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ENGAGING STAKEHOLDERS TO BECOME THE LEADER IN TRANSITIONING TOWARDS SUSTAINABLE FOOD SYSTEMS: THE NESTLÉ CASE

The value and implications of transparency across supply chain operations

CHIARA SOLDATI

Work project carried out under the supervision of:

Daniel Abel Monteiro Palhares Traça

Vitorino Alberto Mello Gomes Oliveira

Paulo Sacadura Cabral Portas

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Abstract

Nestlé, by launching the Nescafé Plan in 2010, committed to higher levels of corporate social responsibility, by aiming to reduce the impact of its supply chain operations on the environment and in observance of human rights. The teaching note provides the reader with an overview of how improved supply chain transparency practices positively impacted the programme's achievements. It also elaborates the key factors leading to such practices and alternative solutions for future improvements

Keywords:

Creating Shared Value, Supply Chain, Value Chain, Transparency, Sustainable Development, Human Rights, Brand Reputation, Data Acquisition Technologies

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LIST OF ABBREVIATIONS

CSV	Creating Shared Value
EU	European Union
F&B	Food & Beverage
GHG	Green House Gas
LDC	Less Developed Country
DC	Developing Country
M&A	Mergers & Acquisitions
M&E	Monitoring and Evaluation
MNE	Multinational Enterprise
RA	Rainforest Alliance
R&D	Research & Development
RFS	Regenerative Food Systems
SAN	Sustainable Agriculture Network
SDG	Sustainable Development Goal
SFS	Sustainable Food Systems
UN	United Nations

CASE-STUDY

Nestlé Leading the Change into Sustainable Food Systems: The Nescafé Plan

In 2007, Nestlé adopted Creating Shared Value (CSV) as the company's sustainability strategy with the vision of creating not only economic, but also social and environmental value through its business activities. To achieve this, multiple goals were established, and several initiatives were put in place to enhance the firm's market position whilst helping communities and preserving the planet. At the end of 2009, the new strategy already yielded some great accomplishments in areas such as Nutrition, Water and Environmental Sustainability as well as Rural Development, providing the first steps into creating value for all stakeholders. However, Nestlé realised that further commitments in the sustainability areas would be necessary to achieve long-term success as a market leader in Nutrition, Health and Wellness (Nestlé n.d.).

By analysing Nestlé's business operations, numerous problems arose requiring more effective solutions, closely related to the sustainability of the company's supply chain. Above all, the sourcing of raw materials, such as cocoa and coffee, stood out as one of the most essential activity and reported the highest environmental impact. The significant damage resulting from agricultural practices in terms of greenhouse gases (GHGs) emissions, water usage, soil fertility and biodiversity loss, as well as the social issues related to the livelihood of farmers and their communities, required urgent action. At the same time, the tendency to develop sustainable food systems capable of providing quality nutritious food while also being environmentally sustainable was flourishing, motivated by the increasing number of challenges related to precarious food security, influenced by the climate change, and population growth (BCFN 2010). In addition, consumers' demand for sustainable products rose, exerting significant pressure on multinationals enterprises (MNEs) regarding the accountability for their actions (WBCS 2008).

Marcelo Burity, the Commodity Procurement Manager of Nescafé global, met Stefan Canz, Sourcing and Sustainability Reporting Specialist, and Orlando Garcia, the Commodities Supply Development Manager and Coffee Expert, who were the two main people responsible for the Sustainability Agriculture Department at Nestlé in 2009. By acknowledging the situation, they started to discuss the need to develop a globally integrated strategy to optimize the brand's value chain leading to several questions: (1) How would it be possible to increase the traceability of the coffee value chain to ensure responsible sourcing as well as the raw material's quality and safety? (2) How to improve farming practices to increase production while diminishing the negative environmental impact throughout supply chain operations? (3) How to improve the living conditions of farmers and their communities to ensure the future of coffee supply? (4) How can Nescafé ensure accurate impact assessment? Following this, one greater question arose: how can Nestlé lead the global transition to Sustainable Food Systems (SFSs) by optimizing its value chain?

Nestlé: the Good Food, Good Life company

Nestlé was founded in 1867 by Henri Nestlé, a German-born pharmacist who launched one of the first infant formulas - "Farine Lactée" - in Vevey, Switzerland. In 1905, the company merged with the Anglo-Swiss Condensed Milk Company, a condensed milk producer established by the US brothers Charles and George Page in 1866, forming what is now the Nestlé Group (Nestlé n.d.). Throughout the 20th century, Nestlé mostly diversified its product offering through acquisitions of other companies across the world, as well as by investing in continuous innovation.

Today, Nestlé's portfolio (*see Appendix 1*) includes products from the most diverse categories, namely powdered and liquid beverages, pet care, nutrition and health science, prepared dishes and cooking aids, over to milk products, ice creams, confectionery and bottled water (Nestlé 2022). The company's mission – "Good Food, Good Life" – highlights its continuous effort to

provide consumers with tasty and nutritious food choices with the purpose of enhancing the quality of life for everyone, today and for the future (Nestlé n.d.).

Over the last 150 years, Nestlé has grown to become the world's largest food and beverage company, operating in 186 countries with over 270,000 employees, comprising more than 2000 brands in its portfolio. In 2021, the group's total sales reached an impressive amount of CHF 87.1 billion, making it the most successful among its competitors. Nevertheless, Nestlé's global market share was only 3.2% in the same year (Nestlé 2022), portraying the significant fragmentation occurring in the food and beverages market.

The firm's success results from its vast product and brand portfolios, including household brand names such as Nescafé, KitKat, and Nespresso, as well as its worldwide geographic presence. Moreover, Nestlé's decentralized structure enables a greater diversification and adaptation of products across the different regions according to customers' needs, social and cultural trends (Nestlé 2022). Another key factor for its success is the investment decisions in the research and development (R&D) sector, into which CHF 1.6 billion are invested every year in nutritional sciences. Operating 17 R&D centres worldwide has made Nestlé the leader in its field, with the main Nestlé Research Centre (NRC) located in Lausanne, Switzerland (Nestlé 2022).

Creating Shared Value

Nestlé has been engaging in sustainability practices for a long time. In fact, since 2007 the company's sustainability strategy is based on the concept of CSV, suggesting that companies can generate economic value by creating societal value. According to Porter and Kramer (2011), there are three ways to implement this: (1) by reconceiving products and markets, (2) by redefining productivity in the value chain, and (3) by enabling local cluster development. Therefore, companies should always consider shared value as a crucial factor when making business decisions, as it can lead the firm to adopt new approaches that foster innovation and growth, also generating a competitive advantage and a more sustainable value for stakeholders.

Based on this, Nestlé's CSV strategy goes beyond compliance and sustainability, focusing on creating long-term value for both society and shareholders while committing to respect the environment (Nestlé n.d.) (*see Appendix 2*). To implement this strategy at an early stage, Nestlé committed to generate economic value to shareholders through its core business strategies and operations, while serving consumers nutritious, tasty, and healthy products. Moreover, the company aimed to improve its economic and social contributions for people and communities across the whole value chain such as farmers (Nestlé 2010). In 2009, Nestlé focused on three main areas of shared value creation: Nutrition, Water and Environmental Sustainability, and Rural Development.

Nutrition

Nutrition has always been the primary reason why Nestlé exists, as the company's goal has been to contribute to the health and wellbeing of customers, including those with specific nutritional needs and at the bottom of the income pyramid. This has been achieved by offering nutritious products with lower environmental impact and science-based solutions at affordable prices. Furthermore, Nestlé aimed to create awareness about nutrition through responsible communication strategies, thereby helping the society address problems such as malnutrition and obesity, adding beneficial micronutrients to its products (Nestlé 2010).

Water and environmental sustainability

Water is one of the key resources for Nestlé for both its business operations, particularly in terms of agriculture, and its relevance for the livelihood of suppliers and consumers. At the time, a water crisis was expected to unfold, consequently leading to detrimental consequences for the global food supply. In fact, the food chain, from agriculture to manufacturing and consumption, significantly affected water quality and availability, climate change, energy use, biodiversity, soil, and air quality, whilst being heavily dependent on all these primary resources

at the same time. For this reason, Nestlé aimed to have the lowest environmental footprint by continuously improving its operational efficiency and environmental performance.

In 2009, Nestlé invested over CHF 220 million into environmental sustainability programmes and initiatives to help reduce the use of water, non-renewable energy and other natural resources. Moreover, the company was geared to reduce emissions of greenhouse gases (GHG) by working alongside suppliers to further promote sustainable practices in its supply chain (Nestlé 2010).

Rural development

Rural development is relevant to improve the overall wellbeing of farmers and rural communities. At the time, nearly 40% of raw material expenditure went towards three key commodities: dairy, coffee, and cocoa, and for this reason Nestlé invested about CHF 20.4 billion a year on raw materials, working directly with approximately 540,000 farmers to help increase their productivity. The company objectives were to (1) protect the supply and quality of raw materials, (2) seek a positive long-term impact on the local economy and living standards of rural people. This was implemented through the employment and promotion of sustainable production practices, purchasing directly from small-scale suppliers and intermediaries. In 2009, Nestlé supported over 165,000 direct suppliers through technical assistance and knowledge transfer, by providing microfinance loans totalling CHF 48 million, ensuring they operated responsibly and sustainably through the Nestlé Supplier Code (Nestlé 2010).

Sustainable Food Systems

Sustainable food systems aim to deliver food security and nutrition for all in a way that the economic, social, and environmental bases to generate food security and nutrition for future generations are not compromised. This implies food systems to be profitable, widely beneficial to society, and to have a positive or neutral environmental impact (FAO 2018). As a company highly dependent on agriculture and sourcing of ingredients, Nestlé relies heavily in food

systems. Thus, Nestlé intends to promote sustainable food systems as they are in line with the its goal of being the leader in Nutrition, Health and Wellness, as well as its CSV strategy.

Complex Food Value Chain

The food value chain is a complex network which involves multiple stakeholders in growing, processing, and selling food. It includes the producers who grow food commodities, the processors who manufacture food products, the distributors who market and sell food, and the consumers who purchase and consume food. In parallel, governments, NGOs and regulators monitor and control the entire food value chain from producer to consumer (Deloitte 2015).

Nestlé's supply chain starts with raw materials grown by small farmers based in countries like Brazil, Côte d'Ivoire, Mexico or Vietnam, which are then transported to local or international factories to be processed and transformed into Nestlé products. Thereafter, the final products are distributed to retailers who sell them to the end consumers. In each step of the supply chain, there are potential risks and opportunities for development to ensure responsible sourcing as compliance from suppliers can be difficult to control in a global supply chain. Potential risks comprise the difficulty in ensuring that guidelines for responsible sourcing are met, and human rights conditions are respected, since most of these operations affecting the farmers are not directly undertaken by Nestlé, rather through its suppliers.

