



An Urgent Call  
for Holistic,  
Harmonized  
Rule- and  
Policymaking  
towards True Sustainability in  
Fresh Produce Value Chains



**Global Coalition of Fresh Produce**

April 2024  
[www.producecoalition.net](http://www.producecoalition.net)  
[info@producecoalition.net](mailto:info@producecoalition.net)



# 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

Executive summary	1
<b>1.</b> Why this paper: balancing the three pillars of sustainability	3
<b>2.</b> The role of fruits and vegetables in truly sustainable societies	4
<b>2.1.</b> The health benefits of fresh produce	4
<b>2.2.</b> The environmental benefits of fruits and vegetables	6
<b>2.3.</b> The economic importance of fruits and vegetables	12
<b>3.</b> Principles-based rule- and policymaking towards increased sustainability in food systems	14
<b>3.1.</b> Holistic, system-based rule- and policymaking	14
<b>3.2.</b> Long-term, outcomes-focused rule- and policymaking	16
<b>3.3.</b> Ensuring fairness	17
<b>3.4.</b> Aligning public and private efforts towards increased sustainability	18
<b>3.5.</b> International harmonization of policies and regulations	19
<i>Principles-based rule- and policymaking towards true sustainability: the example of packaging regulations</i>	20
<i>Principles-based rule- and policymaking towards true sustainability: the example of private sustainability certification schemes</i>	25
<b>4.</b> Recommendations	28
References	30





# Executive summary

This paper underscores the critical importance of integrating environmental, social and economic considerations into policies and regulations that impact the fruits and vegetables industry. It advocates for a holistic approach to sustainability that harmonizes thriving ecosystems, equitable societies and responsible economic development. By outlining key principles for policymakers to adhere to, the paper aims to guide the industry towards achieving comprehensive sustainability objectives.

Governments wield significant influence in shaping the trajectory of the fresh produce industry towards sustainability by setting policies, crafting regulations and allocating resources. It is imperative for policymakers to adopt a comprehensive approach to sustainability, considering all facets of the industry's value chain and the interconnectedness of environmental, social and economic factors.

Fruits and vegetables are foundational to creating sustainable societies, offering health benefits while minimizing environmental harm compared to less nutritious alternatives. Moreover, the industry serves as a catalyst for economic growth, particularly in developing nations where it fosters employment opportunities, contributes towards increased food security and enhances the livelihoods of smallholder farmers.

The fresh produce sector is actively pursuing innovative solutions to enhance sustainability across farming practices, supply chain management, biodiversity preservation and research and development. The members of the Global Coalition of Fresh Produce are supporting these efforts through programmes such as the development of environmental footprint rules for fruits and vegetables (Freshfel Europe), the Vibrant Future Project (International Fresh Produce Association, United States of America), or capacity building in sub-Saharan Africa (COLEAD).

To facilitate genuine sustainability efforts, policymakers should embrace a holistic, forward-looking and equitable approach to rule-making. By fostering collaboration between public and private stakeholders and advocating for international policy alignment, policymakers can drive collective action towards sustainable outcomes.

Case studies, such as the adoption of sustainable produce packaging and the proliferation of sustainability certification schemes, underscore the need for nuanced policy interventions that balance sustainability goals with practical realities. By embracing the principles delineated in this paper, governments can craft effective policies that promote responsible practices within the fruits and vegetables industry.



To establish a conducive policy framework that bolsters genuine sustainability endeavors, policymakers should:

- **Embrace a holistic, systems-based approach to rule- and policymaking:** Policymakers must adopt a comprehensive perspective on products and processes, considering all three dimensions of sustainability (environmental, social and economic). They should acknowledge the interdependence among different stages of the fresh produce supply chain.
- **Adopt a long-term, outcomes-oriented strategy:** Prioritizing long-term objectives that yield enduring sustainability impacts is crucial. Policymakers should allow ample time for affected stakeholders to transition and devise alternative strategies, thereby averting unintended negative consequences.
- **Uphold fairness through objective, science-based and impartial rule formulation:** Policies should steer clear of unjust discrimination between economic sectors or products. Any detrimental effects should be rationalized in light of the desired objective.
- **Foster alignment between public and private sustainability efforts through multi-stakeholder partnerships:** Policymakers ought to leverage the unique expertise and insights of stakeholders in the fresh produce

industry. Building upon existing industry practices and initiatives will ensure synergy and maximize the impact of combined public and private sustainability endeavors.

- **Advocate for the international harmonization of sustainability policies, regulations and standards across regions and nations:** This alignment will streamline global efforts to enhance sustainability in fruits and vegetables value chains. It will also promote consistency in policymaking and rule implementation while facilitating fair trade practices, thereby enhancing the worldwide availability of sustainably produced fruits and vegetables.

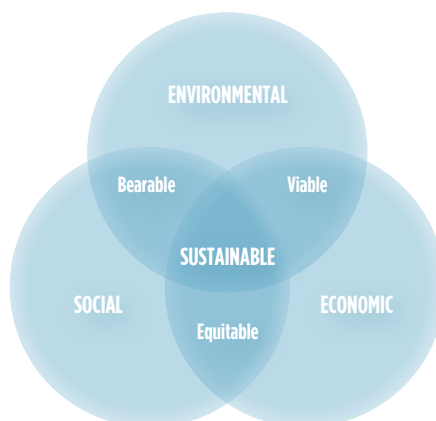
In conclusion, robust sustainability policies and regulations for fresh fruits and vegetables should encompass a multifaceted approach, integrating environmental, social and economic considerations while encouraging international cooperation and standardization. By embracing the principles outlined in this policy paper, governments can craft and enforce policies that advocate for responsible practices while addressing the unique needs and challenges of the sector. This approach will empower the fresh fruit and vegetable industry to play a pivotal role in advancing global sustainability objectives, ensuring the ongoing availability of nutritious produce while mitigating adverse social and environmental effects stemming from its operations.

**The Global Coalition of Fresh Produce calls for continued collaboration, action, and knowledge exchange among industry players, policymakers and stakeholders to leverage the inherent benefits of fresh produce for societal well-being and environmental preservation. By working together, we can ensure the industry's sustained contribution to global sustainability goals while mitigating its negative social and environmental impacts.**



# 1. Why this paper: balancing the three pillars of sustainability

In 1987, the United Nations Brundtland Commission defined sustainability as “meeting the needs of the present without compromising the ability of future generations to meet their own needs”. Since then, environmental degradation and social inequities have become critical global challenges, and the concept of sustainability has gained immense importance. In 2015, world leaders made a historic promise to secure the well-being of everyone on a healthy, thriving planet when they adopted the 2030 Agenda for Sustainable Development and its 17 Sustainable Development Goals (SDGs). The SDGs reflect an understanding that sustainable development requires a harmonious balance between economic growth, environmental preservation and social well-being. This holistic approach recognizes that sustainable, long-term prosperity depends on purposefully balancing the interdependence of these three pillars.



The aim of this paper is to highlight the need to rebalance the three pillars of sustainability in rule – and policymaking worldwide. Oftentimes, sustainability is being interpreted in an overly narrow way, focusing nearly exclusively on environmental sustainability, while the social and economic pillars tend to be overseen. However, true sustainability goes beyond a narrow focus on environmental conservation; it encompasses the interconnectedness of environmental, social and economic dimensions, the so-called “triple bottom line” of sustainability. It is about finding harmony between thriving ecosystems, equitable societies and responsible economic development.





## 2. The role of fruits and vegetables in truly sustainable societies

Fruits and vegetables are an essential element of holistically sustainable societies. Fresh produce is not only a vital component of healthy, environmentally friendly diets; in addition, the fruit and vegetable industry serves as a driving force behind global economic growth and job creation.

