European Commission recently presented its so-called Green Deal, which aims to make the EU climate-neutral by 2050. One way to reach this goal is to replace the use of fossil fuels such as natural gas with more sustainable energy sources like geothermal heat (see opposite). Changing energy sources can have a major impact on the environmental footprint of a particular product (Figure 7). »

# THINGS ARE HOTTING UP FOR GEOTHERMAL ENERGY



Hoogweg is one of Europe's largest bell pepper growers, producing around 225m individual peppers a year on 120ha of high-tech glasshouses in the Netherlands. Sustainability and efficient use of resources are two interrelated goals for the company, which has always tried to recirculate the water it uses (now 100 per cent). It also employs biological crop management, energy-saving LED lights for its packhouse, and heat pumps and combined heat and power (CHP) systems for its greenhouses. By burning natural gas, the latter can turn waste products into heat and CO<sub>2</sub>, which keep the greenhouse warm and help to stimulate plant growth. The electricity generated by CHP, meanwhile, is supplied to thousands of households in the surrounding area.

Recently, the company embarked on some additional steps designed to future-proof its energy use. It

has invested in geothermal heat installations that pump warm water up from approximately 1.8km beneath the ground. The energy is used to heat the greenhouse and, once cooled, the water is returned to the ground. The advantage of geothermal heat is that it can be used for at least 30 years and prices are predictable in comparison with oil, gas or coal prices. Plus, unlike other renewable sources like wind and solar energy, it is not influenced by natural factors like sunshine.

The main disadvantage when it comes to CHP systems is the high investment required, which is about €15m–€20m per installation. Only a large-scale company like Hoogweg is able to make such an investment on its own, but other smaller Dutch growers have invested jointly in geothermal heat. On top of the initial outlay, there are annual overheads, as well as costs for buying CO<sub>2</sub>.

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*ABOVE*—Combined heat and power systems have helped the grower to reduce its dependence on natural gas

Another drawback is that the greenhouse cannot exclusively depend on geothermal heat year round. When temperatures are too low, boilers are needed to make up the difference that the heat pump cannot fill. Also, boilers are needed as a back-up system in case the geothermal system does not work. Hoogweg is currently looking at alternative heating systems like heat from biomass, which might further reduce its dependence on natural gas.

In the meantime, its investment has not yet resulted in reduced operational costs, but it has already led to 6.5m cubic metres of natural gas being saved in 2019. Natural gas savings are expected to be 70 per cent in 2020, compared to 2018. Although the company does not know whether fossil fuel prices will go up in the future or not, they believe a lower carbon footprint is a necessity for "a licence to produce" in the long run. On top of that, the Dutch government is placing pressure on industry to be more sustainable, calling for the use of natural gas in horticulture to be reduced by 50 per cent by 2030, and to be stopped by around 2050. Therefore, the investment serves as a major step towards a long-term, strategic goal.

## Social issues need to be top of mind

Though not identified as one of the top issues in our sustainability survey, social issues certainly need to be an integral part of any sustainable business. Consumers should be able to trust that the companies from which they buy products are conducting due diligence – doing everything that can reasonably be expected of them – to prevent, say, forced labour from being used in their supply chains. Challenges relating to forced labour, child labour, gender equality, living wage, proper working conditions and various other human rights issues are clearly present in many of the developing regions that are important international sourcing countries for fruit and vegetables. In fact, these challenges are not limited to developing countries. Labour shortages, for example, are mounting globally; with labour immigrants found in all corners of the world, a social issue like modern slavery will remain all too relevant in the coming years. Conservative estimates from the Global Slavery Index indicate that, in the past five years, 89m people experienced some form of modern slavery for a period ranging from a few days to the entire period<sup>20</sup>.

