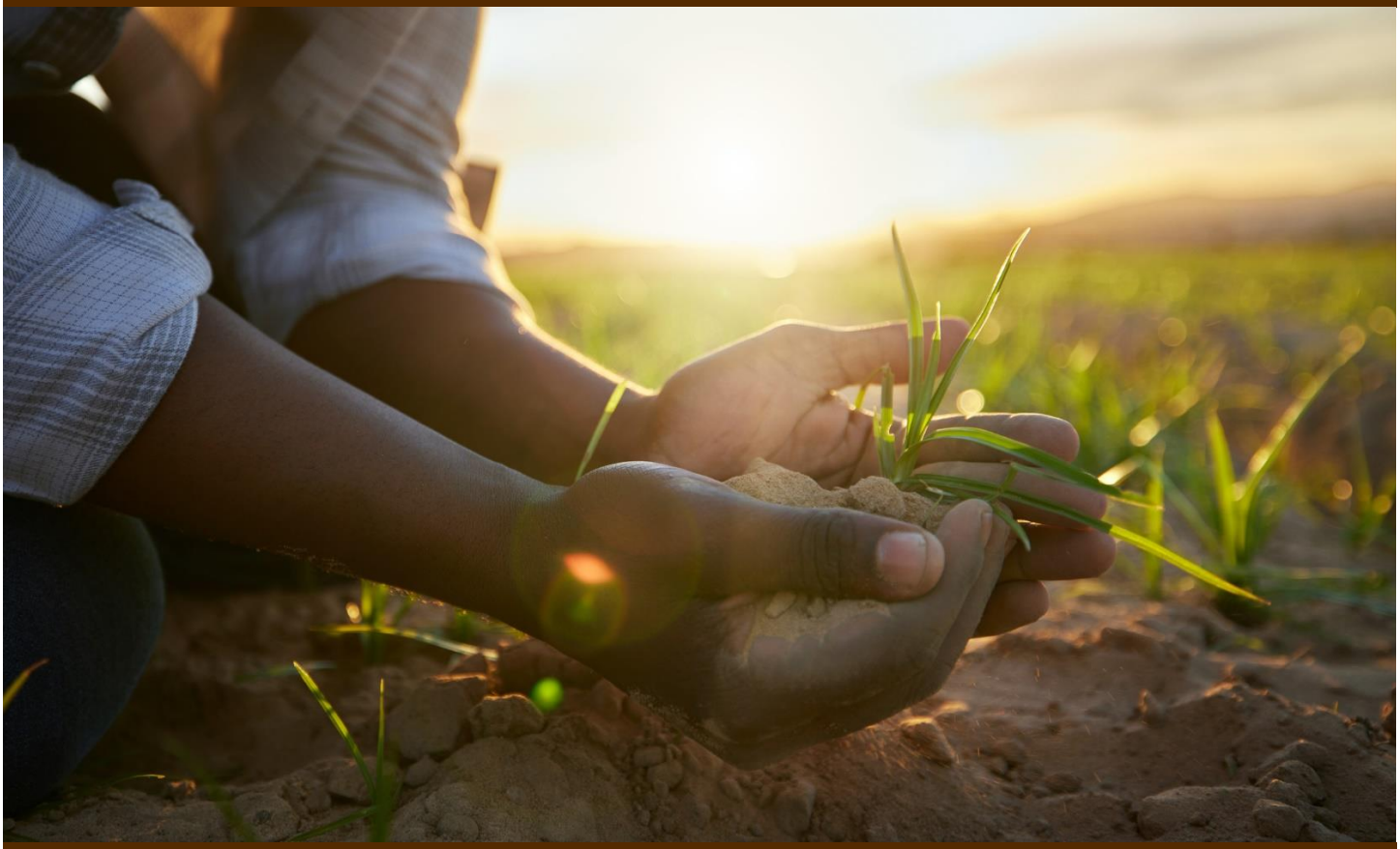
GLOBAL VALUE CHAINS FOR FRESH PRODUCE

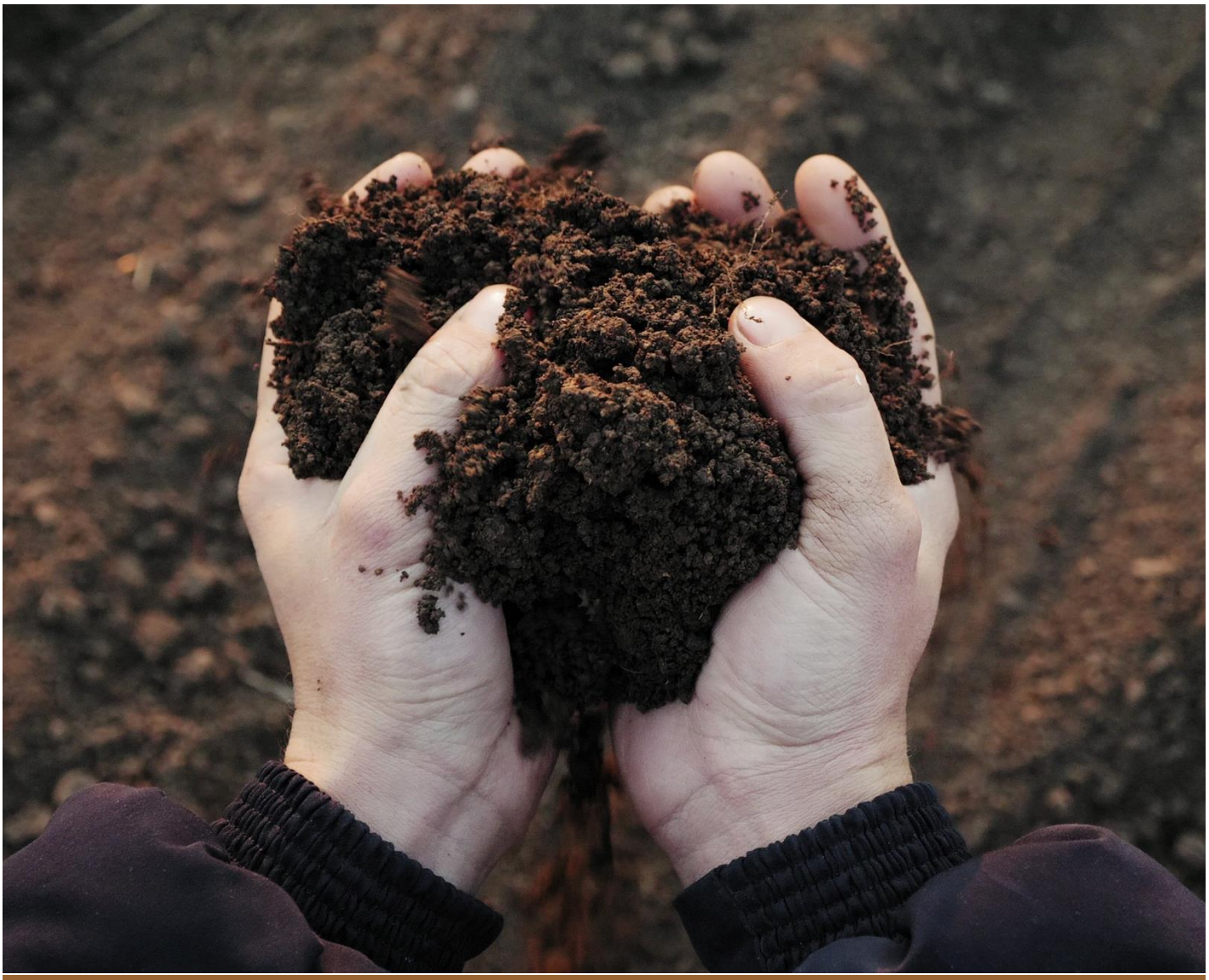
AN URGENT CALL FOR POLICY MEASURES

GLOBAL COALITION OF FRESH PRODUCE

www.producecoalition.net
info@producecoalition.net

JANUARY 2023





WHO WE ARE…

The Global Coalition of Fresh Produce brings together fresh produce associations from around the world, based on their joint vision to create resilient global value chains for fruits and vegetables that bring a myriad of economic, environmental, and societal benefits. The Coalition's mission is to voice solutions to address disruptions in global supply chains for fresh produce, including – but not limited to – rising costs, and share and promote best practices.

Table of contents

Fruits and vegetables as a priority *4*
Fruits and vegetables are an essential element of the shift towards healthy and sustainable diets 4
The fresh produce sector is a cornerstone of economic development worldwide 5
Fresh produce operators are facing unprecedented challenges 6
Rising costs and limited availability of inputs 6
Logistics: rising costs and inefficiencies 8
Labour shortages 10
Dwindling consumer purchasing power 11
Barriers to international trade in fruits and vegetables 11
Threats to economic stability and food security, and increased levels of food loss and waste 13
Urgent policy actions are required 14

Fruits and vegetables as a priority…

This report argues that fruits and vegetables are a critical element of the shift towards healthy and sustainable diets, as well as an engine of economic growth and job creation the world over. However, a number of challenges, including substantial increases in costs, inefficiencies and delays in transportation and labour shortages, among other factors, threaten the long-term economic viability of the fresh produce sector worldwide, and thereby economic stability, food security and food safety, and health. In addition, these challenges may result in increased levels of food loss and waste. This report calls upon national and international policymakers to urgently implement a number of measures to safeguard the supply of affordable and safe fresh fruits and vegetables to consumers worldwide and ensure the viability of a sector that is an important contributor to the economies of developed and developing countries alike.