Furthermore, coffee and cocoa supply chains present even greater challenges as there are different intermediaries in the process from farming to Nestlé. By having a global presence, the complexities in managing the supply chain increase, as the company employs different teams and processes across different geographic areas. Therefore, greater assessment and support of the value chain is required to undertake bigger steps towards sustainability.

The Nescafé Plan

Nescafé: the instant coffee brand

Nescafé was launched in Switzerland in 1938 as an instant coffee, a product that revolutionized the consumption of coffee since it did not require consumers to grind the coffee beans. This resulted in a coffee that was more convenient, fast, and easy to use as it already was in a powdered form and only needed to be mixed with water (Nescafé 2022).

By 1940, Nescafé was already being sold in more than 30 countries across all continents, both in the developed and developing world, and its popularity kept growing throughout the years. The brand expanded its product offering to include premium blends like the Nescafé Gold Blend, introduced in the mid-1960s. In 1984, Nescafé's portfolio started to merge with the Italian coffee culture with the addition of drinks like Nescafé Espresso and Cappuccino in 1986. Finally, Nescafé Dolce Gusto was introduced in 2006, representing the brand's entry into the coffee machine market. Currently, alongside Nespresso, Nescafé is Nestlé's leading coffee brand and one of the world's favourite coffees, with a global reach of 180 countries and 5,500 cups consumed every second, representing one-fifth of the coffee served around the world (Forbes 2022).

Background and Context

Coffee along with pet care (17.9% of Nestlé total sales) is one of the main businesses for Nestlé, with coffee representing 71.4% of powdered and liquid beverage sales, constituting 27.5% of total company sales in 2021. In 2009, powdered and liquid beverages registered sales of CHF 19.3 billion, with an organic growth of 9.5%, the highest among all product categories. Besides that, the EBIT margin was the second largest, reaching 21.7% with soluble coffee achieving growth (Nestlé 2010).

Over the years, some steps towards a more sustainable coffee supply had already been taken, through an investment of CHF 200 million. According to the 2009 CSV report, Nestlé was the world's biggest direct coffee purchaser, buying 780,000 tonnes of green coffee, 93,700 of which was purchased directly from farmers in Vietnam, Thailand, China, Indonesia, the Philippines,

Côte d'Ivoire, and Mexico (Nestlé, 2009). In addition, technical assistance was also already being provided to farmers to improve yields, with training offered to 100,000 farmers of cocoa and coffee (Nestlé 2010). However, these initiatives weren't enough as they were mostly realized on a local and small scale.

Marcelo Burity was well aware of the problems on the coffee sites due to his experience of purchasing green coffee and cocoa in Brazil and Mexico. Coffee farming was still underdeveloped with low yields and high production costs, which were mainly caused by archaic farming techniques in many regions, impacting the quality of the coffee crops.

Stefan Canz and Orlando Garcia shared Burity's concern. They recognized that coffee landscapes were harmful to the environment, especially in terms of water usage, soil fertility, biodiversity loss, and GHG emissions. Moreover, they knew that farmers and their communities continued to live in bad conditions with low incomes, limited sanitation, and health support. Further, minority groups such as women and young people were strongly impacted, while human rights-related issues such as child labour prevailed with many children still working on the fields to contribute to their households' income instead of attending school. Since the communities in these countries still faced poor living conditions, children are forced to work from an early age on, thereby sacrificing their education.

Nestlé is highly dependent on raw materials for its production, so Canz was worried about the supply security both today and in the future since climate change was increasingly posing new challenges to coffee production. With the launch of two major projects aimed at optimizing Nestlé's coffee and cocoa value chains, Nespresso's AAA Sustainable Quality Programme (2003) and the Nestlé Cocoa Plan (2009) respectively, an opportunity to build an integrated strategy for Nescafé emerged. In 2010, 4,600 cups of Nescafé were consumed every second, guaranteeing the brand a leading position in the coffee market. This allowed Nestlé to continue

contributing to the change towards more sustainable and resilient food systems, representing an opportunity for the company to gain a competitive advantage.

Considering all the challenges that still needed to be addressed to tackle the unsustainable supply chains, Burity, Canz and Garcia gathered their teams to discuss the development of a specific plan to address the sourcing of this key raw material.

Nestlé's Response

On 27 August 2010, the Nescafé Plan was launched in Mexico with initial objectives of improving farmer livelihoods, reducing the brand's environmental impact, and furthering the responsible sourcing of coffee supplies. The company, therefore, established an integrated long-term strategy to optimise the quality, quantity, and sustainability of the coffee supply chain.

Paul Bulcke, Nestlé's Chief Executive Officer (CEO), expressed his enthusiasm by stating "we are proud that Nescafé, the world's leading coffee brand, gives its name to this global initiative which creates value across the coffee supply chain, from farmers to consumers to us" (Nestlé 2010). In fact, Nestlé decided to implement a new global initiative which compiled all its commitments on coffee farming, production, and consumption to increase the value created through its coffee business. The Swiss multinational envisioned a world in which each cup of Nescafé coffee was a true cup of respect, being responsibly sourced with respect for farmers, communities, the environment, and end consumers.

To achieve this, Nestlé committed to invest CHF 350 million in the Nescafé Plan and further CHF 150 million in Nespresso from 2010 until 2020. Nescafé partnered with the Rainforest Alliance (RA), an international non-governmental organization (NGO), as well as the Sustainable Agriculture Network (SAN), to leverage their knowledge and presence in sustainable agriculture. Moreover, they also partnered with the coffee association 4C to utilize their knowledge on coffee farming. Tensie Whelan, President of the RA, highlighted the importance of the partnership: "The *Nescafé Plan* is about looking ahead to the future of coffee

farming. We see this collaboration as an exciting opportunity to bring sustainability tools to thousands of farmers, including many who have not had the benefit of training and technical assistance" (Nestlé 2010).

Initial Commitments

After thoroughly assessing what was going on in the field, Burity and Canz's teams devised a well-thought ambitious plan to enhance Nestlé entire coffee supply chain, from crop to cup, based on three main pillars: coffee farming, production, and consumption.

The first pillar of **Coffee Farming** included goals such as doubling the amount of coffee bought directly from farmers by 2015. All green coffee should be compliant with the internationally recognized 4C Sustainable Standards (*see Appendix 3*) by that same year, while 900,000 tonnes of coffee were expected to be sourced according to the RA principles (*Appendix 4*) by 2020 (Nestlé, 2010). In addition, Nescafé committed to expand technical assistance programmes to teach farmers better farming and post-harvest practices, with the goal of reaching 10,000 coffee farmers per year. At the same time, the team aimed to distribute 220 million high-yielding, disease-resistant coffee plantlets by 2020 which would help overcome climate change pressures on farming. In addition, as mentioned before, new microfinance schemes and community projects focused on education, public health and water supply were set as a priority to improve farmers' livelihoods and reduce their environmental impact (Nestlé 2010).

For the second pillar of **Production**, the team proposed an annual investment of CHF 40 million to improve Nescafé's environmental performance. Some of the objectives included a 20% reduction per tonne in energy usage and a 30% decrease in water consumption by 2020. Moreover, the reusage of coffee grounds as fuel in all Nescafé factories was defined as another aim as it would help manage waste. Furthermore, Nescafé promised to take the first steps in optimising packaging by reducing the weight and volume of packaging materials and increasing the usage of renewable resources (Nestlé 2010).

Finally, for the third pillar of **Consumption**, the team not only ended up committing to provide customers with more sustainable coffee products, but also to launch initiatives to reduce energy consumption whilst preparing Nescafé coffee such as improving the energy efficiency of Nescafé Dolce Gusto machines (Nestlé 2010).

Outcomes after 10 years

After 10 years, Burity and Canz were very proud of the achievements of the first chapter of the Nescafé Plan which turned out as mostly focusing on responsibly sourced coffee supplies. "It was about expanding and improving our food programmes with farmers, developing impact assessment capabilities, as well as a lot of activities related to our factories in terms of carbon emission and water use reduction" (Burity, Interview, November 7, 2022). The main outcomes of the objectives defined in 2010 were categorised into three groups: responsible sourcing, improving livelihoods, and reducing environmental impact.

Regarding **responsible sourcing**, the original target of having 70% of total Nescafé coffee responsibly sourced in 2020 was exceeded, reaching 75%. Throughout the plan, transparency and traceability to the farmer groups was improved and there were significantly more credible unbiased third-party organisations undertaking controls across farming practices not compliant with sustainability standards. In the end, all the plan's multiple programmes were aligned with Nestlé's Responsible Sourcing Standard (*see Appendix 5*).

In terms of **improving livelihoods**, the three sub targets were achieved, namely the improvement of the quality, quantity, and sustainability of the coffee supply chain by distributing 220 million coffee plantlets; the improvement of coffee farm economics in at least four coffee-sourcing countries; and the monitoring and improvement of labour rights in at least two coffee-sourcing countries. In total, since 2010, 235 million coffee plantlets were distributed, while Mexico, Cote d'Ivoire, Honduras, and Vietnam saw improvements in their coffee farm economics. Moreover, labour rights were monitored and improved in Mexico and

the Philippines. The Nescafé Plan's objectives, with these actions, were to increase the efficiency and resilience of farmers by upskilling them with business knowledge and promoting the idea of coffee variety diversification. They incentivised farmers to cultivate stronger coffee selections, adding 15 new improved coffee varieties, which are not only more resistant to climate change but also inclined to produce higher yields and better-quality coffee.

In the last group of **reducing the environmental impact**, the two sub targets of decreasing by 35% both GHG emissions (scope 1 and 2) and direct water withdrawal per metric ton of soluble coffee by 2020 were met. After the implementation of the plan, a 46% and a 53% reduction in the respective sub targets was achieved. Through these initiatives, Nescafé was able to accomplish its goals of reducing carbon emissions from operations, water usage in factories as well as in irrigation of coffee crops and enhance biodiversity with intercropping programmes and a decline in pesticide usage.

Overall, the Nescafé Plans' impact was massive, reaching more than 649,000 metric tons of responsibly sourced coffee in 2020, with 230 agronomists and field staff providing farmers with technical assistance and coaching. This translates into over 900,000 farmer trainings across the last ten years.

Development Initiatives

Beyond the most measurable targets of the plan, multiple initiatives were developed to promote inclusion and prepared the future of coffee based on the issues identified along the way. One of them was the establishment of farmer business schools to help younger farmers with entrepreneurial potential become economically empowered. By developing their financial skills, they can budget better and allocate resources more efficiently, increasing their profitability and consequently their income. Furthermore, the Nescafé Youth Initiative aimed at inspiring younger generations to stay on the farm and embrace coffee growing, as the current global average age of farmers is over 50. Nescafé wants to demonstrate that coffee farming can

be profitable and fulfilling due to capacity building and more access to inputs for production, ensuring the future of coffee farming.

Besides that, a parallel initiative was put in place for women in coffee. To date, 8,500 female farmers have been trained in agronomic and *agripreneurship* skills, which include financial literacy and organization governance, to support women empowerment and tackle interrelated issues such as school enrolment levels. As more women can earn enough to support their families, fewer children are likely to end up working on fields and can attain an education.