With the unanimous adoption of the United Nations Guiding Principles on Business and Human Rights by the UN Human Rights Council in 2011, human rights due diligence was established as a global expectation for business. The initial hope and expectation was that companies would voluntarily take on their responsibility to respect human rights. One of the appealing examples of a voluntary initiative in the fruit and vegetables industry is the Sustainability Initiative Fruit and Vegetables (SIFAV), which groups together leading players in the European fresh produce industry under a joint commitment to sustainable sourcing (see opposite page). Many private companies are taking human rights due diligence very seriously. German retailer Aldi is sharing a wealth of information on its human rights due diligence process on its company websites<sup>22</sup>, while in the Netherlands supermarkets have committed jointly to closing the living wage gap on bananas (see p28).

Since the process in voluntary commitments is however progressing slowly, there has been a growing call for legislation. Subsequently, several international institutions and national governments have discussed or embedded human rights due diligence into law. In the UK, the Transparency in Supply Chains Clause of the Modern Slavery Act was adopted in 2016 and in France a duty of vigilance law was adopted in 2017. Several other countries are preparing legislation.

## 2.2 Workable sustainability requires you to set priorities

With a potentially overwhelming number of sustainability issues to be found in the international fresh produce business, a good focus is necessary – especially when you consider that not everything is relevant to everyone. A helpful way to set priorities is to use the materiality matrix, a tool that ranks sustainability issues according to their importance for different stakeholders and their impact on the business (Figure 8). Real-life examples of a materiality matrix can be found in the sustainability reports published by industry players like AgroFair and Blue Skies<sup>23</sup>. Surveys or brainstorm sessions can be used to gather input from interested parties, including suppliers, customers, consumers, employees and NGOs. While economic performance and staff training might be crucial to a company's performance, external stakeholders might rank media-sensitive topics like packaging and chemical use much higher. The issues that turn out to be in the upper right corner of the matrix may be worthwhile focusing on anyway. Sometimes, current issues like upcoming legislation might force companies to revise their priorities. Decide which targets to work on first and which challenges are to be tackled in the longer term. »



# SIFAV SEIZES THE INITIATIVE

The global fresh fruit trade has increased by roughly 7 per cent each year in the last decade, with imports from developing regions in Africa, Asia and South America growing particularly fast on the back of strong consumer interest in products like avocados and mangoes, as well as retailer demand for year-round availability. But there are various social and environmental sustainability challenges associated with sourcing from certain countries deemed to be at high risk.

SIFAV is a platform with the purpose of convening sustainability agendas, particular with respect to issues in these high-risk countries. Launched and developed by IDH, the Sustainable Trade Initiative, SIFAV has grown from 13 Dutch partners at its inception in 2012 to a

European initiative representing well over 40 partners including retailers, brands, traders and civil society organisations. All partners have committed to the SIFAV ambition of 100 per cent sustainable procurement of fruit and vegetables from Africa, Asia and South America by 2020. The SIFAV partners trade a combined annual volume of 3.5m tonnes of produce, corresponding to almost a quarter of total EU imports from Africa, Asia and South America. Around 74 per cent is now sourced sustainably from producers with full verification of working conditions according to the



ABOVE—SIFAV members commit to 100 per cent sustainable sourcing by 2020

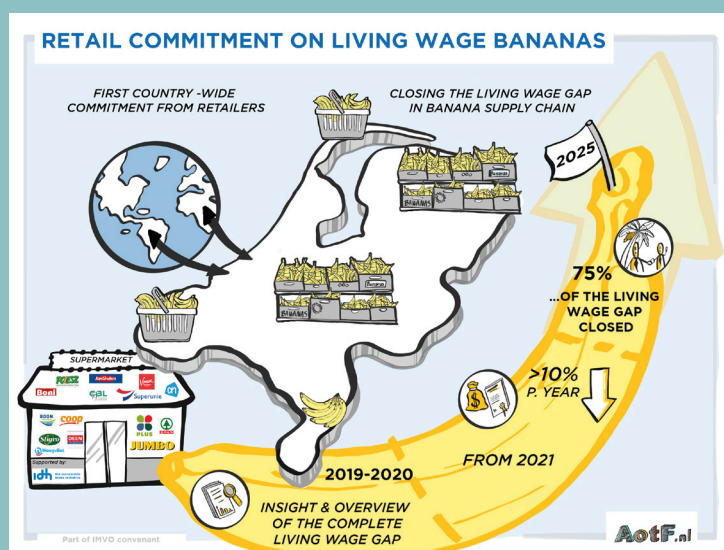
SIFAV Basket of Standards<sup>21</sup>. The annual reporting on progress by SIFAV members is monitored by an independent accounting firm.