Fruits and vegetables are an essential element of the shift towards healthy and sustainable diets …

Shifting dietary habits to include more plant-based foods and limiting the intake of animal-sourced foods has been identified as a win–win strategy to halt the rise in diet-related diseases such as diabetes, heart disease, some cancers and obesity, while at the same time mitigating the impacts of global food systems on the environment.[i]

Indeed, it has been firmly established that foods that, from a health perspective, should constitute the largest part of our diets (i.e. fruits and vegetables, and whole grains) have the lowest environmental footprint, and vice versa: foods that should be included in very modest quantities in our diets, such as red meats, fish and cheese, have the largest impact on the environment.[ii] The micronutrients and fibers provided by fruits and vegetables, in particular, are essential for health, while their production has a lower environmental footprint than other foods.[iii]

Fresh produce is an **essential part of healthy diets**. A diet rich in vegetables and fruits can lower blood pressure, reduce the risk of heart disease and stroke, prevent some types of cancer, lower risk of eye and digestive problems, and have a positive effect upon blood sugar, which can help keep appetite in check.[iv] It comes as no surprise that the first recommendation of the British Nutrition Foundation's healthy eating guidelines is: "Fruits and vegetables – just eat more". The Foundation recommends eating at least five portions of a wide variety of fruits and vegetables a day.[v] Likewise, the World Health Organization recommends that adults consume 400 g of fruits and vegetables every day. Despite this clear message, the intake of fruits and vegetables remains far below these recommendations in both high-and low-income countries. Poor diets remain a primary cause of malnutrition and the leading cause of disease worldwide, and it is estimated that globally, improving diets – and especially increasing the intake of fruits and vegetables – could save one in five lives annually.[vi]