Achieving a "Cup of Respect"

Impact Assessment

In the first years of the plan, it started to become evident that impact assessment needed to be developed further. "If you not only would like to measure what you do, but the result of what you do, then you also need to measure the outputs and outcomes of what you are doing" (Burity, Interview, November 7, 2022). In fact, the Nescafé Plan's elaboration and implementation was done in partnership with the RA, an international NGO whose mission is "creating a more sustainable world by using social and market forces to protect nature and improve the lives of farmers and forest communities" (RA 2022). The RA played a fundamental role in measuring the impact of Nescafé, ensuring that the coffee was indeed sourced responsibly.

In 2014, Burity and Canz's teams felt the need to develop the Nescafé Plan Theory of Change (ToC) (*Appendix 6*) together with the aforementioned NGO to serve as a framework to guide the plan's objectives and Key Performance Indicators (KPIs) (*Appendix 7*) to assess farm economics, social and environmental impacts. The three key desired sustainability impacts of this ToC the joint-team ended up defining were the following: improved coffee economics at the farm level, more resilient coffee farming families and communities, and more sustainably managed landscapes. The framework also summarized how Nescafé would achieve these goals,

ranging from increasing coffee productivity to promoting soil fertility and biodiversity, as well as what was being done to reach them.

Sometime later, Burity and Canz felt that having a tool to better measure the initiatives' impacts allowing for more third-party intervention was important. To answer this, the development of the Monitoring and Evaluation (M&E) activities (*see Appendix 8*) started in 2014, again in partnership with the RA. The NGO took on the mission of training local partners to collect, analyse and report the data, as well as supervise their work. In general, the objective was to measure the progress towards the goals set out by the ToC, further evaluating if they were aligned with the Sustainable Development Goals (SDGs) which were established by the United Nations (UN) in 2015. The M&E tool was implemented in 2018, and in 2020 it was already present in 13 out of the 15 coffee origin countries. Local partners collect data under the Rainforest Alliance's supervision, while the Nescafé Plan staff also collects data every time they visit farms, with the intention of better understanding the activities on the ground.

Technical Support

To help provide technical assistance and coaching, Nescafé implemented farmer field programmes in all 15 origin countries, such as Mexico, Honduras, and Vietnam, counting on the support of 230 Nescafé agronomists in the field. They played a pivotal role in sharing best practices with lead local farmers helping them sustainably optimize their yields and costs. On their part, the lead farmers were also key actors in this process because they served as peer-guides to other farmers in their communities by coaching and sharing knowledge.

Communication to consumers

Engaging consumers in this journey of sustainable coffee was crucial to complement Nescafé's efforts. However, the brand waited until 2018 to launch a communication campaign about its sustainability actions to consumers due to two main reasons. Firstly, it was only by then that the Nescafé Plan was mature enough to present some tangible impacts. Secondly, the brand

wanted to give consumers the confidence that Nescafé's coffee was responsibly sourced and respond to their demand for more sustainable products.

As a result, the Grown Respectfully campaign was launched with Nescafé's website creating a dedicated section on the topic, with videos being shared on the brand's social media including testimonials of farmers. Moreover, the campaign also involved the implementation of consumer-facing communications such as complimenting the products' packaging with the face of farmers on coffee jars, physical point-of-sales in stores, and digital campaigns. Nescafé's overall idea was to connect farmers to the end consumers by portraying the great impacts of the Nescafé Plan.

Obstacles on the journey to sustainability

As with all major projects, the Nescafé Plan encountered challenges along the way that not only impacted the day-to-day activities, but that also emphasized the importance of the transition towards a more sustainable way of farming.

One of the problems was the lack of interest of farmers in the coffee plantlets in countries such as in Côte d'Ivoire, due to competing crops which were more remunerative or countered with government incentive programmes. Another observable issue was the fact that farmers on average presented a low level of education which impacted the data accuracy and collection with regards to yield and production costs. For Nestlé this meant that the envisioned impact measurement was hampered and less detailed. Throughout the plan, forms and other adaptations needed to be made to align farmers' capabilities with the plan's assessment process.

Although the Nescafé Plan was created to position Nestlé on a path towards CSV, the challenges faced by the Procurement and Sustainable Agriculture teams were not completely solved. They kept facing problems and shortcomings in achieving all the proposed objectives. In fact, an example of a significant challenge that Nestlé faced over the 10 years has been the issue of child labour, as observed in countries such as Brazil and Mexico, which subsequently led to some

suppliers being dismissed. In Brazil, it was uncovered that Nestlé was sourcing parts of its coffee beans from plantations that used child and slave labour, indicating that its supply chain was not as transparent as it should have been (Hodal 2016). In Mexico, it was observed that the child labour issue was still prevalent given weak labour legislation enforcement in rural areas of the country. In addition, the bulk of farm workers hail from lower income neighbour countries such as Guatemala who are attracted to the higher wages offered in Mexico. These two examples indicate structural concerns along not only Nestlé's but also the global coffee value chain. Further, it underlines the structural issues of coffee farming, as there are thousands of small farms across the value chain that are in remote areas with a low-income population, thereby showing the existence of a clear linkage between rural poverty and child labour. Although corrective actions have been undertaken, such as dismissing suppliers and deploying local partners to observe on the ground, the embedded structural issues in the coffee value-chain remain and require further attention.

Another challenge touches upon the working conditions of those employed on the coffee farms. Here, problems regarding work safety and adequate payment were detected, with many farmers still living below the poverty line. Moreover, many farmers only own a small portion of land, which when paired with a poor yield, puts the cultivator in a situation where they decide to abandon growing coffee altogether and rather move on to a more reliable crop.

Finally, another pressing issue that will continue to highly affect local farmers working for Nestlé is climate change. Droughts for example put both farmers and their land in a precarious position, hence compromising the production output for various coffee brands owned by the firm. These incidents highlight the impact climate has on coffee production and underline the importance of strengthening farmers' resilience. At the same time, sourcing of ingredients remains one of the activities that contributes most to climate change through its carbon emissions. In the future, further solutions to address these issues will need to be put in place.

Lessons Learned

In the 10-year Nescafé Plan report, Burity reflected upon the main lessons learned from the journey so far. Firstly, he highlights the importance of embracing a long-term strategy because running field programmes takes time and sustainability is a vast field. In his view, it is essential to define a clear and coherent long-term strategy to avoid confusion, unnecessary costs, loss of time and credibility. Secondly, sustainability must be established as a competitive advantage because it is a strong driver for consumer preferences currently, having the potential to create brand and business value. Moreover, Burity emphasizes the importance of prioritisation of needs, to focus on what matters most, where it matters most, to bring about meaningful change. As he puts it, "the closer the business functions work together, the stronger the programme becomes and the more value it creates" (Nestlé 2021).

Furthermore, high-quality data is crucial. Disciplined and timely reporting with IT solutions is key to capture, analyse and interpret data reliability and consistency. Farmers should be treated as customers in the sense of understanding their behaviour and reaction to the programme to adapt to underperforming activities and reinforce successful ones. In addition, it is important to leverage partnerships and sector-wide collaborations due to the scale and complexity of the coffee sector. The key to unlocking value in each partnership is to clearly define its role within the long-term strategy and selected priorities. Structural issues like available infrastructure, access to health, education and finance make it difficult for many coffee origins to achieve full potential. Solving these problems requires multilateral and systemic efforts with stronger sector-wide collaboration (Nestlé 2021).

Finally, Burity considers ambitiousness and risk-taking to be essential as they push people to meet the targets, improving the ability to rethink plans along the way. Throughout the plan, Nescafé faced challenges in the roadmap that led to multiple adaptations to the plan but "to reach for greatness, have great ambitions and dream big from the start" (Nestlé 2021).

A further step into the future

After 10 years, the impacts of the Nescafé Plan have been positive with most of the proposed objectives attained. In fact, the Nescafé Plan has contributed to Nestlé's advance in transforming food and agriculture for a sustainable future, contributing to more nutritious food, the development of farmers and protection of the planet.

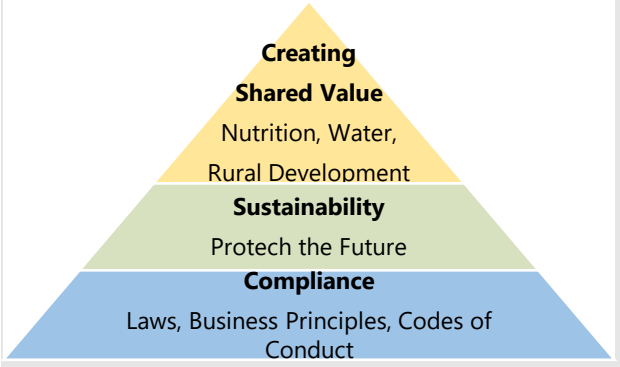
Nevertheless, sustainability is a journey, and it is evident that a number of challenges are yet to be faced by Nestlé in the process of finding more impactful solutions for its business activities. *How can Nestlé advance in its sustainability journey by integrating new sustainable strategies? What should the next immediate steps be to address the challenges that pose the greatest threat to the business? What new objectives could be defined for the next years? How can the company adapt its strategy to ensure consumers, investors, and employees' engagement in its sustainability efforts? How can Nestlé build trust, improve communication, and bring innovation?*

APPENDIX

Appendix 1 – Nestlé's Portfolio

Source: (Nestlé 2022)

Appendix 2 – Creating Shared Value at Nestlé's CSV Report 2009



Source: (Adapted from Nestlé n.d.)

Appendix 3 – Principles of 4C Code of Conduct

Economic Sustainability	Social Sustainability	Environmental Sustainability
• Business Management • Capacity and Skill Development • Access to Services and Market Information • Traceability	• Human and Labour Rights • Working Conditions	• Protection of Biodiversity and High Carbon Stock Areas • Use of Pesticides and Other Hazardous Chemicals • Soil Conservation and Fertility • Water Conservation • Waste Management • Energy Consumption

Source: (4C, 2022)

Appendix 4 – The 4 principles of Rainforest Alliance Certification Programme

Improved data management

Our new programme fully embraces the power of data—from detailed record-keeping systems to cutting-edge geospatial analysis. This means exciting new digital tools to help farmers implement more sustainable practices, clearer performance insights and risk analysis for companies, and more effective auditing processes to ensure transparency and accountability.

Context adaptability

We have shifted decisively from a one-size-fits-all model to being context-adaptable. This more flexible approach better reflects the diverse realities we face on the ground, which vary considerably from country to country, between different crop sectors, and depending on the size or type of farm or company we work with.

Shared responsibility

Sustainability transformation can require significant investments of time and money. To ensure that responsibility for this is shared across the entire supply chain, our 2020 Certification Programme introduces new requirements for companies to invest in and reward more sustainable production.

Continuous improvement

Sustainability is a journey, not a destination. Accordingly, our new certification programme moves away from the classic pass/fail model towards an approach that measures and incentivizes continuous progress along each step of the journey.

