



Global Compact
Network Netherlands

NO TIME TO LOSE (FOOD)

Driving Action to Tackle Food Loss Across
the Food Value Chain in 2023



INTRODUCTION

At the beginning of 2022, eleven professionals from a variety of organisations joined the Young Professionals Program¹ of United Nations (UN) Global Compact Network Netherlands with the aim of delivering an innovative and impactful project around one of the 17 UN Sustainable Development Goals (SDGs).

This paper responds to SDG 12.3, which aims to halve per capita global food loss along production and supply chains by 2030. The paper provides an assessment of the food value chain in the Netherlands and the current state of knowledge on food loss, taking into account proposals from academia, agricultural entrepreneurs, and market and government representatives. The additional value of this paper lies in the findings and action points for the main stakeholders along the value chain. As such the study can be used as a starting point to initiate further discussion and action.

This paper is structured in four chapters:

1. Background to the problem: Food loss
2. Project approach
3. Findings and action points
4. Conclusion

¹ UN Global Compact Netherlands. (2022). [Young Professionals Program](#).

Chapter 1

BACKGROUND

WORLDWIDE, ONE-THIRD OF ALL FOOD PRODUCED IS LOST, WHICH IS ENOUGH TO FEED TWO BILLION PEOPLE AND END WORLD HUNGER. OUT OF THIS, 25% IS LOST BEFORE IT LEAVES THE FARM.

This loss is equivalent to the total greenhouse gas (GHG) emissions from 75% of all cars driven in Europe and the U.S. In other words, food losses contribute to 8% of the human-caused GHG emissions globally and an estimated loss of 1 trillion U.S dollars per year (FAO 2019², IPCC 2019³, UNEP 2021⁴, WWF 2022⁵).

Definition of food loss: according to the UN World Food Program (WFP), food loss refers to food that gets spilled, spoilt or otherwise lost, or incurs reduction of quality and value during its process in the food supply chain before it reaches its final product stage (consumer).

Drivers behind food loss: there are multiple drivers which lead to food loss both direct as indirect as shown in Figure 1 below.

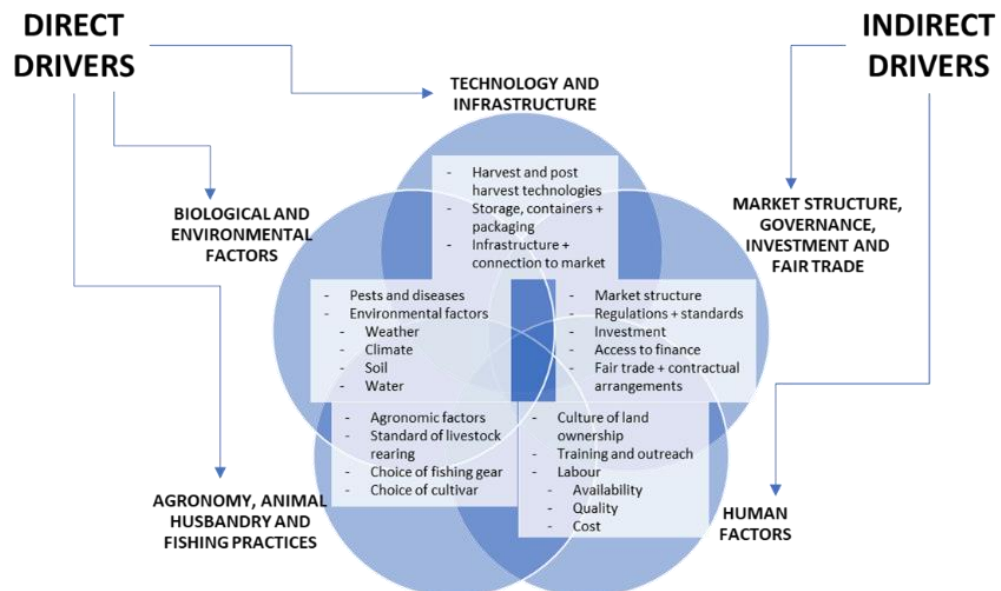


Figure 1: Representation of direct and indirect drivers of food loss⁶

² Food and Agriculture Organization of the United Nations. (2019). [The State of Food and Agriculture.](#)

³ The Intergovernmental Panel on Climate Change (2019). [Climate Change and Land.](#)

⁴ United Nations Environment Programme. (2021). [UNEP Food Waste Index Report 2021.](#)

⁵ WWF. (2022). [Hidden waste: the roadmap to tracking and reducing food surplus and waste on UK farms.](#)

⁶ WWF. (2021). [Driven to waste: the global impact of food loss and waste on farms.](#)

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The high levels of food loss at farm level were the main driver behind this project. The team realised that reducing food loss would not only contribute to SDG 12.3, but would also make a significant contribution to reaching several of the other Sustainable Development Goals.