In addition, the SIFAV platform facilitates an exchange of ideas and knowledge among partners, and stimulates the implementation of pilot projects at farm level. Co-funded by IDH, these projects pioneer new and more sustainable practices, with the aim of improving working conditions (health and safety, living wage, gender equality etc), involving smallholder farmers in the global supply chain (productivity and market access), and reducing the environmental impact of these value chains for example through better agrochemical, water and soil management. SIFAV partners are currently working on further increasing the share of produce from farms with full verification on working conditions, in line with its 2020 ambition; but new goals for 2025 are also being set, with a focus on living wage, working conditions and environmental impact assessment.

# RETAIL BANANA BUYERS MAY RESET BALANCE OF PAYMENTS

Bananas are the world's most popular and most traded fruit. As such, the banana industry provides employment for thousands of rural households in Ecuador, Colombia, Costa Rica, the Dominican Republic and many other developing countries around the world. At the same time, the sector has to deal with various concerns related to those workers, in part as a result of strong competitive pressure in the global market. These concerns can include harsh working conditions, worker safety, gender inequality and payments that are below a so-called living wage. Many workers do earn a minimum wage, but that is often too low to cover essential needs. A living wage, one of the rights included in the UN's Universal Declaration of Human Rights, is generally defined as a wage needed to cover basic needs such as housing, food, clothing and education. Increasingly, companies are coming to realise that they have a responsibility to respect human rights in their supply chains.

The Banana Retail Commitment, signed by 14 Dutch supermarket chains in November 2019, is the first nationwide buyer initiative to close the gap between living wages and the wages paid in reality. The retailers, including two market leaders, have committed to this goal for their entire banana assortment. The initiative is supported by IDH, The Sustainable Trade Initiative, which has developed a tool called a Salary Matrix that companies can use to uniformly calculate the paid wages at farm level and determine any potential discrepancy in that specific region. The plan is for a baseline study to define these pay gaps during 2020, and from then onwards to work to reduce the gaps step by step towards 2025. IDH is working with the sustainable standards to integrate this into existing social audits.



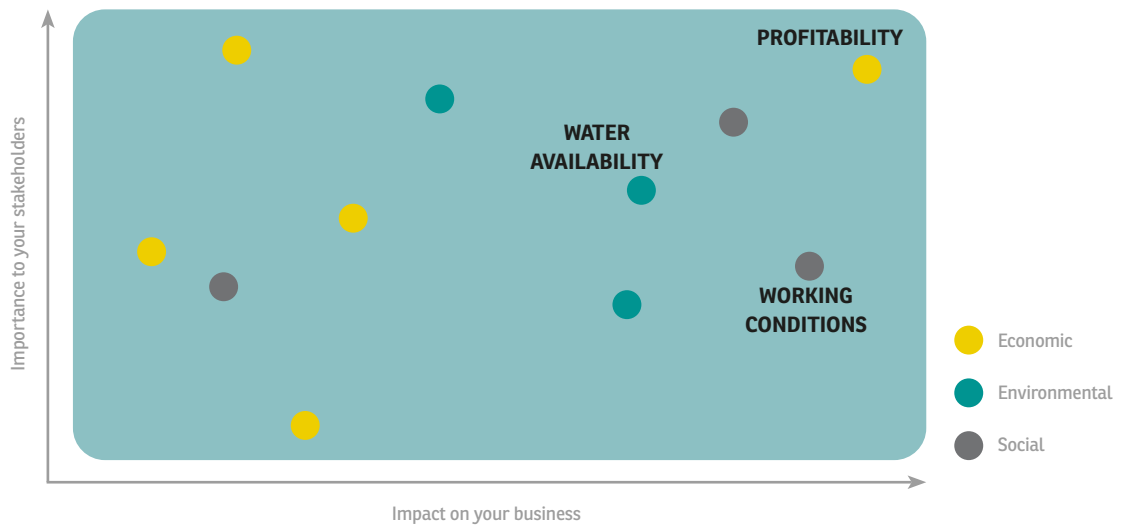
ABOVE—The Dutch supermarket promise © IDH, The Sustainable Trade Initiative