Fruits and vegetables are not only good for health: they also have a much **lower environmental footprint** than other foods, primarily in terms of greenhouse gas emissions and land and water use. Greenhouse gas emissions per kilogram of fruits or vegetables produced are much lower than those of other food products, and especially animal-based foods. The largest meta-analysis of global food systems to date, published in *Science* in 2018, found that emissions from plant-based products are 10 to 50 times lower than those from meat or dairy products. For example, the production of one kilogram of citrus fruits results in the emission of 0.4 kg CO_2 equivalents and that of one kilogram of bananas in 0.9 kg CO_2 equivalents, while producing a kilogram of beef emits 99.5 kilograms of greenhouse gases, or a kilogram of cheese 23.9 kilograms. Growing fruits and vegetables also requires less agricultural land than producing other types of foods, including animal products and cereal crops. While the production of one kilogram of beef requires 326.21 m² of land and that of one kilogram of cheese 87.79 m² of land, producing bananas or apples, for example, occupies only 1.93 m^2 and 0.63 m^2, respectively. In addition, producing fruits and vegetables requires less water than animal-based foods: it takes 1 796 liters of water to produce one kilogram of pork meat, but only 180 liters for one kilogram of apples and 14 liters for one kilogram of onions or leeks, for example. In summary, the environmental footprint of our diets can be significantly reduced by eating more fruits and vegetables, and less animal-based foods.[vii]

The fresh produce sector is a cornerstone of economic development worldwide

Fruits and vegetables are not only a crucial element of the shift towards healthy, sustainable diets; the fruit and vegetable industry is also an **engine of economic growth and job creation worldwide**. As the fruit and vegetable industry is more labour-intensive than other industries, it offers many employment and income opportunities for workers and entrepreneurs along the supply chain. The relatively high value of fruits and vegetables and the potential for innovation along the supply chain open opportunities for young people to become involved in production and other aspects of the value chain.[viii]

The fruit and vegetable sector is playing an increasingly important role in many **developing countries** due to its economic potential and its relevance for food security. The sector has great potential as an engine for the employment and empowerment of both women and youth; it is increasingly recognized that the participation of these two groups is crucial to effective and sustainable economic development. Benefits from horticultural development include improved nutrition for children and families, more job opportunities and increased income for smallholder farmers (including women, who are often the main primary producers). Thus, the development of the fruits and vegetables sector in developing countries has a positive impact on the food and nutrition security of both the people engaged in the sector and of urban and rural consumers.[ix]

Fresh produce operators are facing unprecedented challenges

The COVID-19 global pandemic created unprecedented economic and logistical challenges for supply chains around the world, including that of fresh fruits and vegetables. Our sector made great efforts to find solutions to mitigate the impact of the outbreak and guarantee consumers' access to safe, healthy and nutritious products.

However, almost three years since the start of the pandemic, substantial increases in costs, inefficiencies and delays in transportation, and labour shortages, among other factors, threaten the long-term economic viability of the fresh produce sector worldwide, and thereby economic stability, food security and food safety.

Although our sector has so far shown great resilience, it is becoming increasingly difficult for operators to adapt and invest when profit margins are being eroded. Ultimately, rising costs cannot be borne entirely by the industry, and will be passed on to consumers in the form of higher prices and/or reduced supplies, affecting those who can least afford it, most.

Rising costs and limited availability of inputs

From fertilizers to crop protection products, building materials, pallets and cardboard, the fresh produce sector is experiencing **major shortages and soaring costs of inputs**. Inconsistent deliveries and shortages of fertilizers and crop protection products are affecting the production of fresh fruits and vegetables and jeopardizing the next growing cycles. Industry sources indicate that the rising costs of inputs are pushing growers closer towards bankruptcy, threatening the continuity of the supply of affordable fresh produce to consumers. Indeed, while the problem of rising costs and limited availability of inputs has recently started to abate, it is far from over, and its impacts will be felt for months, if not years, to come.

Since the second half of 2021, there has also been a **sharp hike in energy prices** worldwide. The post-COVID economic recovery and disruptions in the supply of gas from Russia have sent gas prices skyrocketing, thereby causing a steep increase in electricity prices. These surging energy costs are affecting operators along the value chain.

+100% YoY Crop protection products (North America, 2021)	€4(2021) → €16(2022) Cost of a wood pallet (Europe)	+350% YoY Wood packaging incl. pallets (North America, 2021)

In 2021, across North America, lumber shortages resulted in a hike in wood prices, resulting in a pallet shortage that lasted for several months. In certain cases, growers' inability to obtain pallets resulted in crops going unharvested. Meanwhile, a significant rise in the price of paper pulp resulted in a massive increase in the price of cardboard boxes, the primary shipping container for fresh produce. Among the factors causing these price hikes are exceptional demand, increased labour costs and labour shortages, and rising costs of transportation.

The cost of pallets (and to some extent of cardboard) has also risen in Europe, mainly as a result of the current geopolitical situation (a large part of the wood used for packaging in the region is produced in Belarus, Ukraine and Russia), as well as to the increased demand for wood packaging resulting from a shift away from plastic packaging.

8 months

delay in receiving greenhouse building materials (Canada, 2022)

The lead time and costs of fertilizers and crop protection products have increased considerably in recent years, with certain fertilizers being simply unavailable. These shortages are expected to extend into the next growing seasons.

Greenhouse growers are reporting lengthy delays in receiving critical building materials, posing a major barrier to preparations for the next growing seasons.

+ 150–300% YoY

Fertilizers
(United States of America, 2021)

70% of operators in sub-Saharan Africa:

+ 10% or more

YoY input costs
(2021)

30% of operators in sub-Saharan Africa:

+ 30–50%

YoY input costs (2021)*

** according to a survey conducted by COLEAD among its members in sub-Saharan Africa in 2021*

70% of fresh fruit exporters in the Southern Hemisphere struggled with rising costs of inputs and services*

** according to a survey conducted by SHAFFE in January 2022*

Fresh produce operators in **Africa** are particularly vulnerable to the impacts of rising input costs as they rely heavily on imported agricultural inputs, including energy. Rising input prices will inevitably translate into higher food prices, which will disproportionately impact consumers in developing countries, leading to growing hunger and malnutrition. Small-scale farmers, who produce a large share of the region's food, are already struggling with food insecurity. Rising food prices can also reduce the amount of money available for other essential expenses, such as health care and education. Curtailing such expenditures can send vulnerable communities into a vicious cycle of food insecurity and poverty from which it can be difficult to escape.