Source: (Rainforest Alliance 2022)

Appendix 5 – 5 Executive Summary Principles of Nestlé's Responsible Sourcing Standard

1. Nestlé staff sources with care and respect for the people, planet and oceans where materials and services are produced

2. Tier 1 Suppliers apply good labour standards in recruting, compensating, and caring about their workforce. Preserving naturak resources and consucting business in an ethical and collaborative way is ensured

3. Intermediaries operate with the same principles of value, transparency and respect as their suppliers and clients, nurturing traceability and preserving information

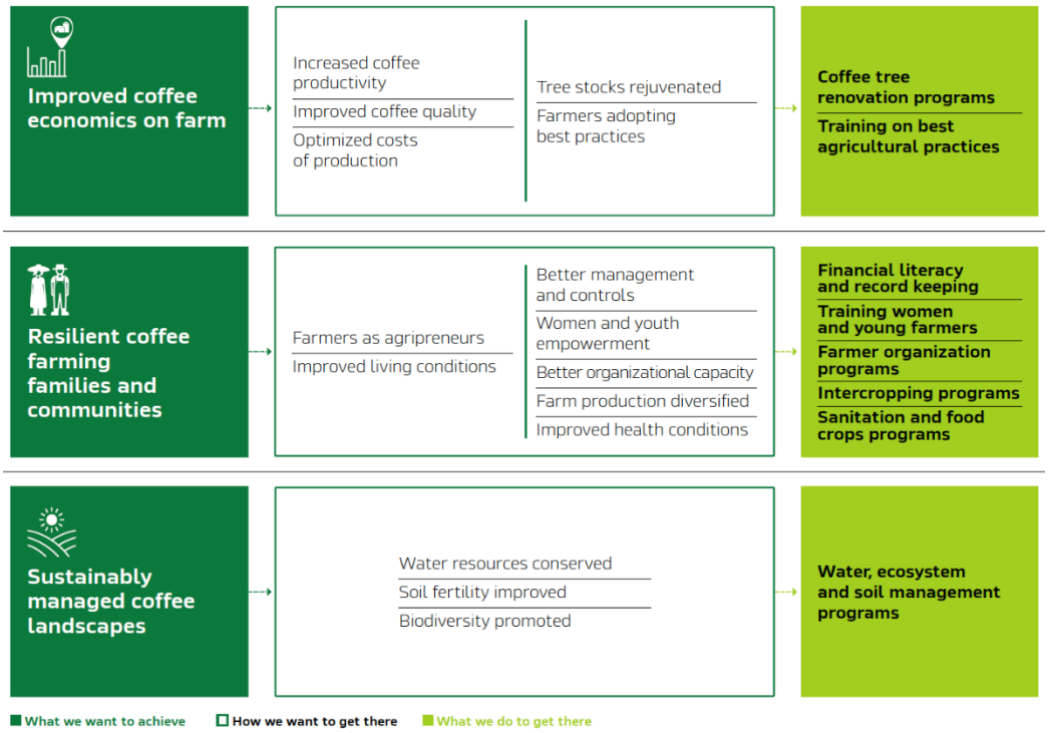
4. Origins, farmers and fishes, continuously improve their ways of working in:

- Optimising yield through conservative agriculture, preservation of soil viome and rationalisation of agrochemical inputs
- Caring and respecing the workforce, animals, land, water and forests that they work with

5. Supply Chain Tiers work in compliance with applicable regulations, continuously monitor, disclosure, and improve against the Standard

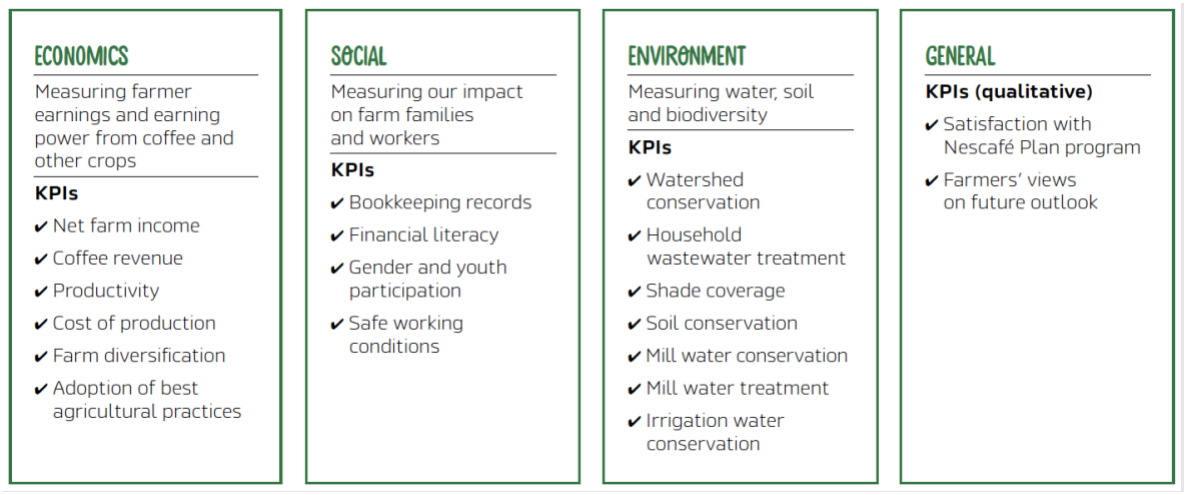
Source: (Nestlé, 2018)

Appendix 6 – The Nescafé Plan's Theory of Change



Source: (Nestlé, 2021)

Appendix 7 – Main KPIs of the Nescafé Plan



Source: (Nestlé, 2021)

Appendix 8 – Monitoring and Evaluation (M&E) Tool

Survey design

A 100+ question survey was designed by the Rainforest Alliance to evaluate the indicators outlined in the Theory of Change (see page 23). This is continually updated, with guidance for complex topics such as shade tree cover, farm economics and pruning.

Sampling methodology

In most countries, *Nescafé* sources directly from thousands of smallholder farmers. To collect data, we use a sampling methodology of 95% confidence with a 10% margin of error – sampling 100–120 farmers per country. The Rainforest Alliance selects a random sample, usually stratified by geographic region. Where possible, the same farmers are visited each year to create a data set over time.

Data collection

In-country partners are selected to collect data. They are contracted by *Nescafé*, and supervised by the Rainforest Alliance. Data is collected over a one-to-two-month period and submitted to the Rainforest Alliance for review and data cleaning.

Data analysis

After its review, the Rainforest Alliance analyzes and presents the data based on the Theory of Change indicator framework. Data is usually presented as country averages (instead of totals). This data is corroborated with *Nescafé's* internal M&E data collection process.

Reporting, communications and adaptive management processes

The data is used for external reporting and internal management. It is shared with global and country teams to provide support where needed. Insights are fed back into the Theory of Change framework and analyzed from a practical standpoint to inform future activities and strategic focus areas. The cycle then begins again.

Source: (Nestlé, 2021)

REFERENCES

Barilla Center for Food & Nutrition. n.d. *Double Pyramid: healthy food for people, sustainable food for the planet*.

pp-double-pyramid-healthy-diet-for-people-sustainable-for-the-planet.pdf (askfood.eu) (accessed October 17, 2022)

4C Services GmbH. 2020. *4C Code of Conduct*.

https://www.4c-services.org/wp-content/uploads/2020/07/200701_4C-Code-of-Conduct-v.4.0.pdf (accessed October 10, 2022)

Food and Agriculture Organization of the United Nations. 2018. *Sustainable food systems: Concept and framework.*

https://www.fao.org/3/ca2079en/CA2079EN.pdf (accessed October 30, 2022)

Forbes. n.d. "Nescafé". Forbes. Accessed December 3, 2022. https://www.forbes.com/companies/Nescafé/?sh=2830baad5854

Hodal, Kate. 2016. "Nestlé admits slave labour risk on Brazil coffee plantations". *The Guardian*. Accessed December 03, 2022.

https://www.theguardian.com/global-development/2016/mar/02/Nestlé-admits-slave-labour-risk-on-brazil-coffee-plantations

Nescafé. 2010. "The NESCAFÉ Plan - Beyond the Cup." 1:38. Accessed October 10, 2022.

https://www.youtube.com/watch?v=KVY9bSIY0P4

Nescafé. 2020. "The history of Nescafé." Nestlé: Good food, Good life. Accessed October 10, 2022. https://www.Nescafé.com/mena/en-ae/understanding-coffee/Nescafé-history

Nestec Ltd. 2018. *Nestlé Responsible Sourcing Standard*. Vevey: Nestec Ltd.

https://www.Nestlé.com/sites/default/files/asset-library/documents/library/documents/suppliers/Nestlé-responsible-sourcing-standard-english.pdf (accessed October 3, 2022)

Nestlé S.A. n.d. *Nestlé Creating Shared Value Report 2009*.

https://www.Nestlé.com/sites/default/files/asset-library/documents/library/documents/corporate_social_responsibility/Nestlé-csv-report-2009-en.pdf (accessed October 15, 2022)

—. 2010. *Annual Report 2009*. Cham and Vevey: Nestlé S.A.

https://www.Nestlé.com/sites/default/files/asset-library/documents/library/documents/annual_reports/2009-annual-report-en.pdf (accessed October 15, 2022)

—. 2010. *Creating Shared Value Summary Report 2009*. Vevey: Nestlé S.A.

https://www.Nestlé.com/sites/default/files/asset-library/documents/reports/csv%20reports/global%20report%202009%20(summary)/csv_2009_gb.pdf (accessed October 16, 2022)

—. 2022. *Annual Review 2021*. Cham and Vevey: Nestlé S.A.

https://www.Nestlé.com/sites/default/files/2022-03/2021-annual-review-en.pdf (accessed October 18, 2022)

—. *Creating Shared Value and Sustainability Report 2021*. Sustainability at Nestlé. (n.d.). Nestlé Global.

creating-shared-value-sustainability-report-2021-en.pdf (Nestlé.com) (accessed October 3, 2022)

Nestlé. 2010. "Nestlé invests CHF 500 million in coffee projects, doubling direct purchases." Nestlé: Good food, Good life. Accessed October 6, 2022. https://www.Nestlé.com/media/pressreleases/allpressreleases/Nestlé-invests-chf500-million-in-coffee-projects-doubling-direct-purchases

Nestlé. 2021. "Our Sustainability Journey: Ten Years of the Nescafé Plan." Nestlé: Good food, Good life. Accessed October 3, 2022. https://www.Nestlé.com/sites/default/files/2021-01/sustainable-journey-ten-years-Nescafé-plan-2021-en.pdf

Nestlé S.A. n.d. "The Nestlé company history." Nestlé: Good food, Good life. Accessed October 8, 2022. https://www.Nestlé.com/about/history/Nestlé-company-history

—. "Our purpose and values." Nescafé. Accessed October 8, 2022. https://www.Nestlé.com/about/how-we-do-business/purpose-values

Nestlé S.A. n.d. "Facts and figures: Nescafé Plan." The Nescafé Plan global launch. Accessed September 28, 2022. https://www.Nestlé.com/sites/default/files/asset-library/documents/library/events/2010-Nescafé-plan-global-launch/facts-and-figures-Nescafé-plan-en.pdf

Porter, Michel E., and Mark R. Kramer. 2011. "Creating Shared Value: How to reinvent capitalism – and unleash a wave of innovation and growth." *Harvard Business Review* (1-2).

https://www.communitylivingbc.ca/wp-content/uploads/2018/05/Creating-Shared-Value.pdf (accessed October 20, 2022)

Rainforest Alliance. 2022. “Our Approach” Rainforest Alliance. Accessed October 20, 2022. https://www.rainforest-alliance.org/approach/

World Business Development for Sustainable Development. 2008. *Sustainable Consumption Facts and Trends: From a Business Perspective.*

https://docs.wbcsd.org/2008/11/SustainableConsumptionFactsAndTrends.pdf

(accessed October 17, 2022)

PROJECT EVALUATION REPORT

The present report will investigate the following research question:

"How can Nestlé Europe become the leader in the change into sustainable food systems by engaging all stakeholders in its sustainability practices?"