It is firmly established that shifting dietary patterns to emphasize fresh fruits and vegetables is a doubly beneficial strategy: this approach not only addresses the surge in diet-related diseases such as diabetes, heart disease, certain cancers and obesity, but also contributes to mitigating the adverse impacts of global food systems on the environment.<sup>i</sup> Indeed, foods considered essential for optimal health (such as fruits, vegetables and whole grains) exhibit a low environmental footprint, particularly in terms of greenhouse gas emissions and land and water use, while those recommended in limited quantities (including red meats, fish and cheese) exert a more significant impact on the environment.<sup>ii</sup>

### 2.1. The health benefits of fresh produce

Fresh produce constitutes a fundamental element of a healthy diet, offering a myriad of benefits. A diet abundant in vegetables and fruits has been associated with lowered blood pressure, reduced risks of heart disease and stroke, prevention of certain cancers, decreased likelihood of eye and digestive issues, and a positive impact on blood sugar levels, contributing to appetite regulation.

The World Health Organization underscores the significance of fresh produce by recommending that adults consume 400 grams of fruits and vegetables daily, reflecting the importance of these nutritional powerhouses. Aligned with this stance, the British Nutrition Foundation's initial recommendation in their healthy eating guidelines is unequivocal: "Fruits and vegetables – just eat more". The Foundation advocates for a daily intake of at least five portions of a diverse range of fruits and vegetables.<sup>iii</sup>





Meanwhile, the new Nordic Nutrition Recommendations, issued in June 2023, for the first time contain scientific recommendations on a diet that is good not only for our health, but also for the environment. In the new edition, the recommendation is to favour an increasingly plant-rich diet, to eat more fish and cut down on red meat. It is recommended to eat between 500 and 800 grams or more of a variety of vegetables, fruits and berries per day.<sup>iv</sup>

Despite these clear directives, the consumption of fruits and vegetables consistently falls below the recommended levels in both high- and low-income countries. In the United States of America, for example, the average diet falls short of federal recommendations. According to the 2020–2025 Dietary Guidelines

for Americans, about 90 percent of the population does not meet the recommendation for vegetables, and 80 percent consumes too little fruit.<sup>v</sup> Meanwhile, the proportion of the Canadian population whose fruit and vegetable consumption was below recommended levels increased from 83 percent in 2015 to 90 percent in 2021.<sup>vi</sup> Insufficient fruit and vegetable intake persists as a primary contributor to malnutrition and stands as one of the foremost causes of diseases globally.<sup>vii,viii</sup> An estimated 3.9 million deaths worldwide were attributable to inadequate fruit and vegetable consumption in 2017.<sup>ix</sup> Insufficient intake of fruit and vegetables is estimated to cause around 14 percent of deaths from gastro-intestinal cancer worldwide, 11 percent of those due to ischemic heart disease and 9 percent of those caused by stroke.<sup>x</sup>

It is estimated that globally, improving diets – and especially increasing the intake of fruits and vegetables – could save one in five lives annually.<sup>xi</sup>





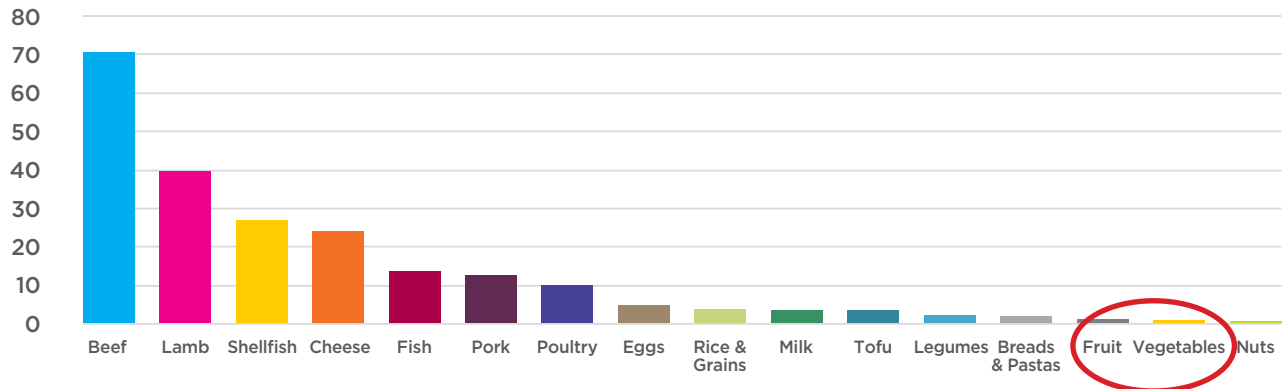
## 2.2. The environmental benefits of fruits and vegetables

Fruits and vegetables, whole grains, beans, peas, nuts and lentils generally use less energy, land, and water, and have lower greenhouse gas intensities than animal-based foods.

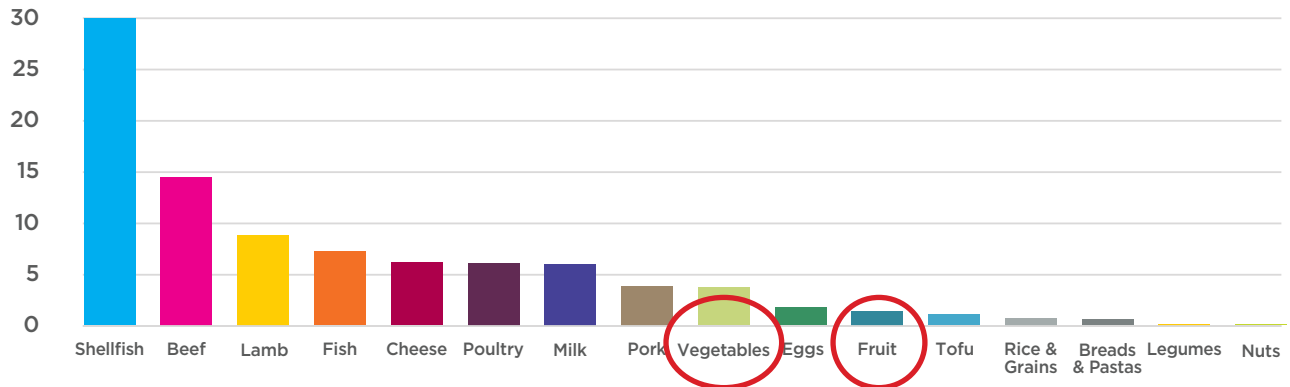
Greenhouse gas emissions per kilogram of fruits or vegetables produced are substantially lower compared to other food products, particularly those derived from animals. Below are two

charts showing the carbon footprint of different food products. Emissions can be compared based on weight (per kilogram of food) or in terms of nutritional units (per 1 000 kilocalories).

**Kilograms of greenhouse gas emissions per kilogram of food**




**Kilograms of greenhouse gas emissions per 1000 kilocalories**



Source: **United Nations**. 2022. Food and climate change: healthy diets for a healthier planet. In: *Climate change* [online]. Cited 20 February 2024. [www.un.org/en/climatechange/science/climate-issues/food](http://www.un.org/en/climatechange/science/climate-issues/food)





A comprehensive meta-analysis, the largest of its kind, published in Science in 2018, revealed that **emissions** from plant-based products are 10 to 50 times lower than those from meat or dairy products. For instance, the production of one kilogram of citrus fruits results in the emission of 0.4 kg CO<sub>2</sub> equivalents, and one kilogram of bananas produces 0.9 kg CO<sub>2</sub> equivalents. In stark contrast, the production of one kilogram of beef emits 99.5 kilograms of greenhouse gases, while a kilogram of cheese contributes 23.9 kg CO<sub>2</sub> equivalents.

Moreover, the cultivation of fruits and vegetables demands significantly less **agricultural land** compared to the production of other foods, including animal products and cereal crops. To illustrate, while one kilogram of beef requires 326.21 m<sup>2</sup> of land, and one kilogram of cheese requires 87.79 m<sup>2</sup>, the production of bananas or apples occupies only 1.93 m<sup>2</sup> and 0.63 m<sup>2</sup>, respectively.