Logistics: rising costs and inefficiencies

Fresh produce operators need reliable and resilient transportation networks to procure inputs and move fruits and vegetables from the farm to the table. Fresh fruits and vegetables have a short shelf life and require refrigeration, and are therefore highly vulnerable to product loss due to disruptions in the supply chain.

Rising costs and shortages and delays in the supply of shipping services, resulting *inter alia* from inopportune practices of carriers and terminals, port congestion and labour shortages, have led to major economic losses and are currently threatening the economic viability of fresh produce operators the world over.

When disruptions in the flow of fruits and vegetables arise, a string of new costs follows, including the costs of the additional labour needed to repackage and salvage product, penalties for missed appointments in distribution centres, fees charged by carriers for detention and demurrage, and penalties for unfilled orders charged by upstream distributors.

- Estimates by the Coalition indicate that over the past year, the price of shipping containers increased by up to 400 percent, while the costs of truck transportation rose by a minimum of 20 percent and those of airfreight by 80 percent globally.
- The expansion of global trade over the past two years has boosted the demand for shipping containers, with exporters of fruits and vegetables often struggling to obtain container shipping services. Indeed, due to the highly perishable nature of our commodities, only a limited number of carrier companies accept fresh produce shipments.
- The shortage of shipping containers is exacerbated by the fact that since 2020, carriers have repeatedly found it more lucrative to return containers from North America to Asia empty, rather than waiting for agricultural exports to be loaded. This has led to a significant decline in the number of containers available to exporters of fruits and vegetables globally.
- Crippling port congestion across all major North American ports has resulted in lines of ships waiting to unload. In July 2022, a record number of ships were waiting to get into a North American port, the majority off East and Gulf Coast ports.
- Exports of fresh produce are being hampered by certain carrier and terminal practices, including ignoring existing demurrage and detention guidelines, making containers unavailable for agricultural cargo, a persistent lack of timely notice of changes to shippers, and the cancelling – and rebooking at a higher rate – of container bookings.
- This situation is exacerbated by a lack of digital integration among the various actors in the supply chain, including carriers, port authorities, port services providers, trucking and railroad firms, warehousing and forwarding firms, importers and exporters. This lack of communication leads to compounded delays and increased costs.
- The number of court cases concerning damages caused by inefficiencies in logistics is growing. In 2022, congestion in the port of Philadelphia resulted in a delay in the fumigation of table grapes imported from Chile, causing damages worth USD 120 million in product loss and demurrage charges. While the port authorities and the carrier were aware of the congestion, they failed to notify the exporter, which could have allowed a change of the port of entry.
- There are no signs that the current difficulties in marine shipping will abate any time soon. Indeed, higher costs and port congestion are expected to continue at current levels until 2023, while the ongoing space crunch out of both Asia and Europe is accelerating the pace of contract negotiations for container space.
- Road transportation is also suffering major disruptions, mainly because of increased fuel costs and a lack of drivers. Several smaller transport operators have already gone out of business, resulting in a reduction in the supply of transportation services that is further exacerbated by the fact that trucks are being moved empty to avoid delays, as well as by the growing demand for road transport from online retailers.

- Respondents to a recent survey on logistic disruptions by COLEAD identified the following major concerns, in order of importance: cancellations, delays and disrespect of schedules; increased costs of sea, air and road freight; increased cost of fuel; and reduced availability of sea and air freight.

+ USD 3.8 billion **+ 150%** Added costs of container shipping (Southern Hemisphere, 2022)	**CAD 3 000 (pre-Covid) to CAD 18 000, and even CAD 25 000** Price per container (Canada, 2022)	**+ EUR 4 billion** Added costs of logistics throughout the supply chain (European Union, 2022)
+ 40–60% YoY Trucking costs (United States of America, 2021)	**+ 100–500% YoY** Costs of marine freight (United States of America, 2021)	**+ 15% YoY** Costs of air freight (United States of America, 2021)
86% of COLEAD members feel that their economic viability is threatened by the current disruptions in logistics* ** according to a survey conducted by COLEAD in 2021*		96% of fresh fruit exporters in the Southern Hemisphere identified logistic delays and container shortages as a major business challenge (2022)* ** according to a survey conducted by SHAFFE in January 2022*

Labour shortages

Every stage of the production of fresh produce, from planting to harvesting and post-harvesting operations, requires substantial labour inputs. Farm labour is physically demanding, and jobs can be unattractive due to the seasonal variability of hours worked and the relatively low wages. Meanwhile, truck driving jobs are unpopular due to the hard nature of the job, long working hours, extended time away from family, and low pay for entry-level drivers in comparison to other industries.

Securing sufficient numbers of hired workers has constituted a significant challenge for producers of fruits and vegetables in developed economies in recent years. The **significant labour shortages in the fresh produce industry** extend across the entire supply chain; they are impacting everything from planting and harvesting to packing, transportation, retail and food services. The shortage of labour reduces output and leads to higher prices for fruits and vegetables; it threatens the viability of operations and undermines the resilience of the supply chain.

- In the United States of America, there have been instances of fresh produce that couldn't be delivered because the labour wasn't there on the trucking side, or even on the side of retailers.
- The fresh produce industry in New Zealand is facing a serious problem of labour shortages all throughout the supply chain. In 2022, shortages were at their worst during the height of the harvest season, when growers were faced with an insufficient workforce to tend to orchards and harvest crops. Not enough young people are choosing horticulture as a career option.
- A 2021 industry survey in Canada found that labour shortages are impacting business decisions, opportunities and business development. The numbers are concerning: 31 percent of respondents stated that their productivity was impacted, 20 percent saw their sales and profitability decrease, 17 percent had limited access to products and inventory, and 12 percent stated that labour shortages hampered the development of new business development.
- In Europe, producers of fruits and vegetables are increasingly faced with labour shortages as agricultural jobs are considered unattractive, rural populations are shrinking and seasonal workers are becoming harder to find (for example in Poland, where growers relied heavily on seasonal workers from Ukraine).
- The scarcity of commercial truck drivers is especially pronounced in the fresh produce industry as drivers opt to take on less urgent, non-refrigerated loads, rather than urgent, time-sensitive and temperature-controlled fresh produce loads.