There are major challenge in realising living wage agreements. One is preserving the competitiveness of participating companies and therefore the jobs involved. Another challenge is sharing information. Many buyers do not know precisely on which farms their bananas are grown, and understandably growers are hesitant about sharing information on workers' salaries or work with labour contractors. Raising wages in a supply chain focused predominantly on cost efficiency is difficult, and for that reason it is important to involve as many retailers, countries and companies as possible. IDH is now discussing possibilities for supermarkets in other countries to join the initiative, something that would make the commitment an international buyer coalition. This would be desirable as it would achieve greater impact in producing countries. It was also be a definitive step further towards achieving more sustainable banana supply chains.

FIGURE 8.

**MATERIALITY MATRIX TOOL FOR SETTING SUSTAINABILITY PRIORITIES**

Source: Rabobank, 2019 – NB examples chosen at random



Increasingly businesses are also using the United Nations Sustainable Development Goals (SDGs) to set their sustainability agenda and communicate about it. The SDGs are 17 goals with 169 targets that aim to make our world a better place by 2030. These goals are supported by 193 countries and used by many governments as a roadmap for shaping national policy, regulation and legislation. With so many targets included – despite some not being directly relevant to the fresh produce industry – it is wise to select a few priorities on which to focus. As discussed, the materiality matrix can be a helpful tool to set your own priorities. Most companies using the SDG framework to select a handful of goals. If you share your goals with stakeholders, it is important to link them to measurable goals and to consider what the expectations and interests of those stakeholders are. An example of how SDGs are linked to a sustainable business plan is shown on the company website of exotic fruit supplier Nature's Pride<sup>24</sup>.

FIGURE 9.

**THE UNITED NATIONS SUSTAINABLE DEVELOPMENT GOALS**

Source: United Nations, 2019



# MEASURING UP



### 3.1 Certification: a way to govern without government

Voluntary sustainability standards like GlobalGAP, Fairtrade International, LEAF, SMETA, BRC, Rainforest Alliance and many others are seen as a form of 'governance without government'. Sustainability labels and logos in store and on packs give consumers an opportunity to consider a food product's sustainability at the point of purchase. For companies, standards are a valuable way to identify business partners that can achieve a certain level of performance. The whole realm of standards began to emerge in the 1980s when it became clear that the sustainability objectives desired by companies (like retailers) and NGOs would not be achieved or enforced by governments, especially in developing countries. Naturally, there are (transaction) costs involved with the certification schemes: registration fees, auditing charges, costs associated with collecting information, documentation and so forth. The amount accumulates if different customers require different certificates. For consumers, it is sometimes difficult to interpret correctly the differences between the many labels. However, some level of competition does force standards to demonstrate their effectiveness. A possible shortcoming is that they do not measure actual performance and progress made – like volume of water applied per avocado, energy used per tomato, or greenhouse-gas emissions – over time, nor do they provide incentives to improve above the standard. That is where metrics fulfil an additional need.