While there are several initiatives and data available on the amount, types and reasons for food waste at the consumer and supermarket level (Samen Tegen Voedselverspilling, WFBR, Monitor Voedselverspilling in NL), there is limited data available on the actual amount and drivers of food loss at farm level.

However, governments are increasingly being asked to integrate the food loss reduction initiatives into policies, while recent reports (WWF 2021⁶, WUR 2022⁷) have started to describe strategies to prevent and reduce food loss at farm level. Specifically in the Netherlands, parliament accepted a proposal⁸ in early 2022 to extend the Farm to Fork Strategy to the whole supply chain and set legally binding targets for halving food loss, including food loss at farm level.

Based on all the above, the team decided to focus its yearlong project on food loss in the Netherlands. Chapter 2 will explain how this project was carried out.

⁷ Wageningen University & Research. (2022). [A journey into the world's food systems in search of losses, waste and ways to solve them.](#)

⁸ Dutch parliament accepted proposal. (2022). [Landbouw- en Visserijraad Motie van de leden Grinwis en Boswijk.](#)

Chapter 2

PROJECT APPROACH

This project focuses on the significant amount of food that is being lost before reaching the consumer within the Netherlands, with the goal to better understand the difficulties and provide recommendations for various stakeholders in the ecosystem to further reduce food loss. As the food value chain is very broad, the project focused on open land agriculture (fruits and vegetables).

The team utilized multiple sources and methods to explore the food value chain, including:

- Desk research to explore the ecosystem and challenges in reducing food loss
- Interviews and surveys with market experts to further strengthen insights
- Interactive round table discussions, bringing together key stakeholders in the ecosystem to discuss the

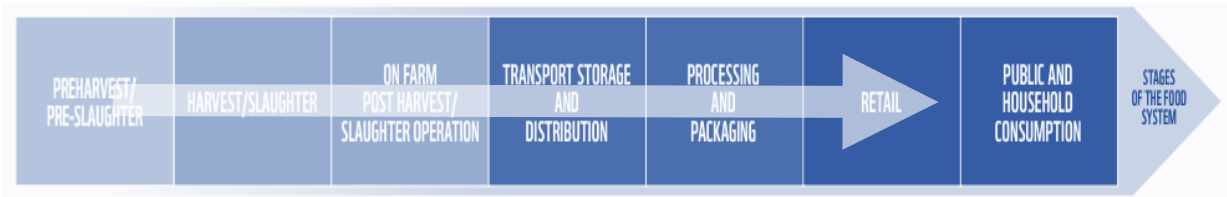
challenges and collaborative opportunities to reduce food loss.

Based on the first steps (desk research and interviews) a better understanding of the evolving food value chain was reached and the following changes were identified. Historically, the value chain has been organized in a linear fashion. Each business takes care of their own sphere of influence and strictly adheres to the requirements set by their off takers, focussing on quality and quantity. More recently, expectations from both consumers and society have begun to change, with an increasing interest in sustainability. Recent research in the Netherlands⁹ showed that consumers would like to be informed about the sustainability of the products they purchase, such as losses throughout the life cycle. As such, the linear approach of the value chain is gradually changing towards a more collaborative approach, as businesses need to work together to achieve those sustainability components.

⁹ Deloitte. (2022). [Consumentenonderzoek 2022](#).

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From:



To:

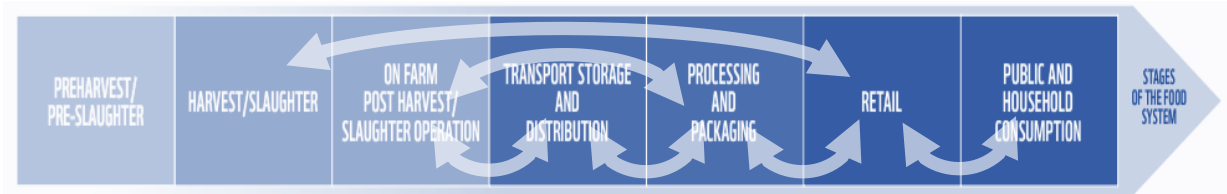


Figure 2: Flow of collaboration and communication in the stages of the food system.¹⁰