92% of growers, 75% of wholesalers and 100% of retailers are facing labour shortages (Canada, 2021)	10 000 unfilled vacancies for fresh produce workers (New Zealand, 2022)	82% of fresh produce operators see labour shortages as a major challenge (United States of America, 2021, up from 30% in 2020)
18 000 unfilled vacancies for truck drivers, causing logistic challenges for 72% of employers (Canada, 2021)		82 000 unfilled vacancies for truck drivers (United States of America, 2021)

Dwindling consumer purchasing power

The world over, consumers are seeing their purchasing power reduced as they spend more on heating, electricity and transportation. **Cash-strapped consumers in both developed and developing countries will seek out cheaper, more calorie-dense foods**, which possibly means less healthy foods. Indeed, the cheapest sources of calories are often oil/fats and sugar, followed by starchy staples, which compete with fruits and vegetables purchases.[x] There is opportunity to encourage the consumption of nutrient- and calorie-dense vegetables such as root and tuber vegetables. Unfortunately, a dietary shift away from fresh produce is likely to worsen health outcomes in the long term.

A reduction in consumer expenditures on fruits and vegetables is not only expected to lead to a deterioration in diets worldwide; it may also hamper the sustainable development of **developing countries**. Indeed, the decrease in the purchasing power of consumers in developed countries is likely to result in the shrinking of export markets for fruits and vegetables from developing countries. This in turn will lead to a cut in export revenues, negatively affect investment and possibly cause a slump in overall economic growth, pushing people into poverty and threatening food security. In addition, there is a risk that exporters in developing countries will start looking for easier market outlets with lower social and environmental standards, which would have long-term negative effects on the economies, societies and environment of these countries.[xi]

Obstacles to international trade in fruits and vegetables

International trade in fruits and vegetables ensures that a wide variety of produce is available to consumers year-round and reduces the risk of supply chain interruptions. Meanwhile, fresh produce exports are a critical source of income for many producers and an engine of economic activity worldwide; they generate important foreign exchange and are a major driving force for sustainable development in many low- and middle-income countries.

However, opportunities for exports may be restricted, for example as a result of **undue sanitary, phytosanitary (SPS) or other non-tariff barriers imposed by governments** on imports of fresh fruits and vegetables into their territories. Undue non-tariff barriers often lack a scientific or risk basis, and can pose a serious threat to exports of fruits and vegetables. On the other hand, import requirements based on up-to-date scientific findings, thorough risk assessment and justified health and environmental concerns can improve societal and environmental outcomes in exporting countries, and thus promote sustainable development.

- Exporters of fruits and vegetables from New Zealand report that biosecurity concerns are being used by importing countries in order to deny market access, when the pest or disease serving as the reason for banning New Zealand produce from entering is already present in the importing country.
- Nearly three quarters of fruit exporters in the Southern Hemisphere state that phytosanitary import requirements constitute a major challenge for their businesses. Over one third struggle with maximum residue levels for plant protection products allowed in import markets, while nearly one quarter see food safety requirements as an important challenge.
- Nearly 40 percent of fruit exporters in the Southern Hemisphere argue that protectionism in importing countries is hindering their operations.
- The 2022 National Trade Estimate of the U.S. Government reports a number of barriers that restrict U.S. agricultural exports to a number of countries, including (1) opaque and burdensome facility registration requirements; (2) SPS measures that are not based on science, are maintained without sufficient scientific evidence, or are applied beyond the extent necessary to address SPS issues; and (3) import licensing requirements and non-transparent import licensing administration. In its most recent report to Congress, the U.S. Department of Agriculture cites 66 different trade barriers in 26 countries for produce in particular.

Suppliers are also increasingly required to obtain **private certification against business, social, environmental and ethical standards**, reflecting the evolution in societal concerns. Compliance with these private standards can benefit producers and the wider society through, for example, increased business efficiency, improved health conditions for workers, better labour relations, improved relations with the local community and better management of natural resources. However, complying with multiple private standards requires substantial capital, time and skills, and thus imposes additional costs on fresh produce operators – costs that are not reflected in the price of fruits and vegetables. This problem is particularly acute for fresh produce producers and exporters in developing countries, who often lack the infrastructure and public support needed to ensure compliance. As a result, these operators risk being excluded from high-value markets.[xii]

Threats to economic stability and food security, and increased levels of food loss and waste

There is a genuine risk that the compound challenges of rising costs, inefficiencies in logistics and labour shortages will result in a **reduction in the quantities of fresh produce offered to consumers**, pushing retail prices even higher.