Additionally, the environmental impact is mitigated by the lower **water** requirements of fruit and vegetable production compared to animal-based foods. Producing one kilogram of pork meat, for instance, demands 1 796 liters of water, whereas one kilogram of apples requires only 180 liters, and one kilogram of onions or leeks utilizes a mere 14 liters.

Fruit and vegetables do not only have a small environmental impact and use of resources, but also actively contribute to environmental health, well-functioning ecosystems and sustainable energy solutions. For instance, woody perennial crops, such as fruits and nuts, are powerful sequesterers of carbon. In addition, many fruit growers implement measures to boost and leverage functional biodiversity, while fruit and vegetable farms facilitate electricity generation from, for instance, solar panels.

In summary, the environmental footprint of our diets can be significantly reduced by prioritizing - and promoting - the consumption of fruits and vegetables. The evidence underscores the importance of making informed dietary choices to contribute to environmental sustainability.





## **The global fruit and vegetable industry is firmly committed to increasing the environmental sustainability of its production and distribution operations**

As public awareness of climate change and resource depletion grows, consumers are actively shifting their preferences towards environmentally conscious products. The global fresh fruit and vegetable industry recognizes our collective responsibility in achieving global environmental goals, and has been working to increase the sustainability of farming and distribution practices for decades. Examples of such efforts include the use of reusable and returnable plastic crates, the rotation of crops to reduce nutrient run-off, the use of organic or low-impact chemicals, crop scouting for integrated pest management, etc. The industry is firmly committed to further increasing the sustainability of its farming practices, improving supply chain management, protecting biodiversity, reducing greenhouse gas emissions and stepping up research and innovation. To this end, the industry is actively developing and implementing innovative solutions and technologies, including precision agriculture, agroecology, practices to improve the efficiency of water usage, reducing food waste, eco-friendly packaging, energy-efficient transportation, ethical sourcing, the reduction of carbon emissions, research, etc. Our industry is determined to continue collaborating with stakeholders to identify gaps in current sustainability efforts and develop strategies for improvement.

The Global Coalition of Fresh Produce calls for continued action, collaboration and knowledge sharing between the global fresh fruit and vegetable industry, policymakers and other stakeholders to leverage our products' beneficial attributes for society and the environment.





The following text boxes provide examples of concrete efforts implemented by our members to promote the environmental sustainability of fresh produce operations in Europe, the United States of America, New Zealand and in developing countries in sub-Saharan Africa.

### **Europe: leading the way towards standardized environmental footprint calculations for fruits and vegetables**

Freshfel Europe, a member of the Global Coalition of Fresh Produce and with members spanning the entire fresh fruit and vegetable supply chain in Europe and beyond, has launched the development of *product environmental footprint category rules* (PEFCR) for fruits and vegetables (see <https://freshfel.org/projects/freshfel-environmental-footprint-initiative/>). This endeavour, a response to the European Commission's

PEFCR process, aims to establish a standardized environmental footprint methodology dedicated to fresh produce, enhancing transparency and accountability concerning environmental considerations. The harmonized methodology will not only streamline sector-wide calculations but will also bolster communication within the industry regarding the robust positive environmental benefits of the consumption of fresh produce.

**The Global Coalition of Fresh Produce urgently calls upon decision-makers worldwide to develop and implement, in collaboration with the fresh produce industry, harmonized rules to calculate the environmental footprint of fruits and vegetables, emulating those developed by Freshfel Europe. This would constitute a pivotal step towards advancing verifiable and uniform sustainable practices within the fresh fruit and vegetable sector.**

### **United States of America: promoting climate-smart production practices**

In the United States of America, Global Coalition of Fresh Produce member International Fresh Produce Association is facilitating the *Vibrant Future Project* along with 100 growers, academic institutions and industry member companies. The five-year project, which is financed by the United States Department of Agriculture, will incentivize the participating growers to adopt climate-smart production practices. The project will develop robust tools for the measurement of inputs, outputs, carbon sequestration and yields as well as put in place systems for traceability, verification and marketing of climate-smart commodities. By incentivizing the adoption of climate-smart practices, the project will strengthen the position of fresh fruit and vegetable operators in a marketplace where the environmental, social and governance attributes of food and other products are becoming ever more important to the consumers. For more information on the project, see <https://www.freshproduce.com/resources/sustainability/climate-smart-pilot-project/>.





## Efforts (and obstacles) towards the environmental sustainability of fruit and vegetable operations in developing countries

Like their counterparts in industrialized countries, fruit and vegetable growers in developing countries are aware of the need to continuously improve and transform their food and agricultural systems in reply to climate change, growing pressure on natural resources (especially soil and water) and biodiversity loss. They have been actively developing and implementing measures that will help make their operations more environmentally sustainable. Among these new – and better – farming practices and techniques are precision agriculture (involving, for example, the use of drones or satellite imagery, or of drip irrigation systems) and agroecology (with practices such as fallowing, the use of cover plants, polyculture, soil preservation and composting, calibrated and targeted agronomy, the reduction of the use of synthetic plant protection products, etc.).

COLEAD is an active member of the Global Coalition of Fresh Produce and supports producers in their transition towards increased sustainability, in particular in sub-Saharan Africa. The group designs, manages and implements development programmes in the agricultural sector to contribute to the achievement of the Sustainable Development Goals. The unique strength of COLEAD – a private not-for-profit association – is that it assesses and tackles all three pillars of sustainability through its sustainability charter, its sustainability self-assessment system and its capacity

building (technical assistance and training) activities. Each member and/or beneficiary of a programme managed and implemented by COLEAD is invited to express their commitment to run their operations in a sustainable way by adhering to the principles of this *sustainability charter*. Meanwhile, COLEAD's *Sustainability Self-Assessment System* is a tool designed to facilitate, monitor and evidence the adoption of good practices that will enable producers and micro-, small and medium enterprises to become more sustainable, competitive and resilient. The system has four key objectives:

- to provide a framework for continuous improvement in the application of sustainability good practices, with a particular focus on practices for which there is a strong business case for adoption by growers;
- to facilitate market access by aligning practices with industry sustainability standards (certification schemes and buyers' demands);
- through access to critical data, to act as a business management tool to help companies become more competitive and resilient, with better business planning; and
- to create a framework for COLEAD to plan, deliver and monitor its individual support projects.

To date, over 450 companies have used COLEAD's Sustainability Self-Assessment System.



COLEAD's efforts to support farmers' conversion to organic farming in Ghana and Zimbabwe are two examples of the hundreds of *capacity building* activities carried out by the organization. In Ghana, COLEAD provided tailored support to micro-, small and medium enterprises following a collective e-learning course on organic farming, organized in the framework of the organization's Fit For Market Plus (FFM+) programme, which helps farmers in African, Caribbean and Pacific countries transition to more sustainable agricultural and food systems. In Zimbabwe, the tailor-made support was specifically directed at the value chain for sweet potatoes, with an analysis of the challenges for farmer groups in adhering to the European Union's new organic farming regulations. The results of this exercise informed farmers' decisions as to the time and investments required to enter the European market with organic sweet potatoes. In Ghana, support is being given to companies producing and processing citrus fruits and fresh vegetables. For businesses that are already certified organic, the focus is on the development of an internal control system and on managing certification, from the production stage to the final processed product. For companies that are not yet certified, the support focuses on clarifying the significant operational and financial implications of transitioning to organic production, as well as identifying further capacity building needs.

However, in their endeavours to make their operations more environmentally friendly, fruit and vegetable growers in developing countries are facing specific

challenges. One of the major blocks encountered is the lack of access to financing, especially for micro- and small enterprises, which hinders the adoption of new technologies. Furthermore, introducing and implementing new technologies on a large scale can take 15 to 20 years, or even longer; relying solely on next-generation technology is therefore unlikely to provide timely solutions at the necessary scale. It is therefore crucial to direct common efforts towards identifying existing technologies that have the potential to address sustainability challenges but which have not yet been tested or implemented in a developing context, adapt them for use and make them accessible and affordable. A particular focus here should be on upscaling existing solutions, ensuring compliance with official regulations and policies and market requirements, integrated pest and diseases management and integrated crop production.