To investigate this in more detail, in-depth discussion through round table conversations were initiated to confirm our findings, flushing out the obstacles and finding solutions to tackle food loss. Two round table discussions were held, bringing together key stakeholders in the ecosystem:

- Roundtable 1: Producers, who produce the crops
- Roundtable 2: Market representatives, who buy the products to sell to the consumer

In addition to the businesses, stakeholders from academia, finance, government, representative bodies, and consultants participated in both round tables to broaden the discussion. These conversations led to insights which are captured in the following chapter.

¹⁰ WWF. (2021). [Driven to waste: the global impact of food loss and waste on farms.](#)

Chapter 3

ACTION POINTS

The section below outlines the findings and action points for the main stakeholders of the value chain to tackle food loss in their own playing field. The team focused their project on agricultural entrepreneurs and market representatives but acknowledge that a joint effort is required to meet the SDG 12.3 ambition of halving per capita food loss by 2030.

AGRICULTURAL ENTREPRENEURS

- Discuss and collaborate with other players in the food value chain
- Measure and track progress
- Target for total use, zero loss
- Join international coalitions and local programs aiming to address food loss

MARKET REPRESENTATIVES

- Set up a virtuous ecosystem with the upstream section of the value chain
- Retail-wide agreements and actions together to reduce food loss
- Enable responsible consumption to become a social norm
- Join international coalitions and local programs aiming to address food loss

GOVERNMENT, ACADEMIA, FINANCE SECTOR AND NGOS

- Recommendations for government
- Recommendations for academia
- Recommendations for finance sector
- Recommendation for NGOs and foundations

3.1 AGRICULTURAL ENTREPRENEURS

DISCUSS AND COLLABORATE WITH THE OTHER PLAYERS IN THE FOOD VALUE CHAIN

Today, when not meeting specifications, food is often used to feed animals which is not the most profitable scenario for agricultural entrepreneurs. The following examples show that food loss can be reduced by being re-introduced in the food value chain, thanks to the power of collaboration between stakeholders. Here are some examples from the round table discussions:

- (1) Strict specifications: A broccoli producer's harvest was rejected by a major retailer because the crop had hollow stems, failing to meet specifications. Yet the broccoli was fine for consumption. A phone call from the producer to the buyer in which the situation was discussed, plus their good business relationship, led to a rethink by the supermarket and prevented the loss of the full harvest.
- (2) Harvest windows: Some fruits and vegetables have very limited harvest

windows (e.g., peas) and as such flexibility and collaboration are key to ensure that all products can be freshly delivered and packed.

- (3) Diseases: Phytophthora, for example, leads to smaller potatoes, meaning they can fail to meet buyer specifications. Whilst the product is still safe for human consumption, it often happens that entire harvests are not accepted and sent for animal feed. A closer look into the specification settings, as well as inspectors doing their best to ensure human consumption can be safeguarded, could help.
- (4) Transformation: A tomato producer started an initiative to produce pasta sauce and tomato sauce from the tomatoes that are deemed aesthetically not good enough for regular sale. The supermarket asked the supplier to showcase their initiative at their Supplier's Day to inspire other suppliers to reduce and transform their food loss.

These examples highlight the power of collaboration.

MEASURE AND TRACK PROGRESS

The losses at farm level have been underestimated because of the lack of measuring instruments and the lack of a clear definition of food loss. During the round table, the agricultural entrepreneur confirmed expected losses on-farm to be in the range of 20-30%. The Commission for Environmental Cooperation states: "*What*

gets measured gets managed". Without proper measuring, SDG 12.3 could not be reached with the current status quo of not measuring food loss at farm level. There is a great need to measure, report and reduce

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losses¹¹. Two tools which can be considered are:

- (1) The Stewardship Index for Specialty Crops (SISC) Food Loss Metric. The SISC Metric is a tool which helps measure losses on farms for fruits
- (2) The Data Capture sheet from the 12.3 Champions “Target, Measure and Act” initiative, which is a

and vegetables, as well as losses at other stages under farmers’ business cycle. This tool is free for growers and helps them to collect, store, manage and analyze data to see how their business performs and improves over time¹².

measurement and reporting guideline for UK and international companies.