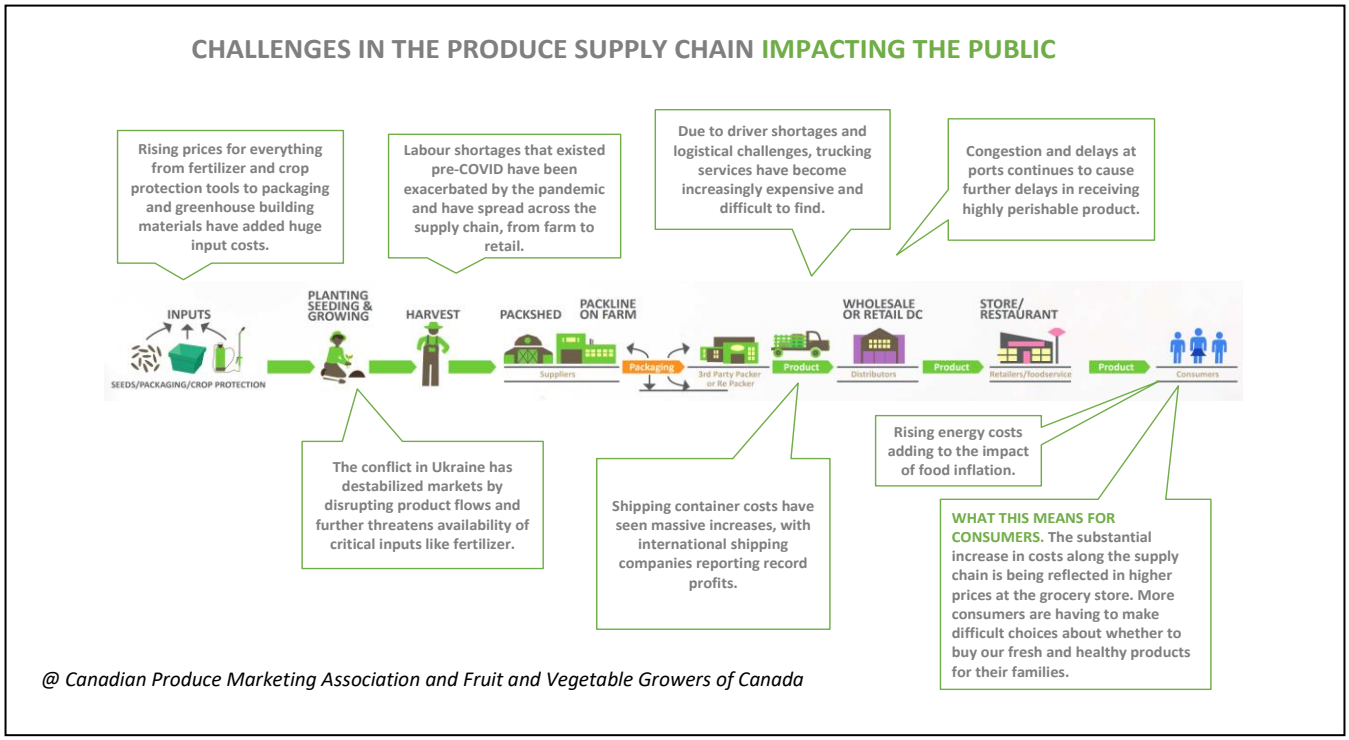
Indeed, a considerable number of growers may be **forced out of business** as a result of the surge in production costs, while those who survive may be unable to maintain production volumes as they find it harder to find fertilizers, crop protection products and other inputs. This risk is particularly acute for family farmers, estimated to produce around one third of the world's food.[xiii] In Latin America, for example, the rise in the costs and limited availability of agricultural inputs following the COVID-19 pandemic is expected to limit the supply of food products from family farmers.[xiv]

Shortages of shipping containers and refrigerated boxes for the transportation of perishable goods endanger the **consistency of supplies** of imported fruits and vegetables. Meanwhile, tight capacity and labour constraints in the trucking industry are leading to inconsistent overland deliveries.

Delays and disruptions in shipping, as well as any failures in temperature control during storage and transportation resulting from excessive energy prices, impact the freshness of our highly perishable products, resulting in higher levels of **food loss and waste**. Such an outcome – which has a greater impact on low-income countries – is socially and environmentally unsustainable.

Rising prices and reduced supplies of fruits and vegetables will **negatively impact diets** the world over. Indeed, to keep their food expenses in check, people will increasingly rely on low-cost staple foods or turn to unhealthy calories, such as those from soft drinks. In the long term, the deterioration of diets will worsen health outcomes and lead to increased pressures on public health care systems the world over. In addition, the economic difficulties faced by fresh produce exporters in developing countries counter the impact of efforts towards **poverty reduction** and threaten the livelihoods of millions of families.

The figure below sums it all up.



@ Canadian Produce Marketing Association and Fruit and Vegetable Growers of Canada

Urgent policy actions are required

We urge policymakers worldwide to implement swift measures to safeguard the supply of affordable and safe fruits and vegetables to consumers and ensure the viability of a sector that is an important contributor to national economies and part of the solution to climate change.

First, governments should **recognize fruits and vegetables as essential goods**. Once it has been firmly and formally established that fruits and vegetables are fundamental to the well-being and health of populations and an essential element in the shift towards more sustainable food systems, other measures can be unlocked to ensure their consistent supply.

PRODUCTION

- To help operators shoulder the burden of increased energy bills, governments should **provide financial support** targeted specifically towards the fresh produce sector. In addition, financial support should be given to growers and packers of fruits and vegetables to help them invest in the production of renewable energy for their own needs and to inject into the grid. As providers of essential goods, producers, packers and traders of fruits and vegetables should be exempt from mandatory cuts in energy consumption levels.
- Governments should work towards the **development of safe and good-paying jobs** in the fresh produce industry, and encourage young people to pursue careers in the sector. They should also promote transportation occupations, and particularly commercial truck driving, as a career of choice. Strategies to educate the workforce and create rewarding jobs give people opportunities for advancement while boosting the overall economy.
- We also urge national and international policymakers to promote the **harmonization and equivalence of private standards**, both domestically and internationally, to avoid the multiplication of costly certificates for growers and other operators and ensure their continued access to buyers. In addition, support should be provided to operators in developing countries to help them comply with (business, social, environmental and ethical) private standards and guarantee their access to high-value markets.