Governments have a crucial role to play in promoting the uptake of sustainable farming practices by fresh produce growers in the developing world. They should incentivize farmers to embrace sustainable production practices by educating them about sustainable practices and technologies, improving access to financing, promoting the development of new technologies for fruits and vegetables (which tend to be forgotten in research and development efforts, compared to major crops such as wheat or cotton) and providing assistance to farmers to comply with national and international regulations and market requirements.





## 2.3. The economic importance of fruits and vegetables

### EMPLOYMENT AND INCOME OPPORTUNITIES

Fruits and vegetables play a pivotal role not just in fostering healthier and more sustainable diets, but also as dynamic drivers of global economic growth and job creation. The labour-intensive nature of the fruit and vegetable industry generates ample employment and income opportunities throughout the entire supply chain, benefiting workers and entrepreneurs alike. In the United States of America,

the fresh produce industry's operations provided jobs to 1.1 million workers in 2022; counting the direct, indirect and induced impacts, the fruits and vegetables sector's total employment impact on the national economy amounted to 2.03 million full-time and part-time jobs, and total wages of USD 107.7 billion.<sup>xiii</sup> The sector's intrinsic value and its potential for innovation open up avenues for young individuals to actively engage in production and other facets of the value chain.

### The economic importance of the fruits and vegetables industry in developing countries

The fruits and vegetables sector is assuming an increasingly significant role in many developing countries, propelled by its economic potential and crucial relevance to food security. The sector acts as an engine for employment and empowerment, with positive outcomes from horticultural development including improved nutrition for children and families, amplified job opportunities and increased incomes for smallholder farmers. Women, often serving as primary producers, play a key role in realizing these benefits.

The development of the fruits and vegetables sector in developing countries not only positively impacts the food and nutrition security of those engaged in the sector, but improves the well-being of urban and rural consumers too. To ensure that agricultural trade remains a potent force for economic growth, it is imperative that producers and exporters are equipped with the information, skills and human resources needed to capitalize on emerging opportunities. Examples include providing training programmes for farmers to adopt sustainable practices, fostering technological innovation in harvesting and processing, and facilitating access to international markets through trade agreements and partnerships.





## THE ECONOMIC BENEFITS OF A HEALTHY DIET - EMPHASIZING FRESH FRUITS AND VEGETABLES - FOR INDIVIDUALS AND THE SOCIETY

The findings of recent studies into the affordability of fruits and vegetables run counter to the general belief that a healthy diet must be expensive. Researchers from The Miriam Hospital and the Rhode Island Community Food Bank found that individuals who followed simple, plant-rich recipes (incorporating olive oil, whole grain pasta, brown rice and fruits and vegetables) decreased their total food spending by more than half, purchased healthier food items and improved their food security – in addition to decreasing their body mass index.<sup>xiii</sup> Meanwhile, a study by the United States Department of Agriculture found that the average price per serving of healthy fruits and vegetables was less than that of unhealthy options for both snacks and side dishes, concluding that it is possible, even for low-income families, to meet the government’s nutritional recommendations.<sup>xiv, xv</sup>

When discussing the cost of healthy eating, it is also important to consider the cost of not incorporating nutritious foods into meals on a regular basis. Consuming a diet high in fruits and vegetables is associated with a decreased risk for chronic conditions such as diabetes,

hypertension, heart disease and cancer. By adopting such a diet, an individual can save hundreds or thousands of dollars on health care over the course of a lifetime. It has been estimated that in the United States of America, a person with three to four chronic diseases will spend USD 25 000 annually on health care expenses, while individuals without any chronic diseases will spend USD 6 000 annually.<sup>xvi</sup>

These individual savings are reflected at the national level. According to a new study by the Friedman School of Nutrition Science and Policy at Tufts University, implementing monthly produce prescription programs for people with diabetes could reduce healthcare spending in the United States of America by USD 40 billion (in addition to a reduction of USD 4.8 billion in costs of lost productivity) – on par with other “best buys” in health care, like blood pressure screening and control, cholesterol screening and control, and cancer screening.<sup>xvii</sup>

According to a recent publication by the World Economic Forum, without a significant global shift towards better nutrition, people suffering from diseases caused or accelerated by poor nutrition will soon overwhelm healthcare systems. The organization estimates that unhealthy diets cause USD 11 trillion in costs to human health globally, every year.







# 3. Principles-based rule- and policymaking towards sustainable food systems

Governments play a vital role in shaping the political landscape in which sustainability challenges are addressed. They have the power to set the agenda, establish regulations and allocate resources to drive sustainable development. As illustrated in the previous section, the path to achieving sustainability requires a careful balance between economic growth, social development and environmental protection. Policy failures can impede progress towards sustainability. Atomistic policymaking whereby policymakers fail to consider the impacts of their decisions on elements of sustainability that do not fall directly within their jurisdiction or neglect to consider the full life cycle of a food can hinder meaningful change, as can policies that favour short-term gains over long-term sustainability. Identifying and addressing these policy failures is essential for creating an enabling policy environment that supports true sustainability efforts.

## 3.1. Holistic, systems-based rule- and policymaking

One common policy failure is the lack of coordination and integration across policies and rules. Sustainable development requires a holistic approach that considers the interconnections between social, economic and environmental dimensions. When policies are developed in isolation, without considering their broader impacts, they can lead to unintended consequences and hinder progress toward sustainability. Oftentimes, the emphasis

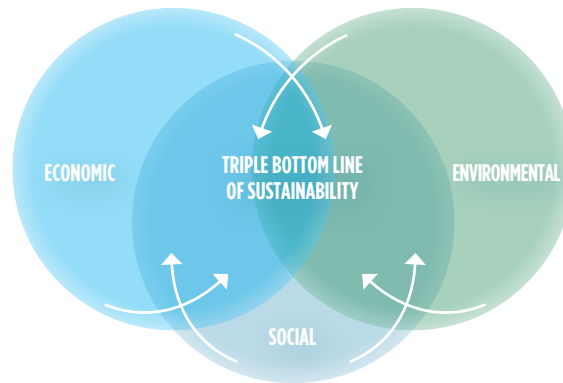
in policymaking is on environmental sustainability, without taking into account the impacts of a policy or regulation in terms of economic or social sustainability. Even environmental sustainability alone may be interpreted too narrowly, such as considering only an end product's environmental impact without looking at the entire product system, which can lead to incomplete and potentially negative overall environmental outcomes.





Comprehensive sustainability policymaking should encompass a holistic view of products or processes, taking into account **all three dimensions of sustainability: environmental, social and economic**. This broader perspective is often referred to as the **“triple bottom line” approach**,

whereby organizations measure the sustainability of their decisions and actions against all three sustainability dimensions. The box on page 20–24 uses the example of plastic packaging to illustrate the importance of such a holistic approach.



But holistic policymaking goes even further: **a product’s entire supply chain** should be considered, not separate stages within this supply chain; this is the **systems-based approach**, whereby due consideration is given to the interdependency between the various building blocks of the supply chain. In other words, sustainability efforts should aim to minimize negative impacts across all dimensions, at all stages of the supply chain, from production down to the final consumer. Considering the entire product system is crucial for robust sustainability policy- and rulemaking, for various reasons. A narrow focus on the environmental impact of a product at one stage of its supply chain might fail to account for the resources used

during other stages, and might even create negative social or economic impacts elsewhere in the product system. Furthermore, a narrow focus on one stage or aspect of the supply chain might miss opportunities to optimize resource use throughout the entire product system. By considering the entire chain, ways may be identified to reduce energy consumption, raw material use and waste generation at multiple stages. In addition, a holistic approach encourages innovation and continuous improvement. Analysing the entire lifecycle can uncover areas where technology or process changes can lead to more sustainable outcomes, such as increasing a product’s shelf life or reducing energy consumption during transportation.