TARGET FOR TOTAL USE, ZERO LOSS

The Food Loss Pyramid¹³ can help to limit food loss. The Pyramid consists of 7 steps (see Figure 3. below) and highlights the most and least preferable options, as well as the thinking behind it.

Maximizing re-use for human consumption, awareness and collaboration are key. A few examples are:

- (1) Sell class B products: some parties are keen to buy and process class B products (i.e., products not meeting the highest standards or class A).
- (2) Process excess fruit and vegetables: extend the usually short shelf life of fruits and vegetables by transforming them

into products like smoothies, pasta sauces or ketchup with the help of flexible processing plants. Flexible processing plants are key to make this a success as they need to accommodate a variety of fruits and vegetables and require a network of buyers who are flexible about adjusting the products they display.

- (3) Donate to food banks: these organizations are available throughout the country and help people in need.

Even if these examples seem simplistic, the ambition behind them is to encourage lateral thinking and networking.

¹¹ WWF. (2021). [Driven to waste: the global impact of food loss and waste on farms.](#)

¹² SISC. (2023). [New SISC Food Loss Metric.](#)

¹³ European Commission. (2020). [Brief on food waste in the European Union.](#)

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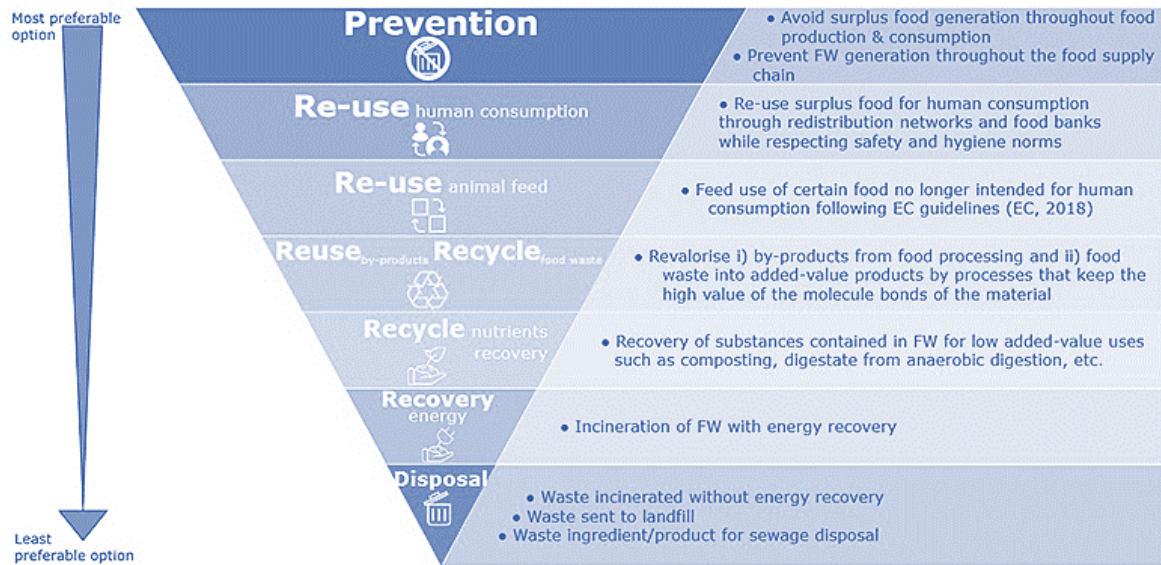


Figure 3: The Food Loss Pyramid

JOIN INTERNATIONAL COALITIONS AND LOCAL PROGRAMS AIMING TO ADDRESS FOOD LOSS

It is challenging to fight food loss, but it is even more challenging to do it alone. The recommendation is to partner up and to find inspiring coalitions or programs to fight food loss together. One of the key observations during the round table discussions was the learning observed between the various businesses. Sharing good practices can

easily accelerate the journey towards halving food loss in 2030.

An example of a coalition is the International Food Systems Initiative from UN Global Compact Network, an upcoming private sector-led initiative at UN level on food and agribusiness. This coalition will aim to engage companies to achieve more resilient supply chains, securing food security and support the transition to a more sustainable food system.

3.2 MARKET REPRESENTATIVES

SET UP A VIRTUOUS ECOSYSTEM WITH THE UPSTREAM SECTION OF THE VALUE CHAIN

Buying more of what is grown is one of the simple recommendations from our findings, but which will be a challenge to implement. Striving towards a long-lasting buyer-grower relationship and innovative

purchasing models would help ensure full utilization of the harvest.