LOGISTICS

- Regulatory levers must be used to **ensure undisrupted and priority access** for fresh fruit and vegetables to all **transportation networks**, including rail, road and air transportation.
- Governments should promote the **development of innovative, efficient and sustainable ways of moving goods** inland, via roads, railways and inland waterways. Multimodal, coherent transportation solutions are necessary to ensure the swift conveyance of our highly perishable products. For example, the use of different types of railway tracks currently causes unnecessary and time-consuming on- and offloading of goods before they can travel on to their final destination.
- To resolve difficulties in logistics and safeguard the smooth flow of fruits and vegetables across borders, **priority lanes should be created** to ensure quick offloading and transit in seaports and other points of arrival. In all points of entry, by sea or over land, priority lanes should ensure quick customs checks and reduced transit times.
- We urge policymakers to **investigate** – in collaboration with all stakeholders in the supply chain for fruits and vegetables – **the causes of inefficiencies at seaports**, and **implement measures to minimize bottlenecks and improve operational practices** to ensure the seamless movement of fresh produce.
- Harmful practices by international ocean carriers are contributing to supply chain disfunctions, thus creating additional costs for fresh produce traders and preventing them from capturing export and import opportunities. Governments must work together to **provide greater oversight of international ocean carriers** and ensure fair and ethical practices to support the continued flow of goods.

- The fragmentation of data and lack of communication between traders, carriers and port authorities prevents the optimization of logistics, increases costs and lengthens delays. **All nodes in the supply chain should be digitally connected and integrated** to ensure real-time data sharing and thus improve the efficiency of trade flows.

TRADE

- We urge governments to work towards the **harmonization and mutual recognition of sanitary, phytosanitary and other market entry requirements** to enable operators to seize export and import opportunities. Indeed, there is a risk that governments impose import requirements without a scientific or risk basis, for example to shield domestic producers from international competition. We therefore urge national governments and intergovernmental organizations to ensure that all standards imposed upon imported fruits and vegetables are based on thorough risk-assessment and scientific principles and evidence that protect human and plant life or health, without unnecessarily restricting or impacting trade – in line with the provisions of the agreements of the World Trade Organization (including the Agreement on the Application of Sanitary and Phytosanitary Measures and the Trade Facilitation Agreement). All requirements should be proportionate and non-discriminatory; wherever possible, they should be based on harmonized international standards, guidelines and recommendations. The negotiation of bilateral export protocols should be conducted in a transparent way, and the repetition of assessments (for different countries, products and even varieties) should be avoided to limit administrative and financial burdens for national administrations and sector organizations. Furthermore, the adoption of electronic certification for phytosanitary and sanitary import and export certificates should be accelerated.

SALES AND PROMOTION

- Aggressive promotional price cuts in supermarkets and other retail outlets are not a solution. Such strategies reduce the already very tight margins for growers and distributors and thus further undermine the economic sustainability of fresh produce operations. Ultimately, they endanger the supply of abundant, safe and affordable fruits and vegetables to consumers. We therefore call upon policymakers to embed a shared responsibility mechanism in their countries' regulatory frameworks to **ensure that prices of fruits and vegetables reflect the real costs of producing and supplying fresh produce**, including those resulting from exogenous impacts and from efforts towards sustainability implemented by operators. Indeed, such costs should not be borne solely by producers, but by all actors of the value chain, including retailers and consumers.
- To improve the accessibility of fruits and vegetables for consumers, governments should **promote the consumption of fruits and vegetables**. There is no debate that fruit and vegetable consumption would increase if governments subsidized it. Indeed, according to the World Health Organization, targeted subsidies on fruit and vegetables are one of the policy options with the "greatest potential to induce positive changes in consumption".[xvi] A study by the US National Institutes of Health published in 2017 argued that a 10 percent produce subsidy would prevent or delay over five times more cardiovascular deaths than a mass media campaign to promote healthy eating or a 10 percent soda tax.[xvii] Meanwhile, researchers at the University of Warwick have recently argued for a subsidy for fruit and vegetables of 25 percent to increase consumption and make diets healthier. The annual costs of this subsidy are estimated at less than one tenth of the costs of obesity to wider society.[xviii] The need to ensure the affordability of fresh fruits and vegetables is all the more pressing in the current context of diminishing consumer purchasing power. One of the most tax-efficient ways to subsidize fruits and vegetables is to lower the value added tax. We therefore urge national and international governments to **include fresh produce in the list of goods that are exempted from value added tax**.

- While almost all countries make dietary recommendations that include fruit and vegetables, most of us eat far less fruit and vegetables than the minimum total of 400 g recommended by the World Health Organization. One of the factors that explain why people do not eat enough fruits and vegetables is a lack of awareness of their value for health and nutrition. We therefore urge policymakers to **step up educational and information campaigns** highlighting the importance of fruits and vegetables as part of a healthy diet. Schools should be an important part of such campaigns: nutritional messages should encourage children to adopt healthy eating habits early in life, while **more fruits and vegetables should be offered through school feeding programs**. Ultimately, such investments pay off in the form of the acquisition of healthy eating habits for children, new market opportunities for fresh produce operators, and the reduction of pressure on public health systems. It is estimated that in the United States of America, every dollar spent on healthy school meals generates two dollars in human health and economic benefits.[xix]

This document clearly demonstrates the complexity, interconnectedness and dependencies of the supply chain for fruits and vegetables and the challenges we face. Governments should work urgently with all operators in the supply chain to mitigate the serious threats of economic instability and food insecurity. Unless effective measures are implemented urgently, the current challenges facing the sector will have long-lasting impacts on economies – and consumers – the world over, including bankruptcies, legal disputes, food inflation, food shortages and more. The **Global Coalition of Fresh Produce** is ready to engage with national and international policymakers to jointly develop strategies to create resilient and secure global value chains for fruits and vegetables that reliably deliver safe and affordable products to consumers worldwide. Multilateral and international dialogue, which fosters trust and cooperation among countries and operators, should be the foundation of any efforts towards building a more efficient global trading system and ensure sustainable economic and social development worldwide.