A key factor why policymakers often fail to consider all sustainability impacts of their decisions is the lack of interdepartmental and interdivisional communication and collaboration, which are crucial for effective policy- and rulemaking towards true sustainability. Good ideas remain ineffective – or may even become counterproductive – if developed and implemented in a vacuum: for example, setting up campaigns to encourage consumers to eat more fruits and vegetables, while producers can barely keep their operations afloat; restricting the use of plant protection products while insufficient alternative methods to combat pests and diseases


are available; cutting down on plastic packaging without valid alternatives to maintain shelf life and prevent food waste. To avoid institutional fragmentation and ensure the alignment of policies, strategies and approaches, channels and bodies for **communication and collaboration between departments, ministries and levels of government** should be formalized and laid down in legislation. Regulations and policies that affect the fresh produce industry should be developed collaboratively by business departments, agricultural departments, trade departments, environmental departments and science departments, at a minimum.

### 3.2. Long-term, outcomes-focused rule- and policymaking

Sustainable long-term growth requires the adoption of a **long-term vision in rule- and policymaking**. The Sustainable Development Toolkit of the Organisation for Economic Co-operation and Development (OECD), which brings together good practice across OECD countries, states that “a strategic long-term vision is essential to support present needs and those of future generations in a balanced manner”.<sup>xviii</sup> However, politicians tend to focus on short-term tangible results to increase their chances of re-election, prioritizing the generation of immediate impacts through quick wins rather than working towards long-term solutions that have a longer lasting impact, but may take a full generation to realize their outcomes. Governments should prioritize long-term objectives that bring lasting impacts in their policy- and rulemaking.

Long-term policymaking also means allowing all affected actors enough time to **transition and develop alternative strategies** that allow them to comply with new policies or regulations, thereby **avoiding unintended negative consequences**. For example, banning the use of certain crop protection products without allowing the industry enough time to develop valid alternatives and adjust production practices may result in a fall in productivity as producers struggle to protect their fruits or vegetables from pests or diseases. Meanwhile, banning the use of certain types of packaging may result in increased food losses and waste as alternative packaging may not be as effective at protecting the quality and safety of fresh produce (see the text box on page 20–24).





Sweden offers an example to follow. After the economic crisis that hit the country in the early 90s, the Swedish government prioritized sustainable development, centering its approach on ensuring that all policy decisions take into account long-term economic, social and environmental implications. Notably, the reforms included an increase in funding in the agricultural sector for environmental and rural development.<sup>xix</sup>

The global fresh produce industry is a strong advocate of regulations that focus on outcomes instead of prescribing processes or actions. **Outcomes-focused rule- and policymaking improves the environmental, social and economic sustainability of food supply systems** by:

- focusing on the multidimensional causes of problems and developing **truly sustainable solutions**, demanding critical thinking about the outcomes we wish to achieve as a society;
- **reducing unnecessary regulatory cost burdens** on commercial operators, allowing regulated parties to choose

the process by which they meet the requirements. This provides operators with the flexibility to introduce new technologies, processes and procedures and achieve the best environmental social or economic outcome at the lowest cost;

- enabling more informed and meaningful **interactions with the industry**, which in turn results in better informed, more efficient rules that a) are proportionate to risk and b) allow flexibility to respond to changing circumstances, ultimately resulting in improved compliance outcomes;
- improving **internal accountability** for outcomes through the embedding of regulations in overall strategic government planning;
- improving **external accountability** for outcomes by enabling stakeholders to identify linkages between regulations and outcomes, thus increasing the public transparency of the required sustainability outcomes.

---

### 3.3. Ensuring fairness

It is a general principle of law that rulemaking should be fair: rules and regulations should be objective, science-based and impartial, **avoiding unfair discrimination between economic sectors or products**. Not only should they not impose disproportionate burdens on different sectors; any regulatory

measures should also maintain a **proper balance between their adverse effects and the purpose they pursue**, in other words they should be justified in achieving their intended objectives within the framework of broader policies.






### 3.4. Aligning public and private efforts towards increased sustainability

By creating employment, building skills, spurring innovation and supplying affordable and healthy foods, the fresh produce industry provides a critical contribution to the sustainable development of our societies. Actors in the fruits and vegetables sector possess **unique expertise and insights** that national and international governments can leverage and build on in order to develop effective, sustainable policies and regulations that take into account the realities of the industry. In addition, by consulting industry representatives, policymakers and regulators become aware of **existing industry practices and initiatives towards improved sustainability**. Indeed, fruit and vegetable operators worldwide are already developing and implementing multiple effective strategies to improve the environmental and social sustainability of the industry. Regulators should recognize these efforts and incorporate them into public regulations, rather than trying to reinvent the wheel and impose new requirements that will only add to enterprises' cost burden, without achieving additional sustainability outcomes. By **aligning public regulations with the industry's own sustainability efforts**, the complementarity of public and private rules will be improved, which will ultimately lead to better sustainability outcomes.

Governments, enterprises and consumers are becoming ever more aware of the imperative to address the social and environmental implications within global food supply chains. However, this heightened awareness has spawned a proliferation of both **public and private sustainability regulations and standards**, creating a landscape where these measures may either complement, duplicate or even compete against one another. Consequently, producers and traders in the fruits and vegetables sector, and particularly those engaged in international operations, find themselves grappling with the challenge of adhering to numerous requirements for social and environmental sustainability. This situation translates into increased costs, diminished profit margins and a phenomenon commonly known as certification fatigue. This fatigue affects both producers and consumers, highlighting the urgent need for streamlined and harmonized sustainability frameworks to alleviate the burdens faced by stakeholders in the supply chain. To remedy this situation, regulators should **recognize voluntary certification schemes as equivalent in terms of standards and conformity assessment to public sustainability requirements**, thereby decreasing operators' costs of compliance, increasing access to markets and fostering the development of harmonized regulatory frameworks.





Again, Sweden provides a case in point. Indeed, a unique feature of the Swedish strategy for sustainable development (see also 3.2) is **collaboration with the private sector**. The Swedish government recognizes that “in order to fully harness the potential of the private sector to contribute to socially, environmentally and economically sustainable development, multi-stakeholder partnerships are key”.<sup>xx</sup> The public and private sectors share the common goal of developing sustainable value chains that generate jobs and incomes. Actors in the private sector can contribute to this goal

by leveraging their competence and expertise in their respective fields, providing unique insights to inform governments’ policy- and rulemaking.

A prime example of how collaboration between government agencies and industry can lead to improved outcomes is the National Policy Statement for Freshwater Management in New Zealand, whereby the government, industry, councils and locals work together to implement policies and sustainable practice frameworks to ensure freshwater quality.

### 3.5. International harmonization of policies and regulations

Harmonizing regulations and standards regarding sustainability across regions and countries **facilitates global efforts to increase sustainability** in value chains for fruits and vegetables, **ensures consistency in policy- and rulemaking** and **promotes equitable trade**, thus boosting the global availability of sustainably produced fruits and vegetables.<sup>xxi</sup>

National regulations aimed at promoting sustainability may become a barrier to trade if they are not aligned with those imposed in other countries, thus creating an additional **cost burden** for fruit and vegetable enterprises that operate across borders and must ensure compliance with different requirements. Furthermore, industry players will only invest in the development and adoption of sustainable technologies if their target

market is large enough; divergences in regulations and standards between countries make it hard for enterprises to justify costly investments in innovation towards increased sustainability. Thus, the international harmonization of national sustainability regulations improves **economies of scale** for private operators and **reduces uncertainty** among exporters.