The case study about the Nescafé Plan served to portray how Nestlé has been promoting Sustainable Food Systems (SFS) on a global level through the optimisation of its value chain. The evaluation report will explore how Nestlé can go further in its sustainability efforts to reach leadership in sustainable food systems by building trust, improving marketing and communication, as well as bringing innovation within its CSV strategy. Looking at present challenges and Nestlé´s efforts to tackle them, final recommendations will be drawn to guarantee the inclusion of stakeholders (e.g. consumers, investors, suppliers, and employees) as part of the company's journey to lead such transition.

Situation Analysis

Sustainable food systems' challenges

Population growth

The current projections forecast that the world population will exceed 10 billion people by 2050, with half of the growth expected to take place in Africa and one third in Asia, where the average fertility rate is 5 children per woman, in contrast with most of the world (2.1 children per woman). The direct and indirect consequences of population change are many, including the higher food demand, deforestation, and rapid depletion of natural resources, as well as high competition for lands and energy, spikes in pollution and emissions, industrialization, and loss of biodiversity (University of Oxford, 2022).

By 2018, to feed 10 billion individuals, 56% more food would need to be produced compared to 2010, and to do a regenerative approach for lands currently employed in agricultural practices, should be preferred over the deployment of new soil, as 50% of the world's vegetated

lands are already employed in agricultural operations (*see Appendix 1*). This would harm the quality and the health of the soil, which seriously affects the ability of future generations to continue using these lands to source raw materials to produce nutritious food (World Resource Institute, 2019).

Food wastage

Along with population growth, current trends of "overconsumption" and the high rates of food wastage (term that encompasses both food loss and food waste), pose additional challenges to the implementation of SFSs (FAO 2013). It is estimated that 14% or $400 billion worth of the food produced for human consumption is lost between the harvesting stage and retail level, the latter accounting for 2% of the total food waste, while the most impactful actors are individual households, accounting for 22% of the world's food waste (United Nations 2022). Food wastage is not only the action per se, but it encompasses all the natural resources, energy, and land employed in its production (FAO 2022). The causes leading to food wastage are found along the entire food supply chain, starting from agricultural production, postharvest handling and storage, to processing, distribution, consumption, and end of life (FAO 2013). Food wastage highly undermines both the sustainability and resilience of our food systems, accounting for 8-10% of the global greenhouse gas emissions (GHGs), contributing to the increase in severity and frequency of extreme weather events. Finally, it is important to note that food wastage has a different economic value in different stages of the supply chain, the more advanced the stage is the bigger the economic loss (FAO, 2013).

Climate change pressure on the food supply chain

Climate change is considered a determinant factor for the future food supply chain safety, as agriculture and fisheries highly depend on weather conditions. The rise in temperature and CO_2, if moderate, could help some plant species grow faster, although increasing CO_2 levels diminishes the nutritional values (protein and essential minerals) in most plants, threatening

human and livestock's health. On the other hand, the increase in temperature at the current pace causes heat waves and lead to floods and droughts, reducing the crop yield and soil quality. The variation in crop quality and production not only impacts farming practices, but also livestock well-being. To overcome this issue, the use of pesticides and resistant chemicals agents increased, leading to the risk of pesticides entering the food chain with repercussions on human consumption of cattle, agrifood, and aquaculture products (EPA, 2022).

Poverty of farmers

Climate change has a significant influence on the farmers' livelihoods. Being constantly exposed to extreme weather conditions and working in fragile environments, they can be more subject to food insecurity and even poverty. As mentioned before, extreme weather conditions increase risks of crop failure and livestock mortality, directly affecting farmers (Celia et al., 2014). They are affected to different extents depending on the area they operate in - in India and China, 70% of individuals in extreme poverty work in the agricultural sector, followed by Bangladesh. Smallholder farmers amount to 2.4 million, accounting for 5% of the global emissions and producing one third of the food for global consumption. It is estimated that by 2030 more than 125 million farmers will be subjected to extreme poverty levels (Acumen 2021).

Child Labour

Child labour is a direct consequence of poor levels of farmers' livelihoods, and it is closely associated to climate change, counting 160 million young victims worldwide. Extreme weather conditions can indeed boost the demand for children's contribution to farms, as well as separate them from their families, increasing the likelihood for child labour. Furthermore, a shortage of primary resources, the decrease in fertile lands and climate shocks also lead to a phenomenon called "Climate Migration", which puts over 500 million children at risk of displacement. In addition, the high levels of harvest unpredictability present difficulties in aligning the work with

school calendars, leading to frequent school absenteeism. Peaks in temperatures also create very harmful working conditions, resulting in frequent health issues for the children also due to an exposure to tropical infectious diseases such as malaria and dengue (International Labour Organization 2022).

Environmental Impact of Farming

Agriculture, being in direct contact with lands, is one of the greatest contributors to environmental degradation. To meet the increasing global food demand, farming practices have intensified and expanded at the expense of natural ecosystems and resources, resulting in loss of crop diversity, reduction of pollinators and a weakened resistance to parasites and diseases. It is estimated that only 7% of these lands are in a favourable conservation status, while half of them are not conserved properly. The excessive use of phosphorus and nitrogen, essential elements for the life of plants, highly contribute to air and water pollution. Studies have shown that the level of reactive nitrogen has doubled on a global scale and even tripled in Europe since the pre-industrial era (European Environment Agency 2020). Logically, multi-ingredient products have a higher environmental impact with studies showing that low impact ones harm the environment by 50% to 90% less (University of Oxford 2022). In *Appendix 2*, it is possible to observe the most environmental damaging foods according to their GHG emissions, highlighting the fact that most emissions occur in the early stages of the supply chain when agricultural and farming practices are carried out (Poore and Nemecek 2018).

World Hunger

It is estimated that more than 10% of the world's population lives in hunger, with high concentrations observed in LDCs and DCs (Owen, 2022), due to uneven concentration of population growth. Hunger is caused by an insufficient intake of important nutrients for development, which has severe consequences in life and economic prosperity (Owen, 2022). The main promoter of hunger is poverty, resulting from the different challenges mentioned

above, and socio-economic crisis, as conflicts and pandemics (Owen, 2022). Hunger is closely connected to food systems, as SFS represent a possible solution to this problem. Efficient food production, resistance to climate change, and therefore sustainability for its communities, can guarantee its development and foster food security.

CSV at Nestlé Today

Currently, Nestlé embraces its CSV strategy by focusing on four commitment areas (*Appendix 3*): Contributing to nutritious and sustainable diets; Helping to protect, renew and restore natural resources; Strengthening communities and Operating responsibly (Nestlé 2021). Across these different areas, R&D plays a crucial role in advancing them. With more than 4000 R&D experts, Nestlé leverages them to create new products that are affordable, nutritious and sustainable in terms of emissions or climate impact, by improving yield from crops or even upcycling agriculture by-products to decrease food waste (Nestlé 2021). Considering specifically the latter, ensuring that leftovers of production from some products can be reused to produce new ones is an action incorporated in Nestlé's strategy. The company started to sell the Golden Morn brand in developing countries by using sorghum side stream.

Contributing to nutritious and sustainable diets

Nestlé is working to improve its products' nutritional profile. In fact, it has achieved a 5% reduction in added sugar in 2020 and is planning to reduce sodium until 2025 and 2030, while advocating for the use of more whole grains, proteins, and fibres in products. Moreover, the company uses its global expertise to contribute to more affordable and accessible nutritious products to tackle nutritional deficiencies. Through the Popularly Positioned Products (PPP) Affordable Nutrition strategy, Nestlé sells affordable products in developing countries fortified with micronutrients which play a key role in fighting hunger (Nestlé 2021).

The firm contributes to the awareness and consumer behaviour shift towards more sustainable and nutritional products by expanding its portfolio to include more plant-based products which

are tasty, nutritious and have a low environmental impact as well as encouraging the widespread adoption of plant-based foods through multiple brands. Besides that, the Nestlé Corporate Business Principles can also be seen in the efforts to ensure quality and food safety in its products (Nestlé 2021).

Even though the company creates better products, they also focus on educating and raising awareness for them. By having the ingredients' listed on the product's packaging, and developing the Portion Guidance, consumers can have a clear understanding of what they are purchasing and what an ideal portion of the firm's products is. Additionally, the firm engages in responsible marketing, ranking 3rd in the Access to Nutrition Initiative (ATNI) Global Index (including children marketing) (Nestlé 2021).

Helping to protect, renew and restore natural resources

Climate and Nature

Nestlé has committed to net zero emissions by 2050. Since 2018, the company has been able to reduce 13.7 million tonnes of absolute CO_2. Additionally, the firm aims to achieve and maintain 100% deforestation-free primary supply chains for meat, palm oil, pulp, paper, soya, and sugar in 2022, and for coffee and cocoa by 2025. To ensure this, Nestlé is relying on supply chain mapping, on-the-ground assessments, certification, and satellite monitoring. These commitments are part of the Forest Positive strategy which also has interventions in the planting of new trees within the Sustainable Landscape initiative (Nestlé 2021). Furthermore, Nestlé is focusing on decreasing energy consumption throughout its operations – in 2021, the company increased the percentage of renewable electricity from 50.5% to 63.7%. In addition, 27.2% of the global fleet of vehicles switched to lower-emission options (Nestlé 2021).

Regarding reporting, Nestlé is applying the Taskforce on Climate-related Financial Disclosures (TCFD) framework by assessing physical risks in the company's value chain over a longer time horizon and reporting main Environmental, Social, and Governance measures (Nestlé 2021).