Some retailers already initiate these practices by closely collaborating with their suppliers, helping them to upgrade food which does not meet the specifications (soups, sauces, smoothies, etc.). Large supermarkets have the ability to guarantee

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shelf space within their stores and as such provide financial stability for the suppliers to start these trials. This could stimulate growers to become more creative with products that would otherwise be discarded.

Another example would be to broaden product specifications to become less stringent by using more of what is actually grown. There are various specifications for every type of crop, whilst some exist for food safety reasons and are non-negotiable, others exist for aesthetic reasons like the

hollow broccoli stems as outlined in Chapter 3.1. Those aesthetic specifications need to be clearly understood and should be challenged more often.

While only a small percentage of the amount of food produced in the Netherlands is consumed in-country, it is difficult to reduce losses at all farms via retailers. However, good practices can easily be copied and as such could influence those businesses that mainly export their goods.

RETAIL-WIDE AGREEMENTS AND ACTIONS TOGETHER TO REDUCE FOOD LOSS

To address food loss, supermarkets and retailers need to communicate with each other and start retail-wide agreements to reduce food loss. As these joint initiatives can be complicated from a cartel point of view, conversations need to take place

between the corporations, government and the Authority for Consumers and Markets (ACM) to ensure that this is allowed. An example of partnership and retail-wide collaboration is the 10x20x30 initiative¹⁴ of the 12.3 Champions, where the 10 biggest international retailers working with their 20 suppliers joined their efforts to accelerate towards the 2030 goals.

ENABLE RESPONSIBLE CONSUMPTION TO BECOME A SOCIAL NORM

What people choose to buy and eat is influenced by their social context. People tend to use the eating habits of others as a guide to appropriate consumption. This “liking norm” can have a positive bottom-up impact on the food value chain, by means of promoting seasonality of food, proximity in

the food value chain (i.e., from farming to end sale), and the importance of minimizing food loss, among others. To accelerate this, retailers could offer products in smaller portions, provide better information on the shelf life of products, or provide better visibility in the shelves to seasonal and local fruits and vegetables.

¹⁴ Champions 12.3. (2019). [10x20x30 initiative](#).

JOIN INTERNATIONAL COALITIONS AND LOCAL PROGRAMS AIMING TO ADDRESS FOOD LOSS

As highlighted in 1.4, retailers can also join the Food Systems Initiative from UN Global

Compact Network. In addition, there is the '123 Pledge' from the 12.3 Champions, which is a call to action for governments, companies, institutions, and entrepreneurs to prioritize fighting food loss and waste within their climate action agenda¹⁵.

3.3 GOVERNMENT, ACADEMIA, FINANCE SECTOR AND NGOS

RECOMMENDATION FOR GOVERNMENT

Government can contribute in many ways to reduce food loss:

- (1) Campaigns: Run campaigns and promote best practices to change the social norm about 'normal' fruit and vegetables. With that, class B products (that don't look perfect but are fine for consumption) can become the new normal for consumers.
- (2) Subsidies for farming technologies: Support agricultural entrepreneurs in buying innovative solutions that can prevent food loss (e.g., innovative insect nets).
- (3) Platforms for food transformers: Make a platform where (smaller)

farmers and producers could exchange their needs and collaborate.

- (4) Carbon credits: Turn efforts made to reduce and prevent food loss into carbon credits. This is currently still in development due to the complexity of calculating and monitoring the carbon credits, but it would motivate suppliers and retailers.
- (5) Monitoring application: Initiate an application that could monitor food loss in a straightforward and standardized way for agricultural entrepreneurs. These tools have already been developed for the retailers and consumers, but not yet for producers.

RECOMMENDATION FOR ACADEMIA

Academia has an important role in driving the motion to reduce food loss. Their collaboration with the government and NGOs, such as "Samen Tegen Voedselverspilling" (Together Against Food

Waste) has already brought success in reducing food loss in supermarkets¹⁶. Since the recent WWF studies found there is more loss at producer level than earlier thought, academia could initiate additional initiatives to reduce food loss

¹⁵ Champions 12.3. (2022). [123 Pledge to halve food loss and waste.](#)

¹⁶ Wageningen University & Research. (2022). [A journey into the world's food systems in search of losses, waste and ways to solve them.](#)

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at producer level. In addition, academia could aim to share their findings and data from their research to a wider audience, making sure that their

messages will reach all parties within the food value chain.