In addition to providing trade and economic advantages, the harmonization of sustainability policy instruments can **improve sustainability outcomes**. Divergent national regulations may translate into unfair competitive advantages – or disadvantages – for national producers and other operators, as compared to those in other countries. If countries fear the loss of international competitiveness through having





stricter sustainability requirements than other countries, they may be dissuaded from enacting sufficiently high standards to ensure true, long-lasting sustainability. A harmonized global sustainability framework would dispel such fears and provide transparency and predictability, thus encouraging policymakers to formulate and implement effective sustainability policies and regulations. Furthermore, many sustainability concerns, such as global warming, ozone depletion or the

preservation of biodiversity or natural resources, transcend national borders. Reliance on national efforts to manage such challenges may be inadequate, as the incidence of costs and benefits is unlikely to be congruent with national borders. In these cases, harmonized approaches that act to raise the environmental standards of nations with lower levels of existing protections could bring sustainability benefits to many countries.

### **Principles-based rule – and policymaking towards true sustainability: the example of packaging regulations**

The global shift towards banning single-use food packaging, particularly for fruits and vegetables, is evident in legislative efforts in various countries. While the global fresh produce industry fully subscribes to the objective of reducing plastic packaging waste, the challenge lies in finding **practical solutions that balance sustainability goals with the complex realities of the supply chain.**

Indeed, an outright ban on plastic packaging contradicts existing material uses and life cycle analyses, and may have **adverse environmental impacts**, notably through a **rise in food losses and waste**, which are an important contributor to global greenhouse gas emissions. Plastic packaging plays a crucial role in extending the shelf life of perishable items, reducing spoilage due to mechanical damage and wounding and preventing contamination. Moreover, plastic packaging enhances hygiene standards, preserves nutritional and organoleptic quality, and ensures traceability throughout the supply chain. Meanwhile, paper-based packaging, which is often hailed as a solution to plastic packaging, may not be as effective at preserving the freshness and quality of fresh produce. Substituting plastic with paper-based packaging therefore risks leading to increased food losses and waste, as it lacks the protective attributes crucial for maintaining the integrity of perishable items. Thus, unless workable alternatives are developed, an outright ban on the use of plastic will lead to a decrease in product shelf life

*Long-term, outcomes-focused rule- and policymaking (avoiding unintended consequences, allowing time for the development of valid alternative solutions)*





and compromise hygiene and organoleptic quality, and may hinder the traceability of fresh produce in instances of food safety-related incidents.

In addition, the state of countries' waste management infrastructure, and their capacity to handle changes in packaging materials, must be considered. Implementing new regulations without proper waste management infrastructure could lead to unintended consequences.

Furthermore, the complete elimination of plastic packaging for fresh fruits and vegetables could lead to significant **challenges in food availability and affordability** for consumers. Indeed, a blanket ban on plastic packaging for fruits and vegetables would disrupt global supply chains, as a considerable portion of these products is imported from different countries to meet diverse climatic growing requirements. In the absence of commercially viable non-plastic packaging solutions, ensuring the safe and pristine delivery of these items to consumers becomes impractical. For instance, berries, known for their delicate nature, require plastic clamshells for protection during long-distance shipments. Similarly, bananas, a dietary staple for many, are exported in plastic bags that control ripening during transportation, with no alternatives currently available. Packaged salads and fresh cut fruits and vegetables use plastic modified atmosphere packaging, a critical tool for extending shelf life and preserving food safety. Currently, there is no substitute for plastic that can adequately support modified atmospheres. Therefore, a plastic packaging ban risks limiting the variety of fresh produce options and could **impact consumers by leading to an increase in prices and a reduction of the overall diversity of the market.**

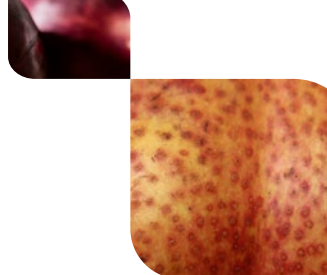
Fresh fruits and vegetables constitute only 2.9 percent of all plastic packaging in Canada, and 1.5 percent of all food plastic packaging in the European Union. Despite this relatively small percentage, current rulemaking regarding the use of plastic **packaging disproportionately targets fruits and vegetables**, while continuing to allow the use of plastic packaging for other foods. Thus, these regulatory initiatives impose a disproportionate burden on the fresh produce industry while

*Holistic, systems-based rule- and policymaking (considering the three pillars of sustainability)*

*Ensuring fairness*







failing to contribute to the attainment of the objective in view i.e. reducing plastic packaging waste. Absurdly, these regulations disproportionately target a food category that already provides the most environmentally sustainable food options for consumers – in addition to playing an essential role for consumers’ health and well-being.

**France’s** regulatory initiatives to reduce and ultimately ban the use of plastic packaging for fruits and vegetables show that such attempts may run up against the practical realities of the fresh produce supply chain. As part of France’s 2020 anti-waste law, the nation banned plastic packaging on oranges, bananas, carrots and many other types of produce beginning in January 2022, and by 2026, wrapping fruits and vegetables in plastic will be fully prohibited. However, since then, the country has introduced 29 exemptions to its packaging regulations, taking into consideration the complexities and practicalities of the fresh produce industry; the exemptions aim at balancing environmental concerns, economic considerations and the practical feasibility of implementing the regulations.

### **A practical and realistic way forward**

All over the world, operators in the fruit and vegetable industry are actively implementing initiatives to shift towards environmentally friendly materials, enhance packaging management systems and curb food waste. For example, the sector has embraced **sustainable practices** such as the long-standing use of reusable pallet pool systems and the use of one-inch PLU stickers for certain produce items instead of traditional packaging, facilitating bulk sales. Ongoing investments include the development of home compostable labels, eco-design strategies (e.g. reducing packaging weight without compromising functionality) and increasing the use of recycled content. These endeavours are rooted in science-based decision-making and should not be impeded by the introduction of politically driven restrictions lacking a scientific foundation.

*Aligning public and private efforts towards increased sustainability*





The fresh fruit and vegetable sector is dedicated to advancing the sustainability of the category, in alignment with the global commitment to achieve the United Nations' Sustainable Development Goals by 2030; reducing the use of plastic packaging waste is an important component of these efforts. However, we emphasize the need for careful consideration and the development of practical alternatives to **avoid unintended sustainability impacts**. The challenge lies in finding alternatives that not only align with sustainability goals but also address the intricate balance between environmental impact and the preservation needs of the global food supply chain. Unless the industry is allowed sufficient time to develop and implement sustainable alternatives to plastic packaging, and exemptions are foreseen for cases where such alternatives are inexistent, an outright ban on all plastic packaging for fruits and vegetables will have serious implications in terms of the availability and affordability of fresh produce for consumers, result in unintended environmental outcomes and undermine the economic sustainability of the industry.

The global fresh produce industry emphasizes the need for a **collaborative approach** to limiting packaging waste, involving industry actors, scientists and consumers; extensive consultation processes must ensure that practical solutions are identified and implemented. Rather than imposing sweeping bans, new regulations should be grounded in **science-based solutions** that genuinely enhance sustainability. This approach seeks to strike a balance between the global imperative to reduce plastic pollution and the practical considerations of the market. Regulations should acknowledge the essential role of plastic where there is a demonstrated necessity to prevent water or turgidity loss, address microbiological hazards or protect against physical shocks. The focus should be on reducing unnecessary packaging, promoting the use of recycled, degradable or compostable materials where technically and economically feasible, and advancing practices for the collection, sorting and recycling of packaging at the national level.

*Long-term, outcomes-focused rule- and policymaking (avoiding unintended consequences, allowing time for the development of valid alternative solutions)*





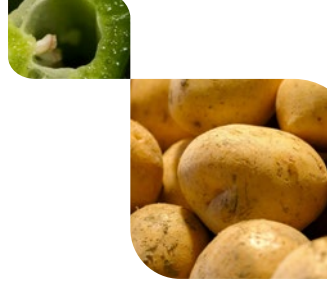
Moreover, there is a critical need for **globally harmonized regulations** regarding the use of plastic packaging for fresh produce. The current fragmentation hampers the efficient functioning of global supply chains, leading to increased costs for operators and, consequently, consumers. A unified approach would streamline processes, enhance collaboration and contribute to a more sustainable and cost-effective global packaging system for the industry.