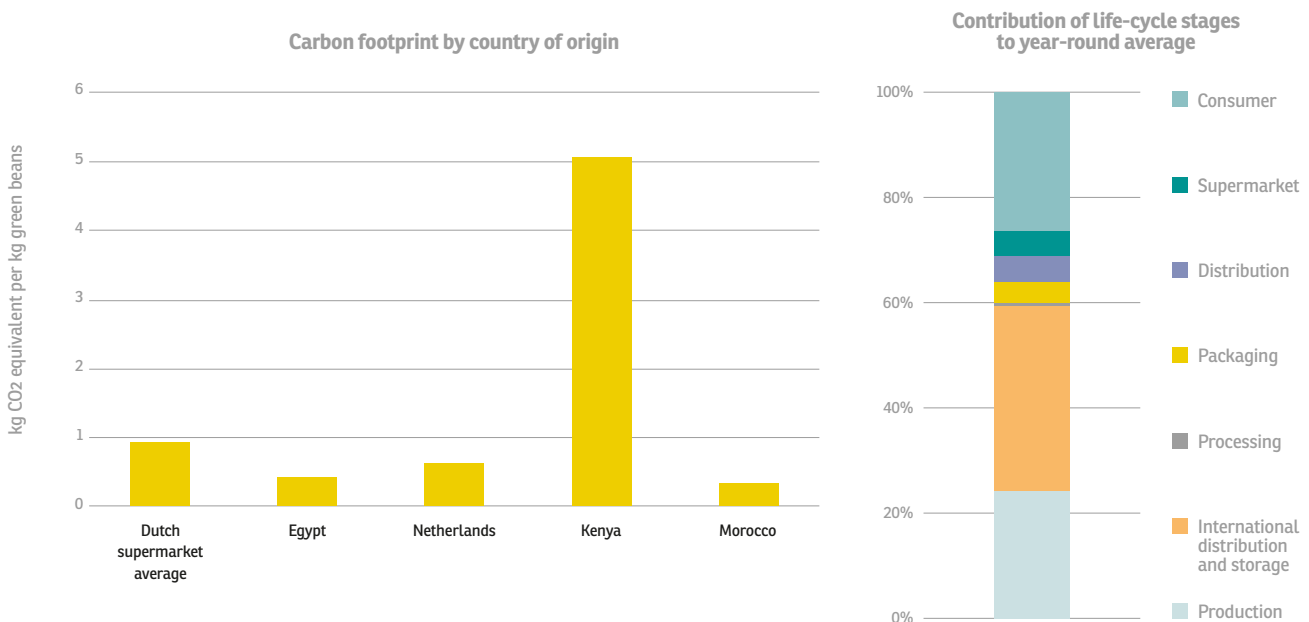
### 3.2 If it can be measured, it can be managed and communicated

To determine what effect any attempt at improvement on social and environmental issues may be having, registering and measuring performance is essential, as is comparing a product's environmental and social impact. Effective measurement depends on accurate information; without metrics, it is impossible to monitor and manage sustainability-focused measures, or to judge their impact. Even food retailers feel the need to measure and communicate in these areas: Belgian retailer Colruyt, for example, says it wants to include an 'ecoscore' on packaged products. »

FIGURE 10.

#### CARBON FOOTPRINT OF GREEN BEANS SOLD IN DUTCH SUPERMARKETS, BY SOURCING COUNTRY

Source: Consumentenbond, Blonk Consultants, 2018



# MELON LIFE CYCLE PUTS AGRICOLA FAMOSA ON RIGHT PATH



Brazil is by far the largest non-EU exporter of melons – not including watermelons – to the EU, accounting for roughly 55 per cent of the union’s melon imports. One of the country’s leading industry players is Agricola Famosa, which is based in the Jaguaribe-Açu region where nearly all exported melons are produced. As a large export-focused business producing close to protected nature areas, responsible use of natural resources and safeguarding biodiversity are among its key focus areas. Therefore, it is certified under various sustainability labels including GlobalGAP, Tesco Nature’s Choice, USAGAP and Rainforest Alliance.