RECOMMENDATION FOR FINANCE SECTOR

The finance sector is heavily involved in financing agricultural businesses and as such food loss can also be considered as a loss of financial value. It is of added benefit for the finance sector to bank these losses by upgrading the produced food along the

food loss pyramid. That way, the risk profile will reduce with a potential benefit that new businesses might arise which also require financing. As such, the finance sector could act like a mediator to bring together parties which have new business ideas and connect them to the producers within their portfolio. These new business opportunities have access to supply and finance in one go, which makes it easier to trial the opportunity and later upscale when deemed successful.

RECOMMENDATION FOR NGOS AND FOUNDATIONS

A common agenda can be set for the entire sector thanks to the contribution of NGOs and foundations. In the Netherlands, the foundation “SamenTegenVoedselverspilling” was created in 2019 and – supported by the Dutch Government – aims to unite all stakeholders in the supply chain behind a common agenda to reduce food waste. It

plays a crucial role to ensure all members are committed and transparent about their efforts to reduce food waste and are turning their strategies and plans into concrete actions. They allow stakeholders to set and communicate a common agenda, share knowledge between members, spark innovation, and keep each other accountable¹⁷. Besides the focus on food waste, they could expand their interests towards food losses at the early stages of the food value chain.

¹⁷ Wageningen University & Research. (2022). [Start of multidisciplinary study to make use of food waste for sustainable animal feed.](#)

Chapter 4

CONCLUSION

The project found that food loss taking place at producer levels was much higher than initially considered. Although many parties in the food value chain do their utmost to reduce food loss, it was found that the most promising way to significantly reduce food loss is through collaboration between the different parts of the value chain. When working together, everyone can benefit from the reduction of food loss, meaning reducing world hunger, lowering our carbon footprint, and increasing value throughout the entire value chain.

To accelerate this process, retail and governments have the ability to create

awareness within societies on responsible production and consumption. As such, people will get used to “imperfect” vegetables and fruits, which will become the new social norm. Consequently, it will be easier to sell a complete harvest at a higher margin for all parties involved.

This investigation can be used as a starting point as tackling food loss is a joint effort which will not be solved overnight. But by initiating collaborations today, we can make a change and set a new standard tomorrow.

WHY WAIT? START DOING!

THE TEN PRINCIPLES OF THE UNITED NATIONS GLOBAL COMPACT



HUMAN RIGHTS

HUMAN RIGHTS

- 1 Businesses should support and respect the protection of internationally proclaimed human rights; and
- 2 make sure that they are not complicit in human rights abuses.



LABOUR

LABOUR

- 3 Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;
- 4 the elimination of all forms of forced and compulsory labour;
- 5 the effective abolition of child labour; and
- 6 the elimination of discrimination in respect of employment and occupation.



ENVIRONMENT

ENVIRONMENT

- 7 Businesses should support a precautionary approach to environmental challenges;
- 8 undertake initiatives to promote greater environmental responsibility; and
- 9 encourage the development and diffusion of environmentally friendly technologies.



ANTI-CORRUPTION

ANTI-CORRUPTION

- 10 Businesses should work against corruption in all its forms, including extortion and bribery.

The Ten Principles of the United Nations Global Compact are derived from: the Universal Declaration of Human Rights, the International Labour Organization's Declaration on Fundamental Principles and Rights at Work, the Rio Declaration on Environment and Development, and the United Nations Convention Against Corruption.

ABOUT THE UNITED NATIONS GLOBAL COMPACT NETWORK NETHERLANDS

Global Compact Network Netherlands aims to accelerate and upscale the positive impact of the Dutch business community on the SDGs with the purpose of improving the lives of current and future generations. The UN Global Compact is uniquely positioned to support companies on their sustainability journey. Together with 14,000+ companies around the world, the Local Networks of UN Global Compact advance corporate sustainability at the national level in 70+ countries. We work together as a global family to achieve common goals. Guided by the Ten Principles and the 17 SDGs we facilitate accountable companies and stakeholders in their ambition to translate sustainability commitments into concrete actions. We believe we have a responsibility to move business faster and farther in making and demonstrating progress on the Ten Principles and the SDG agenda.

Global Compact Network Netherlands stimulates and facilitates the creation of impactful connections and supports business, stakeholders and future leaders to achieve the 2030 Agenda. Because we believe by working together, we can accelerate and upscale our impact

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