Water

Nestlé Waters has committed to invest CHF 120 million in projects to regenerate the water cycle to potentially create a positive water impact by 2025 across all Nestlé businesses (*Appendix 4*). Moreover, water management processes are being implemented in internal operations and agricultural supply chains. In fact, Nestlé's commitments can be seen in actual performance, with significant reductions in water usage across different product categories. For example, since 2010, powered and liquid beverages and confectionery categories have achieved a 57% decrease in their water usage (Nestlé, 2021).

Packaging and Circularity

Nestlé is fiercely addressing its packaging choices across brands, proposing 100% recyclable or reusable packaging, as well as to reduce the usage of virgin plastics by one third until 2025. In fact, the company is already advanced in these objectives - 85,4% of packaging is currently recyclable or reusable, and subsequent virgin plastic reductions have been achieved in the last years. Based on a five-pillar strategy, the company is rethinking its operations and behaviours towards packaging and circularity: reducing packaging materials, scaling reusable and refillable systems, pioneering alternative materials, supporting infrastructure for a waste-free future, and accelerating behaviour change (*Appendix 5*) (Nestlé 2021).

Strengthening Communities

Produced Sustainably

The company has impacted producers by ensuring sustainable production, expecting to achieve 100% responsibly sourced ingredients by 2030. As outlined in recent commitments, by 2025, coffee and cocoa are expected to achieve this metric first. The raw materials used by Nestlé follow the "Produced Sustainably" key performance indicator (KPI) based on 4 big pillars – Transparency, Environment, Human Rights and Animal Welfare. The criteria include: raw materials need to be traceable back to the origin; operations are in congruence with the Nestlé

Responsible Sourcing Standard, having human rights and environmental due diligence systems in place to assess, address and report on potential or actual impacts in the supply chain; and a measurable progression of tier-1 suppliers in addressing identified impacts in supply chain and issues like human rights, environmental and animal welfare (Nestlé 2021).

The efforts undertaken by the company to address supply chain activities are mostly a consequence of its awareness of the real impacts of these activities. Supply chain activities such as farming account for 95% of total GHGs resulting from Nestlé, and in fact, dairy and livestock ingredients are the ones with the largest share. However, ten further ingredients are also being addressed by Nestlé as they are those which are sourced in highest quantities: cocoa, coffee, palm oil, pulp and paper, soya, sugar, cereal and grains, hazelnuts, and vanilla. For both cocoa and coffee, there are specific programs that ensure specific requirements when sourcing these ingredients: the Nespresso AAA Sustainable Quality TM Programme, the Nescafé Plan and Nestlé Cocoa Plan (Nestlé 2021).

Human Rights

Along its supply chains, the company is committed to creating a better future for all participants in the operations. The company is focusing on developing action plans for ten issues this year to be measured by 2025 (*Appendix 6*) (Nestlé 2021). These issues encompass the negative impact that business activities can have on human rights for communities, including child labour risks and access to education; living income and living wage; forced labour and responsible recruitment (Nestlé 2021). Nestlé is specifically targeting child labour with monitoring and remediation system performance (CLMRS), which is based on providing support to children preventing them from engaging in child labour or monitoring past cases of child labour to ensure it is ended (Nestlé 2021).

Operating Responsibly

Nestlé also sustains its contribution towards sustainability through its people. The company presents five areas through which they develop their people: talent management; diversity and inclusion; employee health; safety and well-being; employee relations and engagement; organisational design and change management (*Appendix 7*). They also commit to increase the proportion of women in top 200+ senior executive positions to 30% by 2030, as well as focusing on further implementing their parental support policy which is currently fully rolled out in 64% of the countries in which the company is active in; and ensuring worker safety (Nestlé 2021).

There is also an effort to improve employees' health, build on Nestlé vision (*Appendix 8*). This effort is based on key principles: respecting privacy and personal choices, enabling informed decision-making and supporting a healthy working environment and healthy working conditions. Aligned with this, Nestlé developed a Corporate Business Principles and Code of Conduct. The firm bases its operations on a Compliance Programme (*Appendix 9*) with 4 pillars: 1) Compliance governance and culture, 2) Monitoring and reporting, 3) Communication and training: dissemination of processes and tools, 4) Closing gaps (Nestlé 2021).

Challenges addressed

With its defined CSV strategy, Nestlé is already targeting different challenges existing in the sustainability of food systems, specifically: Child Labour and Poverty of farmers, with its human rights approach; Environmental Impact, with different strategies to improve resource usage; Population growth and Hunger with nutritious and affordable products that contribute to better living conditions; and Food Wastage with both R&D in product production and packaging solutions. Nevertheless, specific action was needed to be done to better target these challenges and the ones still to be addressed.

Regeneration and Regenerative Food Systems at Nestlé

Nestlé's strategy to go further in the sustainability journey is based on additional development of their CSV activities with regenerative agriculture to achieve net zero emissions until 2050,

with the intention of investing CHF 1.2 billion by 2025. In 2021, Nestlé promised to advance regenerative food systems at scale, engaging with stakeholders who can help take the next steps on this journey (Nestlé 2022). Regenerative agriculture, is an approach to farming, focused on solving the pressing issues presented, by improving soil health to ensure fewer emissions, more resilient soils, better soil productivity, while protecting natural resources (Nestlé 2022).

Nestlé's model is based not only on maintaining but guaranteeing the restoration of natural resources through different farming approaches. Its main objectives are to have 20% of key ingredients sourced through regenerative agriculture by 2025, and, by 2030 increase this to 50%. The holistic model is focused on the preservation of the three main resources – soil, water, and biodiversity (*Appendix 10*).

Biodiversity: Nestlé focuses on maintaining and increasing biodiversity. The company proposes to achieve this by guaranteeing the restoration of natural resources from the places they source from, for example by planting 200 million trees by 2030 in these same farms and landscapes.

Soil: The higher potential for impact from this model comes from soil health, as it can provide several benefits which impact biodiversity and water restoration (*Appendix 11*), such as water retention and microbiological activity. All these benefits contribute and result in higher Soil Organic Matter (SOM), which constitutes all the materials produced by living organisms that returns to the soil for decomposition processes. This increase in SOM further contributes to GHG emission reduction. Therefore, Nestlé plans on guaranteeing agriculture practices that potentialize soil health through the Farmer Connect, which includes up to 500 000 farmers and 150 000 suppliers.

Water: The company is focused on protecting, restoring, and renewing water sources through its bottled water business (Nestlé Waters), the actions along their supply chain and operations related to production, and in local communities impacted by Nestlé activities.

As farmers are the main actors in the sourcing of ingredients, they require the right support and tools to guarantee that results will exceed their costs. As such, Nestlé commits to advise and provide investment support for useful practices and technical assistance on its implementation, whilst preserving and promoting human rights. Also, regenerative agriculture products will be valuable for farmers as they will stand to receive payment premiums, which can help them develop better lifestyles for them and their families.

In the agriculture field, different practices can have impacts on distinctive natural resources as these systems are strongly interconnected. As such, one can see that the different approaches Nestlé employs for regenerative agriculture will benefit soil, water, and biodiversity (*Appendix 12*). This overview helps the company drive its plan according to prioritization and identification of impact achieved with each action.

Implementation of Regenerative Agriculture

For the implementation of regenerative agriculture, Nestlé set different guidelines on how to enforce it. The implemented practices should be location specific and consider the relevant conditions. This, creates specific measures to evaluate the success of each practice, delivering tangible outcomes. Moreover, the company wants to implement this by supporting farmers, and pay careful attention to the farmers' incentives. This transaction may result in higher costs and risks, which can sabotage Nestlé processes if not dealt with carefully. Finally, the implementation should be done in a collaborative and science-based way, involving different stakeholders in the process (local authorities, NGOs, etc.). In this way, it may be possible to attain a wider picture for the implementation and not a narrow focus on singular farmers, which in turn will allow Nestlé to achieve a better impact.

The roadmap for implementation is being made on a scale-up approach, based on 3 main pillars: technical, collaborative, financial (*Appendix 13*). The base line for the implementation is to create measurable outcomes for regenerative agriculture and to further develop a bigger and

more viable approach. These results tend to take years to achieve, which requires Nestlé to focus on impact measurement tools that are easy to see and measure. As such, indicators for agriculture practices with immediate outcomes were created, developing a "Farm Assessment Tool" which monitors improvement levels (*Appendix 14*) compared to the initial baseline (defined in the beginning of the implementation). This assessment will evaluate if the practices and outcomes are in line with regenerative agriculture, allowing for the identification of improvement opportunities and to define next steps. Furthermore, this tool will allow Nestlé to also understand each farm's GHG footprint, as well as the water and biodiversity situation.

The regenerative agriculture strategy is contributing to tackling the challenges in food systems by ensuring its sustainability. Climate change pressure in food systems is being addressed by ensuring new and less impactful farming methods, which can substitute traditional and damaging ones currently used. Moreover, population growth is addressed by the creation of farming practices that can guarantee the sustainability of food systems, specifically by ensuring efficient resource usage, better nutrition, and food security for the future. Farmer poverty and child labour is addressed as well through the implementation strategy mainly focused on guaranteeing support to farmers when incorporating these new methods. Also, farming will become more efficient, which can provide better yields and consequently better living conditions. All these contributions will have significant impacts on hunger levels in the countries where regenerative agriculture methods will be implemented.

Research Methods

In this study, a diverse range of research methods was used based on specific research objectives. Primary research was conducted focusing on consumers' and employees' perception, whilst secondary research mainly focused on Nestlé's supply chain and investors incentives, benchmarking analysis in the European food and beverages market. In the benchmarking exercise, Danone, Kraft Heinz, and Unilever were chosen given the fact that they

are some of Nestlé's biggest competitors and each of them are implementing strategies that could be relevant to the multinational. Next, the regulatory SFS trends, namely the Paris Agreement and the EU Green Deal were presented to understand how regulations contribute to advancements in agriculture, food production, and environmental preservation. EU regulations were considered as a simplification for what main pressures are felt by European countries, even though not all of them are guided by them.

More in depth, the primary research carried out consists of a 34-question consumer survey along with five interviews done with employees from five different departments: Sustainability, Marketing and Communications, Finance, Innovation, and Supply Chain. These were conducted via online meetings or provided by written responses. Finally, several recommendations were drawn in accordance to the research question presented, mainly concerning Nestlé's internal and external marketing and communication strategies, its financial operations, innovation, and sustainability initiatives. Given the complex nature of a global MNC like Nestlé, the research focuses on Nestlé Europe, according to the company's division into geographical zones (Nestlé, 2013). In addition, since all researchers are European, together with the partner company selected, Nestlé Portugal, major ease and convenience to carry out primary research were therefore determining factors.