To identify specific areas where it could be even more sustainable, the company also contributed to a Life Cycle Assessment (LCA). This industry-level LCA of Brazilian yellow melons for export to Europe shows some interesting findings<sup>25</sup>. Despite the product being transported over a long distance, the greenhouse gas emissions from its journey make up a relatively minor part of the total carbon footprint. The main opportunities to reduce the footprint of yellow melons in Brazil include: using existing agricultural land – thus avoiding deforestation; reducing nitrogen fertilisation; and avoiding the use of plastic in the field. Since 2016, Agricola Famosa has committed to producing only in existing farms, excluding any possibility of deforestation in new areas.

## Life Cycle Assessment

There are different ways to measure sustainability performance. One of them that has been in use for a while is the Life Cycle Assessment (LCA) method. The International Standards Organisation defines this type of assessment as a “compilation and evaluation of the inputs, outputs and the potential environmental impacts of a product system throughout its life cycle”. An internationally recognised and standardised method (courtesy of standard-setting body ISO), an LCA takes into account greenhouse gas emissions as well as land occupation, water consumption and fossil depletion. All phases of a product’s existence are taken into account and analysed, from raw materials (fertilisers, crop protection products), packaging and transport to retail, consumers, disposal and recycling.

What an LCA provides is clear insight into the specific moments and periods in the supply chain where the environmental impact takes place (see *Figure 10* and panel left). These so-called hotspots provide companies with clear opportunities to make improvements. Sometimes, the assessment involves industry-level calculations to define a benchmark for the average. The LCA can also be used to compare different products or production systems. When repeated over time using consistent methods, this can provide a basis for tracking changes in performance. A recent study brought together data from 36,000 agricultural producers and 1,600 other players in the supply chain; it concluded that there was substantial room for improvement when it came to the product’s environmental impact, especially when you consider that LCA calculations sometimes vary by a multiple of 50 among producers of the same product<sup>26</sup>.

It should be noted that LCA is not a complete sustainability measure, as it excludes social impact and also several environmental issues. At present, calculating an LCA is rather complicated and expensive. However, the tools, assumptions, and databases used will be further refined in the coming years, a process which should make relevant tools easier to use and more accessible.

## Footprinting tools

Whereas the LCA approach does take several different types of environmental impact into account, a number of more focused footprinting tools and methods are also available, for example carbon footprint tools and water footprint tools. Increasingly, industry associations, NGOs or regulatory agencies provide such tools to help producers better understand and manage their environmental objectives. A good example is the Cool Farm Tool, a free resource that has the backing of many big players in the food industry. This allows farmers to estimate several footprints on products and activities by entering relevant data through a rather user-friendly interface. Elsewhere, there is a large number of consultants that specialise in footprinting calculations. But a note of caution: there are fewer tools available for horticultural crops compared with the number at the disposal of companies involved in major arable crops like wheat or corn. What's more, as many of the horticulture footprinting tools are based on outdated and non-standardised methodologies, they cannot be used for benchmarking.

Wageningen University & Research (WUR) in the Netherlands is currently working on a new standardised horticulture tool in partnership with private industry partners including GroentenFruit Huis and Royal FloraHolland<sup>27</sup>. The ultimate goal is to develop a European standard for footprint calculations on fruits, vegetables and flowers. To that end, WUR are working to align with methods employed by the European Product Environmental Footprint (PEF) and the Organisation Environmental Footprint (OEF). In the US, meanwhile, the main fresh produce industry board PMA is partnering with the Stewardship Index for Specialty Crops (SICs) to develop free tools that the industry can use to measure sustainability performance.

Initiatives by large industry bodies like PMA are encouraging, as cooperation in the fresh produce is the only way to develop standard tools and avoid duplication of systems. These free devices enable all growers to engage in the sustainability journey – regardless of their current level of performance. They also give growers useful insights that can be used to improve sustainability performance, before potentially communicating and marketing those findings to external stakeholders, backed by measurable performance data.