Governments play a pivotal role in fostering change. Investing in the development of alternatives to plastic packaging, as well as the infrastructure for recycling, is essential. Such **proactive investments** not only support innovation in sustainable packaging but also ensure that the necessary systems are in place to handle and process these alternatives. By doing so, governments can catalyze a shift towards a circular economy, reducing environmental impacts and supporting the long-term viability of the fresh produce industry.

*International harmonization of policies and regulations*

*Long-term, outcomes-focused rule- and policymaking (allowing time for the development of valid alternative solutions)*





## **Principles-based rule- and policymaking towards true sustainability: the example of private sustainability certification schemes**

The past two decades have seen a proliferation of private certification and labelling schemes for social or environmental sustainability in the agrifood sector. This evolution reflects the strategies of major retailers towards meeting consumer demands and fulfilling “due diligence” requirements for sustainability while transferring the responsibility for risk management to suppliers, thus increasing their own profitability and market share. As a result, fruit and vegetable suppliers, and especially those operating internationally, must comply with the requirements of multiple, sometimes retailer-specific standards and schemes.<sup>1</sup> One study showed that South African produce farmers were subject to up to six different environmental farm audits in a given year.<sup>xiii</sup> While costly control measures and third-party certification are required by downstream buyers, they are mostly paid for by upstream suppliers. The costs of complying with multiple private standards, and the additional costs of certification, impose unnecessary cost and time burdens on suppliers and create a risk of exclusion, especially of small-scale producers and operators in developing countries.

**Policymakers play a crucial role in supporting industry-led, non-regulatory models for the alignment and harmonization of sustainability certification schemes.** A standardized framework for social and environmental sustainability is crucial in enabling suppliers to align with both public and private environmental and social mandates, all while mitigating operational costs. Such a framework ought to incorporate inherent flexibilities to accommodate variations in climatic and soil conditions, as well as disparities in economic and social development levels across different nations and regions.

*Aligning and harmonizing public and private efforts towards increased sustainability*

<sup>1</sup> The Standards Map of the International Trade Centre lists over 340 standards that apply to fresh fruits and vegetables worldwide, including, for example, GlobalGAP, IFS, BRCGS, SMETA, BSCI, ISO 26000/14001, Rainforest Alliance, Fairtrade, Nurture (Tesco), etc. See <https://standardsmap.org/en/identify?products=Fruits,Vegetables>.





The Consumer Goods Forum has taken a significant step in this direction with the development of the **Sustainable Supply Chain Initiative (SSCI)**. Serving as a benchmarking scheme for third-party auditing and certification programmes, SSCI ensures that both social and environmental audit schemes meet the industry's evolving needs. Modelled after the highly successful Global Food Safety Initiative (GFSI), also established by the Consumer Goods Forum, SSCI aims to instil a comparable level of competency for sustainability audits. The successful implementation of GFSI resulted in industry-wide recognition, leading to a reduction in the number of audits for farmers and producers. It is imperative that governments acknowledge and endorse audit schemes benchmarked by SSCI, fostering a more efficient and streamlined approach to sustainability certification in the industry.

Another industry-led effort to provide a standardized framework is the **Sustainable Initiative of South Africa (SIZA)**, a comprehensive standard promoting social and environmental sustainability within the realm of agricultural practices, placing a strong emphasis on fostering fair labour practices, ensuring the well-being of workers and safeguarding their rights. Simultaneously, it addresses critical environmental concerns such as biodiversity conservation, efficient water and soil management, and the implementation of integrated pest management strategies. SIZA's certification process involves rigorous requirements, audits and assessments, offering different levels of certification to acknowledge varying degrees of compliance. Notably, the initiative is designed to be flexible, accommodating regional and national differences, and accounting for diverse climatic, soil, economic, and social conditions. By engaging stakeholders, including farmers and communities, SIZA aims to create a collaborative and supportive network that enhances market access, improves reputation and aligns agricultural practices with global sustainability standards in South Africa.





A further scheme that aims to align policies and targets for environmental, social and economic sustainability and promote collaborative action within the fresh fruit and vegetable sector is the **Sustainability Initiative Fruit and Vegetables (SIFAV)**. By working with baskets of benchmark standards, SIFAV aims to drive harmonization, support the alignment of market requirements for best practices and promote transparency and comparability.

A standardized framework for environmental and social sustainability in global supply chains for fresh fruits and vegetables should incorporate at least the following elements:

- **Environmental sustainability:** the sustainable use and protection of water and soil resources; integrated pest and disease management; the efficient use of energy resources and the reduction of greenhouse gas emissions; the efficient use of raw materials and the prevention of waste; the prevention of food losses; and the protection of farm ecosystems, landscapes and biodiversity.
- **Social sustainability:** the respect of universal human rights; the respect of core labour standards (i.e. freedom of organization and the right to collective bargaining, the elimination of forced and child labour, and equal pay for equal work); ensuring health and safety in the workplace; and guaranteeing fair terms of employment (wages, benefits and working hours).

*International harmonization*





## 4. Recommendations

Effective sustainability policies and regulations for fresh fruit and vegetables must be multifaceted, integrating environmental, social and economic dimensions while fostering international collaboration and standardization. In order to develop and enforce policies and regulations that promote environmental protection, ensure the adoption of fair labour practices and ensure long-term economic sustainability in value chains for fresh fruits and vegetables, decision-makers should:

- Adopt a holistic, system-based approach to rule- and policymaking;
- Adopt a long-term, outcomes-focused view to rule- and policymaking;
- Ensure fairness;
- Align public and private initiatives towards increased sustainability; and
- Work towards the international harmonization of policies and regulations.

In addition, policymakers should consider the following recommendations:

### **International collaboration**

Policymakers should encourage collaboration among nations, with industry stakeholders and in international organizations to establish a universally recognized framework for sustainability regulations, standards and certification schemes. Such an approach would create a level playing field for fresh produce operators around the world, leverage synergies between public and private initiatives and ultimately contribute to the provision of sustainably produced, diverse fruits and vegetables to consumers. Initiatives such as SIZA in South Africa and SIFAV in Europe demonstrate the positive impact of standardized approaches to sustainability.

### **Research and development:**

governments should allocate more resources to the development and implementation of innovative, sustainable practices and technologies at the various stages of fruit and vegetable supply chains. This could include investments in technologies that minimize the environmental impact of farming, for example by enhance water and soil management, or reducing food losses.





**Incentive programmes:** governments should develop and implement incentive programmes for farmers and other operators who adopt sustainable practices. Financial incentives, for example in the form of tax breaks, can motivate farmers to transition towards more environmentally friendly and socially responsible methods. In addition, governments should invest in educational programmes to raise awareness among stakeholders (including farmers, suppliers and consumers) about the meaning of true sustainability and empower them with knowledge about sustainable practices, to drive widespread adoption and consumer support.

**Supply chain transparency:** governments should promote greater transparency in the fresh fruit and vegetable supply chain. Traceability and transparency initiatives can help consumers make informed choices, hold companies accountable and foster

a culture of sustainability throughout the supply chain. A good example of efforts towards increased transparency in supply chains for fruits and vegetables are the barcodes provided by GS1, which are globally recognized and authentic, and allow for the automated tracking and identification of products as they move through various stages of production, warehousing, transportation and sale.