When looking closely at the survey, it is crucial to mention that both quantitative and qualitative data was provided, later analysed predominantly with a qualitative approach, since the data was first collected, then described and finally interpreted (Mohajan 2018, 24). The survey composed 34 questions, 32 close-ended and 2 open-ended. To facilitate the analysis, it was divided into four sub-sections, each one responding to a specific set of questions as shown in *Appendix 16.1*. *Section 1*, the "consumer profiling", was built to report demographic data which is crucial to identify the nature of the sample and to detect any sampling bias. *Section 2* tackled the consumers' perception of sustainability, and its main practices. Here the extent to which

sustainability-related factors represent a priority to consumers in grocery shopping were assessed, as well as the frequency of purchasing sustainable food and beverages, along with the factors that prevent buyers from purchasing such products. Consumers' perception of Nestlé was examined, with major focus on its sustainability efforts when compared to its competitors. Furthermore, in *Section 3*, the consumers' familiarity with SFS was addressed, assessing their perception of how SFS can contribute to a greener future and revealing which players consumers consider as primary responsible for environmental damage. Lastly, *Section 4* aimed to assess buyers' familiarity level with Nestlé and regenerative food systems, exploring how the implementation of regenerative strategies by the company could impact their future purchasing behaviour. The sample was primarily reached via social media like Facebook, Instagram, WhatsApp and LinkedIn, along with word-of-mouth.

Research Limitations

Although this report provides valid and feasible recommendations, the empirical results reported herein should be considered in light of some limitations, mostly concerning the data collection process, together with time and resource constraints. Certain data could not be provided by Nestlé due to legal constraints which required some assumptions to be made to reach conclusions. However, important insights were provided throughout interviews for the writing of the project evaluation report. Moreover, it is important to underline that Nestlé is a large company operating worldwide which makes it very complex to understand and evaluate given potential local niches and consumer preferences.

The reach of the survey was limited both in number and diversity of the participants as, given the narrow time span and resources at hand, 200 responses were collected. The sample was selected through a convenience sampling technique for its advantages in terms of budget and time. Nevertheless, it led to a few research biases, mainly due to the use of restricted number of channels to target the audience, noticeable by the small variety of respondents' profiles,

notably in terms of age and nationality. In future studies, a random sampling approach would be suggested to minimize sampling biases and consequently maximize the validity and generalizability of the study (Zieffler, 2019).

Food and Beverages Market

Consumer food sustainability is one of the major challenges that companies in the F&B industry are currently facing around the globe and the COVID-19 pandemic has further underlined the importance and necessity for sustainability (Garnett 2013; Bellotti and Panzone 2016; Baldy 2019; OECD 2020). In Europe alone, 25% of the average material footprint of an individual can be traced back to food consumption (Valumics 2021). In fact, in the EU, food is considered the main driver of household consumption causing environmental impacts, followed by housing and mobility (BEUC 2020). Given these facts, consumers have begun to scrutinise the impact they have on the environment more intensely and are increasingly valuing sustainable brands over traditional ones (BGI 2021).

Indeed, this trend has been highlighted in a 2022 Deloitte research paper, whereby consumers have been increasingly incorporating sustainability into their consumption patterns of products they frequently use (Deloitte 2022). This move coincides with the overall consumer shift towards embracing sustainability as a lifestyle (Biceika and Robles 2021). Moreover, consumers are actively scrutinising the brands they buy regarding the firm's ethical and sustainability practices, and if not deemed satisfactory, the brands are not bought anymore. An issue for companies, however, is the fact that many consumers mistrust corporate sustainability claims and their alleged impact (Deloitte 2022).

Consumers can be seen as the shaping force behind how companies engage in sustainability. Increasingly, consumers are of the opinion that large companies should be the ones striving for change and should be actively involved in creating a positive effect on society and the environment. It can hence be argued that the public is more attracted to a purpose over profit

model, where firms strive to eliminate negative effects from their business practices and supply chains, in turn setitng the goal of creating meaningful impact (Glasshallmark 2022).

To stay on top of consumer preferences, companies have already taken strides towards embedding sustainability into their business strategy and practices. In practice, this means moving towards a more sustainable form of food production, innovating environmentally friendly packaging, and aiming to reduce waste. Further, to accelerate this journey, it has been observed that companies partner or intend to partner with or acquire other companies in their respective industries (Deloitte 2022). These trends highlight the importance for a company to remain flexible in their corporate strategy and for the ability to incorporate new consumer trends. In line with consumers seeking to fully understand the impact of their consumption and how companies aim to create future positive value, numerous brands have begun to ramp up their outward communication regarding their impact and undertakings, therefore becoming more transparent and traceable (BGI 2021). In fact, there is a strong business rationale behind openly communicating, as companies that are perceived negatively risk losing customers and revenue (PwC 2021). Companies with clearly defined and communicated sustainability strategies can reap the benefits as a CapGemini survey has shown; 77% of organisations have seen an increase in customer loyalty and 63% a revenue uptick (Capgemini 2020).

Having explored the trends which impact the industry, it is also vital to understand some further threats to firms. Some common threats are issues such as the strong bargaining power of retailers and discounters, which in turn exerts pressure on companies' profit margins. Further, sudden external impacts arising due to climatic occurrences such as droughts or monsoons can affect a firm's profitability and ability to plan (Atradius 2022). Another challenge that is prevalent is the rising demand from consumers for product traceability, signifying that companies will need to invest more time and resources into tracking where all their ingredients for their products come from (HPG Consulting 2021). Lastly, a significant threat to companies

in this industry is the passing of new regulation and the resulting time pressure to implement these (Columbus 2022).

Regulatory trends on food systems

Over the past years there have been three major regulatory developments, the SDGs, the Paris Agreement, and the EU Green Deal, which have impacted how businesses operate and will shape the industry going forward with regards to sustainability.

The SDGs are objectives set out by the 193 member states of the United Nations (UN) in 2015 and aim to tackle 17 overarching goals and 169 targets by 2030 (Global Goals, n.d.). The plan sets out to end issues such as poverty, hunger and inequality whilst also protecting the planet and strengthening social aspects like education. A key player to identified help achieve the targets is the private sector, since companies can help foster collaboration and innovation, which in turn should lead to a faster progression in the achievement of the 17 SDGs.

The Paris Agreement, a legally binding international treaty, was set to attain following goals: the reduction of greenhouse gas emissions to 2º C to contain global temperature rises, a revision of countries' commitments every five years via an updated national climate change plan, and the provision of financial support to developing countries which suffer most from climate change impacts. The agreement is also based on a close cooperation between countries to successfully deal with climate change, as well as to guarantee transparent monitoring and reporting in its climate goals attainment (United Nations n.d.). Since 60% of the required emission reductions will come from businesses and the private sector (Climate Trade, 2022), different regulations were imposed on companies concerning emissions. One of them is the GHG emission rights trading scheme, which offers polluting companies to offset their emissions with projects that provide carbon credits, such as renewable energy projects or forestry projects (Climate Trade, 2022).

The EU Green Deal's main objective is to make Europe the first climate-neutral continent by 2050, with one third of the €1.8 trillion investments to be financed from the NextGenerationEU Recovery Plan and the EU's seven-year budget (European Commission n.d.). Within agriculture, developing sustainable food systems is at the heart of the EU Green Deal. In this area, proposals include a Common Agricultural Policy (CAP) reform and strategic plan, an organic farming action plan, and the development of an EU agri-food promotion policy. In addition, there are measures for farmed animals' welfare, sustainable use of pesticides, and the development of new policy for nutrition labelling (European Commission n.d.). The "From Farm to Fork" strategy was developed to make EU food supply chains more sustainable, thereby organising it into four key dimensions: food loss & waste prevention, sustainable food production, sustainable food processing & distribution, and sustainable food consumption (European Commission n.d.).

Some of the reforms until 2030 that will impact businesses will include a required 50% reduction of the use of chemical and other hazardous pesticides, as well as the same percentage decrease in nutrient losses, while ensuring no deterioration in soil fertility. Moreover, fertilizer usage will need to be reduced by at least 20% and sales of antimicrobials for farmed animals and in aquaculture by 50%. Lastly, 25% of total farmland should fall under organic farming by 2030 (European Union, 2020).

A proposal for a legislative framework for sustainable food systems will be put forward to support the implementation of the strategy and development of sustainable food policy to be adopted by 2023. Additional measures include developing an EU Code of conduct for responsible business and marketing practices and tax incentives to encourage the purchase of sustainable food. Furthermore, legally binding targets to reduce food waste across the EU will be put in place and €10 billion will be made available under Horizon Europe to be invested in

R&D in areas such as food, bioeconomy, natural resources, agriculture, fisheries and environment (European Union, 2020).

Sustainable regenerative agriculture presents itself as a complete solution to answer different challenges, whilst complying with the aforementioned regulations. As shown, multinationals such as Nestlé can present solutions to help countries achieve the goals set out by the respective regulations. However, regulations can also pose issues as the implementation on a national level can differ starkly and will need to be adjusted accordingly. This means that regional differences need to be considered when doing business, thereby hampering the speed at which a company-wide strategy can be implemented (Guimaraes, Interview, 7 December 2022).

Benchmarking

Multinationals

Unilever

As part of the firm's strategy to reach regenerative agriculture, Unilever has entered into a partnership with Tikehau Capital, a private equity firm, and AXA, an insurance company, to establish an impact fund which will invest into the regenerative agriculture transition. This movement builds upon Unilever's previous commitments to invest €1 billion in climate and nature projects, which have the target of allowing the company to take targeted and meaningful action to address climate change and grow ingredients responsibly (Unilever 2022). The three partners have committed to each invest €100 million and the fund will also be open to external investors, with the goal of reaching €1 billion of committed capital. Three main areas will be targeted; soil health to enhance biodiversity, preservation of water resources and helping fight climate change; the future supply of regenerative ingredients to meet the needs of a growing global population and consumer demand for increasingly sustainable products; and lastly, help unlock technological solutions that aim to accelerate the transition to regenerative agriculture (Tikehau Capital 2022). Unilever, Tikehau Capital, and AXA highlight that the aforesaid

transition can only be tackled if a collaboration between all players in the value chain occurs (Unilever 2022). This partnership presents an opportunity for players from different sectors to combine specific industry knowledge and financial bases to confront a wide-reaching issue.

Kraft Heinz

In September 2022, Kraft Heinz became a strategic partner of StartLife, an accelerator programme. StartLife onboards 40 new start-ups every year and works with more than 400 globally, giving the multinational access to an ecosystem of companies dedicated to solving the most pressing issues in the agrifoodtech sector (Southey 2022). The firm aims to source new technologies and ideas to support its business whilst offering start-ups support and access to research and development facilities (van Beek, 2022). This partnership highlights the different avenues a multinational will take to ensure that innovation continues at a steady pace. Further, it showcases the importance start-ups can have in solving pressing issues for larger companies and how both parties can profit from collaborating.