[i] **FAO & WHO.** 2019. *Sustainable healthy diets. Guiding principles*. Rome, FAO and Geneva, WHO. www.fao.org/3/ca6640en/ca6640en.pdf
[ii] See for example:
Barilla Foundation. 2022. Double pyramid. In: *Fondazione Barilla*. Parma, Italy. Cited 13 December 2022. www.fondazionebarilla.com/en/double-pyramid/
Willett, W., Rockstrom, J., Loken, B., Springmann, M., Lang, T., Vermeulen, S., Garnett, T. et al. 2019. Food in the Anthropocene: the EAT-Lancet Commission on healthy diets from sustainable food systems. *The Lancet*, 393(10170): 447–492.
FAO and Food Climate Research Network. 2016. *Plates, pyramids, planet. Developments in national healthy and sustainable dietary guidelines: a state of play assessment*. Rome, FAO and Oxford, UK, Food Climate Research Network. www.fao.org/3/i5640e/I5640E.pdf
[iii] **Hendriks, S., Ruiz, A., Herrero Acosta, M., Baumers, H., Galgani, P., Mason-D'Croz, D., Godde, C. *et al***. 2021. *The true cost and true price of food. A paper from the Scientific Group of the UN Food Systems Summit*. Rome. https://sc-fss2021.org/wp-content/uploads/2021/06/UNFSS_true_cost_of_food.pdf
[iv] **Harvard T.H. Chan School of Public Health**. What should I eat? In: *The Nutrition Source*. Boston, USA. Cited 14 November 2022. www.hsph.harvard.edu/nutritionsource/what-should-you-eat/vegetables
[v] **British Nutrition Foundation**. 2022. A healthy, balanced diet. In: *Healthy, sustainable diets*. London. Cited 14 November 2022. www.nutrition.org.uk/healthy-sustainable-diets/healthy-and-sustainable-diets/a-healthy-balanced-diet/?level=Consumer
[vi] **International Food Policy Research Institute**. Improving fruit and vegetable consumption will require a holistic approach. In: *IFPRI blogs*. Washington, DC. Cited 14 November 2022. www.ifpri.org/blog/improving-fruit-and-vegetable-consumption-will-require-holistic-approach
[vii] **Poore, J. & Nemecek, T**. 2018. Reducing food's environmental impacts through producers and consumers. *Science*, 360(6392): 987–992.
[viii] **FAO.** 2021. *Fruit and vegetables – your dietary essentials. Background paper for the International Year of Fruits and Vegetables, 2021*. Rome. www.fao.org/documents/card/en/c/cb2395en
[ix] **Joosten, F., Dijkxhoorn, J, Sertse, Y. & Ruben, R.** 2015. *How does the fruit and vegetable sector contribute to food and nutrition security?* Wageningen, the Netherlands, LEI Wageningen University and Research Centre. https://edepot.wur.nl/348737
[x] **Headey, D.D. & Alderman, H.H.** 2019. The relative caloric prices of healthy and unhealthy foods differ systematically across income levels and continents. *The Journal of Nutrition*, 149(11): 2020–2033.
[xi] **Benton, T., Harwatt, H., King, R., Muzammil, M., Watts, C., Wellesley, L. & Williamson, D.** 2021. How trade with the UK affects food and nutrition security in developing countries. In: *resourcetrade.earth*. London, Chatham House. Cited 13 December 2022. https://resourcetrade.earth/publications/how-trade-with-the-uk-affects-food-and-nutrition-security-in-developing-countries
[xii] **FAO.** 2009. Private standards in international trade: issues and opportunities. Paper presented at the WTO Workshop on Environment-Related Private Standards, Certification and Labelling Requirements, Geneva, 9 July 2009. www.fao.org/fileadmin/templates/est/AG_MARKET_ANALYSIS/Standards/Private_standards___Trade_Liu_WTO_wkshp.pdf
[xiii] **FAO.** 2021. Small family farmers produce a third of the world's food. In: *News*. Rome. Cited 13 December 2022. www.fao.org/news/story/en/item/1395127/icode/
[xiv] **Inter-American Institute for Cooperation on Agriculture.** 2020. *Family farming and agrifood supplies in Latin America and the Caribbean amidst the COVID-19 pandemic*. San José, Costa Rica. https://iica.int/sites/default/files/2020-07/Family%20farming%20and%20agrifood%20supplies%20in%20Latin%20America%20and%20the%20Caribbean%20amidst%20the%20COVID-19%20pandemic.pdf
[xv] **World Bank.** 2019. The high price of healthy food … and the low price of unhealthy food. In: *World Bank Blogs*. Washington, DC. Cited 11 November 2022. https://blogs.worldbank.org/opendata/high-price-healthy-food-and-low-price-unhealthy-food
[xvi] **World Health Organization.** 2015. *Fiscal policies for diet and prevention of noncommunicable diseases*. Geneva. https://apps.who.int/iris/bitstream/handle/10665/250131/9789241511247-eng.pdf?sequence=1
[xvii] **Pearson-Stuttard, J., Bandosz, P., Rehm, C.D., Penalvo, J., Whitsel, L., Gaziano, T., Conrad, Z., Wilde, P., Micha, R., Lloyd-Williams, F. *et al*.** 2017. Reducing US cardiovascular disease burden and disparities through national and targeted dietary policies: a modelling study. *PLOS Medicine*, 14(6): e1002311.
[xviii] **CAGE Research Centre, University of Warwick.** 2022. Subsidy would improve fruit and veg intake by as much as 15%, new research shows. In: *News.* Warwick, UK. Cited 14 November 2022. https://warwick.ac.uk/fac/soc/economics/research/centres/cage/news/31-03-22-subsidy_would_improve_fruit_and_veg_intake_by_as_much_as_15_new_research_shows/
[xix] **Rockefeller Foundation and Center for Good Food Purchasing.** 2021. *True cost of food: school meals case study*. New York, USA, Rockefeller Foundation and Berkeley, USA, Center for Good Food Purchasing. Cited 14 December 2022. www.rockefellerfoundation.org/wp-content/uploads/2021/11/True-Cost-of-Food-School-Meals-Case-Study-Full-Report-Final.pdf