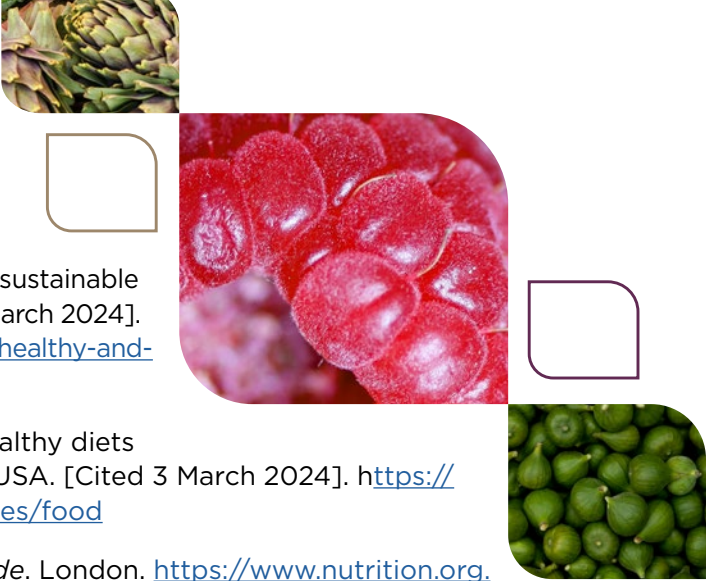
By adopting and implementing the principles presented in this policy paper, governments can develop and enforce policies and regulations that promote responsible practices while considering the specific needs and challenges of the sector, thus enabling the fresh fruit and vegetable industry to contribute significantly to global sustainability goals, ensuring the continued availability of nutritious produce while minimizing the negative social and environmental impacts of its operations.

The members of the Global Coalition of Fresh will continue to collaborate with national governments and international organizations to build strong value chains for fresh fruits and vegetables that bring a myriad of environmental, social and economic benefits to societies worldwide.





## REFERENCES

- 
- i **British Nutrition Foundation.** 2024. What is a healthy, sustainable diet? In: *Healthy sustainable diets*. London. [Cited 10 March 2024]. <https://www.nutrition.org.uk/healthy-sustainable-diets/healthy-and-sustainable-diets/eating-healthily-and-sustainably/>
- ii **United Nations.** 2024. Food and climate change: healthy diets for a healthier planet. In: *Climate action*. New York, USA. [Cited 3 March 2024]. <https://www.un.org/en/climatechange/science/climate-issues/food>
- iii **British Nutrition Foundation.** 2022. *The eatwell guide*. London. <https://www.nutrition.org.uk/media/ayth4ma4/eatwel-1.pdf>
- iv **Nordic Co-operation.** 2023. Nordic Nutrition Recommendations 2023. In: *Publications*. Copenhagen. [Cited 5 January 2024]. <https://www.norden.org/en/publication/nordic-nutrition-recommendations-2023>
- v **United States Department of Agriculture.** 2021. For supplemental nutrition assistance program (SNAP) households, fruit and vegetable affordability is partly a question of budgeting. In: *Amber Waves*. Washington, DC. [Cited 15 February 2024]. <https://www.ers.usda.gov/amber-waves/2021/july/for-supplemental-nutrition-assistance-program-snap-households-fruit-and-vegetable-affordability-is-partly-a-question-of-budgeting/>
- vi **Canadian Produce Marketing Association.** 2021. *The economic burden attributable to low fruit and vegetable consumption in Canada*. Ottawa. [https://cpma.ca/docs/default-source/industry/sustainability/cpma\\_kruger\\_economic-burden.pdf?sfvrsn=d05ac780\\_4](https://cpma.ca/docs/default-source/industry/sustainability/cpma_kruger_economic-burden.pdf?sfvrsn=d05ac780_4)
- vii **Dijkxhoorn, Y., de Steenhuijsen Piters, B., Brouwer, I., Hengsdijk, H. & Tichar, T.** 2021. *Enhancing fruit and vegetable consumption in low- and middle income countries through a food systems approach*. Wageningen, the Netherlands, Wageningen University and Research. <https://edepot.wur.nl/555408>
- viii **Food and Agriculture Organization of the United Nations.** 2021. *Fruit and vegetables – your dietary essentials. The International Year of Fruits and Vegetables 2021. Background paper*. Rome. <https://www.fao.org/3/cb2395en/cb2395en.pdf>
- iv **World Health Organization.** Increasing fruit and vegetable consumption to reduce the risk of noncommunicable diseases. In: *e-Library of Evidence for Nutrition Actions (eLENA)*. Geneva. [Cited 19 March 2023]. <https://www.who.int/tools/elena/interventions/fruit-vegetables-ncds>
- x **Afshin, A., Sur, P.J., Fay, K.A., Cornaby, L., Ferrara, G., Salama, J.S., Mullany, E.C. et al.** 2019. Health effects of dietary risks in 195 countries, 1990–2017: a systematic analysis for the Global Burden of Disease Study 2017. *The Lancet*, 393(10184): 1958–1972. [www.thelancet.com/article/S0140-6736\(19\)30041-8/fulltext](http://www.thelancet.com/article/S0140-6736(19)30041-8/fulltext)
- xi **International Food Policy Research Institute.** 2022. Improving fruit and vegetable consumption will require a holistic approach. In: *IFPRI blogs*. Washington, DC. [Cited 10 March 2024]. [www.ifpri.org/blog/improving-fruit-and-vegetable-consumption-will-require-holistic-approach](http://www.ifpri.org/blog/improving-fruit-and-vegetable-consumption-will-require-holistic-approach)





- xii **International Fresh Produce Association.** 2022. US economic impact: fresh produce & floral industries. In: *Advocacy*. Washington, DC. [Cited 4 March 2024]. <https://www.freshproduce.com/resources/advocacy/us-economic-impact-fresh-produce-and-floral-industries/>
- xiii **American Association for the Advancement of Science.** 2013. Miriam study reveals financial benefits of a plant-based, Mediterranean diet. In: *EurekaAlert*. Washington, DC. [Cited 26 February 2024]. <https://www.eurekalert.org/news-releases/651826>
- xiv **United States Department of Agriculture.** 2004. *How much do Americans pay for fruits and vegetables?* Washington, DC. [https://www.ers.usda.gov/webdocs/publications/42549/15155\\_aib790\\_1\\_.pdf?v=8482.9](https://www.ers.usda.gov/webdocs/publications/42549/15155_aib790_1_.pdf?v=8482.9)
- xv **Center for Science in the Public Interest.** 2013. *Healthy bargains: fruits and vegetables are nutritious and economical*. Washington, DC. <https://www.cspinet.org/sites/default/files/attachment/healthybargains.pdf>
- xvi **Utah State University.** 2020. Does healthy eating cost more? In: *Nutrition*. Logan, USA. [Cited 24 February 2024]. <https://extension.usu.edu/nutrition/research/does-healthy-eating-cost-more>
- xvii **Tufts University.** 2023. Produce prescription programs for patients with diabetes could save billions in health care costs, study shows. In: *Health and nutrition*. Medford, USA. [Cited 24 February 2024]. <https://now.tufts.edu/2023/07/07/produce-prescription-programs-patients-diabetes-could-save-billions-healthcare-costs>
- xviii **Organisation for Economic Co-operation and Development.** 2019. *Policy coherence for sustainable development toolkit. Strategic long-term vision*. Paris. <https://www.oecd.org/governance/pcsd/toolkit/goodpractices/Strategic%20Long%20term%20Vision.pdf>
- xix **PwC.** 2022. Why long-term policymaking matters for sustainable growth. In: *PwC Middle East*. Riyadh, Saudi Arabia. [Cited 10 January 2024]. <https://www.pwc.com/m1/en/blog/why-long-term-policymaking-matters-for-sustainable-growth.html>
- xx **Sweden, Ministry of Enterprise and Innovation.** 2018. *The private sector as a partner for sustainable development*. Stockholm. <https://www.svenskafaokommitten.se/wp-content/uploads/2019/06/the-private-sector-as-a-partner-for-sustainable-development.pdf>
- xxi **Organisation for Economic Co-Operation and Development.** 1993. *Increasing the compatibility of environmental policies*. Paris. [https://one.oecd.org/document/OCDE/GD\(93\)136/En/pdf](https://one.oecd.org/document/OCDE/GD(93)136/En/pdf)





An Urgent Call for Holistic, Harmonized Rule- and Policymaking  
towards True Sustainability in Fresh Produce Value Chains

Global Coalition Of Fresh Produce, April 2024