## True-price and true-cost methods

Methods that do include social impact in addition to environmental impact are true price and true cost calculations. The aptly named True Price organisation has done a lot of work on bananas<sup>28</sup>, concluding in one study that the average additional 'external cost' of bananas grown conventionally in Ecuador, Colombia, Peru or the Dominican Republic was US\$0.37/kg. These are social and environmental impacts not included in the current price of bananas. Almost 60 per cent of the external costs turned out to be linked to social burdens – insufficient wages, health and safety risks, harassment. This shows how important it is to look beyond a simple collection of environmental metrics.

True Cost Accounting is a way of bookkeeping that includes financial values as well as the impact on natural and social capital. Since 2017, Netherlands-based organic fruit and vegetable supplier Eosta has employed this method<sup>29</sup>, which also calculates the true cost for a single product. According to Eosta's true accounting, a pineapple can be grown sustainably – that is, benefiting people and planet – for €2.85<sup>30</sup>. Most European and US supermarkets offer a pineapple for a price ranging between €1.00 and €2.00.

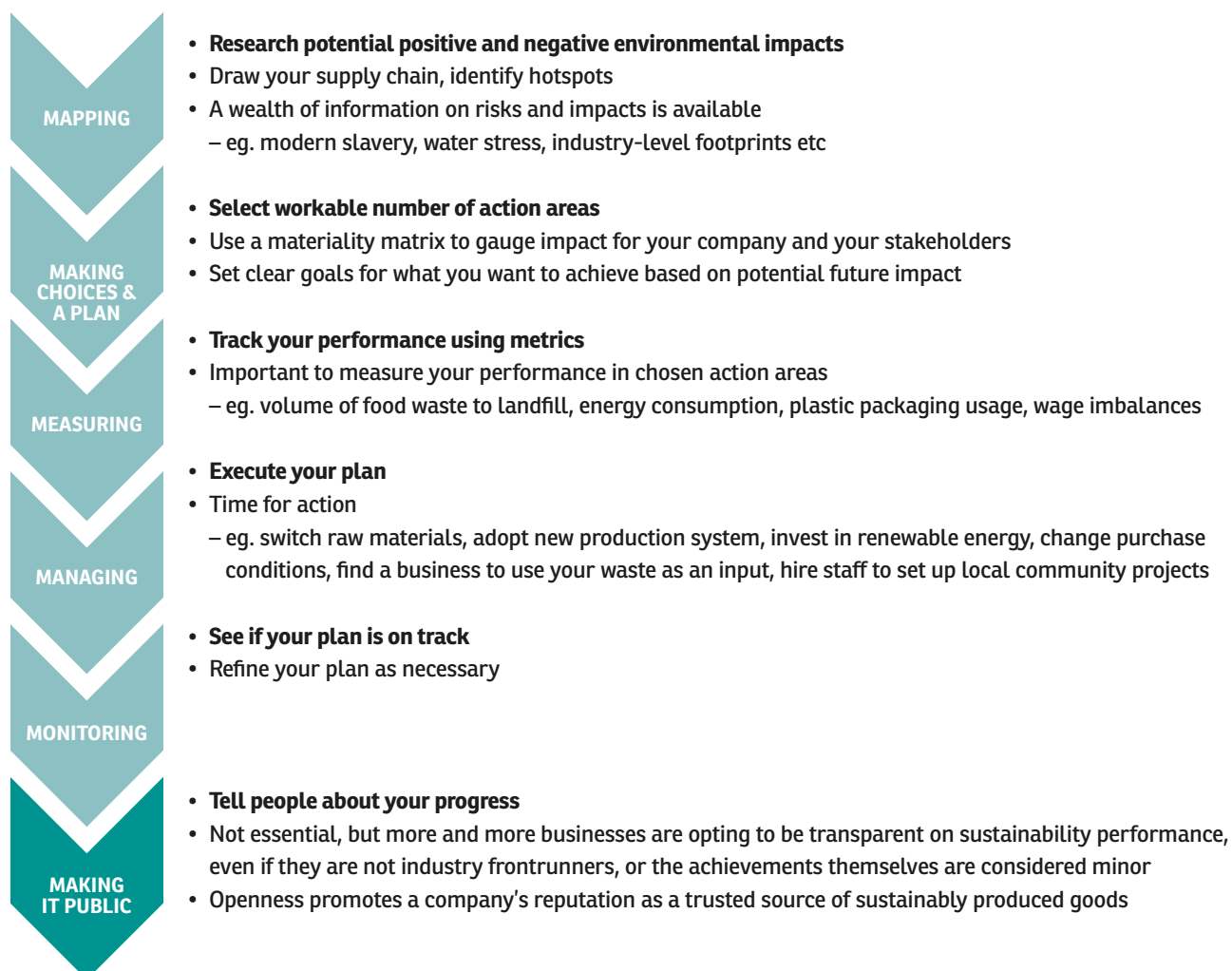
Most calculation methods that factor in social and environmental impacts remain in their infancy, not to mention fairly complicated and time-consuming to carry out. The methodologies need fine tuning, while the databases and assumptions used for these calculations are often incomplete. Nonetheless, true-price and true-cost calculations are a good starting point, just like LCAs and footprints, for companies wanting to identify those hotspots – the room for improvement in terms of sustainability – and to start discussing with internal and external stakeholders on sustainability, especially including social issues. ●

# 4. DO THE RIGHT THING RIGHT

FIGURE 11.

## SIX-M PLAN TO SUSTAINABLE SUCCESS

Source: Rabobank, 2020





## Many happy returns

By now you should be convinced that there is plenty of value in sustainability, as well as many risks associated with ignoring it. Enhanced reputation, resource efficiency, stakeholder management, access to finance, cost savings, resilience against climate change and a positive story towards consumers – all of these benefits are clear reasons to do the right thing.

Looking far beyond the horizon, the fruit and vegetable industry is moving towards circular business models. In a circular economy, the value of products, materials and resources are maintained for as long as possible by returning them into the product cycle at the end of their use, while minimising the generation of waste. That means a shift towards the use of renewable energy, towards excluding toxic chemicals and towards the elimination of waste. The circular economy concept is currently promoted by the EU and several national governments around the world including China, Japan, Canada, Netherlands, UK, France, Sweden and Finland, as well as by many businesses globally. But it still has many limitations<sup>31</sup>. We should regard this as a long-term direction and vision, rather than a clear objective.

There is no one-size-fits-all strategy when it comes to harnessing the value of sustainability or circularity, but certain steps are relevant regardless of scale, company type, market focus and sphere of activity (*Figure 11*). Mapping the sustainability impact for your company, making choices, measuring the performance and monitoring are all vital steps in managing your sustainability plans.

One final step that has not yet been discussed, but is just as valuable as the sustainable performance itself, is transparency. Increasingly, businesses are choosing to be open about their behaviour. German discounter Aldi, operated via the companies Aldi Nord and Aldi Süd, is among the largest food retail chains in the world today, operating over 10,000 stores in 20 countries around Europe, the US and China. It has published an impressive amount of information on its social corporate responsibility policies, displaying it on various company websites<sup>32</sup>.

The information is very detailed, illustrating what Aldi considers to be high-risk product groups. It explains how high-risk supply chains – like the one underpinning its coffee procurement – are organised, how the company works on sustainability issues, what goals are targeted, how it selects sustainability priorities, how suppliers are audited and much more. Various statements on human rights, packaging and other issues are published and explained, including statements on chemical use that is considered as harmful for bees. For a retail giant considered to be somewhat reclusive when it comes to public announcements, Aldi's lack of shyness in the field of sustainability is certainly causing a buzz.

So it seems, the greatest opportunity to get a return on your investment in sustainability may lie in the long-term strategic value associated with being a trusted source of sustainably produced fruit or vegetables. Without transparency, there is no trust. And without trust, nothing is sustainable. ●

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