Danone

In 2009, the firm set up "Danone Ecosystem" which develops and supports projects that advance the public interest in ecosystems where the company operates. At the time of inception, Danone shareholders invested €100 million of the company's 2009 benefits into the newly created ecosystem. The goal is to co-operate in building business models that take on topics such as environmental sustainability, including sustainable sourcing and regenerative agriculture (Danone n.d., a). This social innovation fund, one of three in total, is a building block to create value as part of the multinationals overall 2030 commitment (Danone n.d., b). The projects currently being undertaken can be split into four areas, each corresponding to an activity in Danone's value chain: sourcing and watershed, distribution, caring services, and recycling (Danone n.d., c). The ecosystem also incorporates partners from different corners of society, such as non-profit organisations, institutional outfits, and academic partners (Danone

n.d., d). Another component of this ecosystem is the Danone Manifesto Ventures, which is the firm's corporate venture arm. This fund invests into early-stage companies that have potential to bring significant capabilities and impact to the market. The multinational not only provides mentoring, but also financial incentives, expertise, and operational assistance (Danone, n.d., e). These initiatives not only underline how a multinational can work together with a variety of partners to create positive value, but also how the engagement of local grassroot enterprises can help find solutions to Danone's overarching environmental and social issues.

Start-ups and Smaller Competitors

Stockeld Dreamery

The Swedish start-up is creating plant-based alternatives for dairy products such as cheese, yogurt, and ice-cream. In 2021, they launched their cream cheese which is based on fermented lentils and chickpeas (Stockeld Dreamery n.d.). The cheese market represents a $60 billion market, still dominated by traditional cheeses made from animals' milk, with plant-based alternatives currently failing to convince consumers to switch. Given that it takes 3,000 litres of water and 12 m^2 cropland per year to produce 1 kg of cheese, there is an increasing demand for plant-based alternatives to produce more sustainable cheese.

NapiFeryn Biotech

The Polish start-up has developed a technology that allows it to obtain food grade proteins from oilseeds. At the moment their focus is rapeseed, which is the residue after pressing rapeseed oil, but the technology can also be used on other crops, using waste to produce protein. Once the plant material has been pressed and the oil extracted, NapiFeryn extracts protein from the leftover material (NapiFeryn Biotech 2020). This plant-based protein has the same nutritional value as other like soy proteins and therefore offers an alternative to animal-derived isolates (Protein Report 2022).

Bio-Lutions

Using a mechanical process, the small German company created a self-binding and long-lasting natural fibre from agricultural residues. From this process, the company can create biodegradable and compostable single-use disposables and packaging. In production, wet- or dry-moulding technology is employed, whereby the dry process works entirely without water. The natural fibres developed by the firm have customizable properties that make them suitable for a variety of product solutions. A striking aspect is that the firm's process does not depend on a singular crop or plant, but can be adapted to local agricultural residues, ranging from wheat and nettle to vine shoots (Bio-Lutions 2019). This paired with the fact that the material does not require chemical additives, allows the fibres to be produced on an industrial level and can compete with cardboard and paper with regards to the pricing level (Albrecht-Heider 2019).

Main Stakeholders

Investors

The COVID-19 pandemic caused an acceleration in the interest and urgency to tackle climate change as it highlighted how a black swan event can cripple economies and disrupt companies and supply chains, bringing the future impacts of climate change to the forefront of investors' minds. In fact, an EY survey conducted in 2021 gave insights that 74% of institutional investors are now more likely to divest from companies based on poor ESG performance, a higher number than before the COVID-19 pandemic (Abu-Shakra 2021). This means that firms not only have to focus on creating shareholder value, but also sustainable development and long-term value creation (Toh 2021).

Moreover, an increasing number of shareholder resolutions encompassing issues about the environment or society are being passed at annual general meetings with proposals focusing on deforestation and climate lobbying successfully voted in at Proctor and Gamble and Chevron respectively (Mooney 2020). Additionally in the future, companies that are more vulnerable to impacts resulting from climate change could see an increase in their insurance premiums as

well as their cost of capital (Sharfman, Fernando and Vahap 2008, Chava 2014; El Ghoul et al. 2018). In fact, companies with a higher ESG rating are seen to have lower idiosyncratic risks, which can be attributed to superior risk management and internal compliance standards spanning the firm's operations, therefore putting the company in a position to be more resilient and less exposed to negative impacts resulting from external shock factors (Toh 2021).

Lastly, large institutional investors such as BlackRock as well as regulators like the US Federal Reserve are pushing companies to become more transparent in their reporting of sustainability metrics (Qiang, Saurav and Viney 2021). This means that companies are likely to face increased scrutiny and can be held accountable if they are engaging in "greenwashing" (Halper, Bussiere and Shriver 2021).

Employees

From the interviews with employees (*see Appendix 15*), it became evident that Nestlé has significantly improved its internal sustainability communication in the last years. Many admitted they did not consider the company's sustainability practices when they first joined Nestlé since sustainability was not such a focal point at the time. However, they highlighted how the company has been engaged in efforts to make its business activities more sustainable for a long time, explaining that internal and external communication about them has improved. Overall, employees feel that Nestlé integrates sustainability into its corporate culture, referring to multiple internal initiatives the company has taken to involve employees in this journey and how there is always a space for sustainability in the agenda.

Suppliers

The Covid-19 pandemic caused great disruptions in the global supply chains, highlighting their risks and lack of resilience, and the Ukraine-Russian war only worsened the situation with high inflation (Kaltenbach 2022). Suppliers face higher costs due to higher energy and fertiliser prices. Transportation and logistics costs are also rising due to shipping disruptions and labour

shortages. In fact, the FAO Food Price Index (FFPI) reached a record of 159.3 points in March 2022, meaning the average price for a basket of food commodities was the highest ever. In October 2022, the FFPI averaged 135.9 points, remaining 2.0% percent above its value in the corresponding month last year (FAO 2022). Even though this result shows inflation is slowing down, the world cereal prices are higher due to shortages in the supply of this commodity, so companies relying on these suppliers are seeing their costs of goods sold increase.

In the crisis recovery, it is likely that there will be a redesigning of the supply chain. Firstly, suppliers will need to proactively engage in risk management to increase resilience through greater visibility, agile processes, and robust networks which also help achieve sustainability goals and compliance with supply chain standards and regulations. Secondly, suppliers will bet on an intelligent and agile supply chain through the greater use of technology. Finally, sustainability will be a priority to companies pursuing sustainable commitments by transforming their operations to be circular, net zero and trustworthy. To be successful, suppliers will need to nurture talent since new practices may require employees to take on more complex roles. On top of this, suppliers must build trust through transparency, using systems like blockchain (Ollagnier 2022).

Consumers

By looking at the sample demographics of the 200 responses collected, the main group of respondents are women (54%) (*Appendix 16.2, Q1*) and the predominant age groups are 18-25 (51%) and 26-35 (24%) (*Appendix 16.2, Q2*). The most common nationalities are Italian (45%) and Portuguese (37%) (*Appendix 16.2, Q3*) with a large part of the answers coming from full-time employees (47%) and students (39%) (*Appendix 16.2, Q4*). The most observed educational level completed by participants is a bachelor's degree (44%) (*Appendix 16.2, Q5*).

When looking into consumers' buying behaviour, results show that 51% of respondents prioritize product quality when buying groceries, followed by price, promotions, and

sustainability ranking in 4th position (*Appendix 16.2, Q8*). With regards to the sustainability practices they value the most, respondents seem to be more concerned about respect of human rights (62%), sustainable packaging and product sourcing (59%), and commitment to ethical working practices (54%) (*Appendix 16.2, Q9*). When analysing the importance of sustainability, the average score was 4.13 on a scale of 1-5 (*Appendix 16.2, Q10*).

Delving into the buyer trends, 48% report to purchase sustainable products *sometimes*, and 32% *often* (*Appendix 16.2, Q11*), buying them due to their quality, nutrition & health benefits, ethical practices and commitment towards society/environment (*Appendix 16.2, Q12*). However, price was identified as the main factor preventing consumers from buying more sustainable products (82% selected it as first among all factors), followed by negative reputation (38%), and availability (32%) (*Appendix 16.2, Q13*). Moreover, 47% of respondents classified the impact of sustainability efforts as 4 or 5 (scale of 1 to 5) regarding their brand loyalty (*Appendix 16.2, Q14*). When looking at Nestlé's sustainability efforts in comparison to three other competitors, the company ranked in 3rd position, after Unilever and Danone, and before PepsiCo, with 22% of participants considering Nestlé the least sustainable of all (*Appendix 16.2, Q15*).

Next, respondents were asked about their familiarity with SFS and an average score of 2.79 was obtained, with only 25.5% knowing about the concept (voted 4-5) (*Appendix 16.2, Q17*). Regardless of their level of knowledge about SFS, 86.5% still voted 4-5 when asked about the relevance of SFS for the future (*Appendix 16.2, Q18*), prioritizing SFS aspects as food security and positive environmental impacts (*Appendix 16.2, Q19*). Most consumers (88%) identified multinationals as having a significant responsibility over global environmental damage (*Appendix 16.2, Q20*), with 50% considering as primary responsible for it, followed by governments and international organizations. In terms of industries, participants identified transport/aviation and energy as the most impactful on environment, with agriculture/farming in 3rd place (*Appendix 16.2, Q22*), showing great concern for environmental challenges such as

deforestation (72% ranked as 1st or 2nd choice) and GHG emissions (51% ranked as 1st or 2nd choice) (*Appendix 16.2, Q23*).

Moreover, a large majority of individuals show familiarity with Nestlé (91%) (*Appendix 15.2, Q24*), with 41% of respondents affirming to *sometimes* buy Nestlé products, and 36% *rarely* (*Appendix 16.2, Q25*). On a scale from 1-5, the firm's products ranked on average 3.33, with 42% of participants rating them with 4 (*Appendix 16.2, Q26*). The factors in which Nestlé products seem to excel among consumers are taste and quality, followed by price, whilst the lowest ranked factors concern its value creation strategy, sustainability efforts and nutritional values (*Appendix 16.2, Q27*). Results from *Section 4* concerning RFS show low levels of familiarity with the concept (average rating of 2.37), with 54.5% of individuals rating 1-2 out of 5 (*Appendix 16.2, Q29*). After learning what RFS were, 76% of participants believe they will highly contribute to a solution to secure food supply in the future (ranked 4 or 5) (*Appendix 16.2, Q30*). Furthermore, when specifically asked about the Generation Regeneration strategy by Nestlé (*Appendix 16.2, Q31*), only 7% of respondents were aware of it but 70.4% stated it was *likely* or *very likely* their loyalty to Nestlé would increase if the company would implement regenerative strategies for its products (*Appendix 16.2, Q32*). In addition, 37.2% reported to be *likely* or *very likely* to pay more for goods produced according to this strategy (*Appendix 16.2, Q33*), highlighting transparency when communicating its projects, impact measurement, and major awareness on product sourcing displayed on packaging to be the main factors that could lead them to either buy or pay more for Nestlé products (*Appendix 16.2, Q34*).

Finally, the survey evaluated specifically consumer perceptions of Nestlé and multinationals. When asked about sustainability initiatives developed by Danone, PepsiCo, Unilever and Nestlé, 75% of answers were "None", which indicates poor communication from these brands. Moreover, Nestlé was only mentioned once with a positive initiative, while Unilever or Danone were identified through different initiatives (*Appendix 16.2, Q16*). Furthermore, when asked

about which Nestlé features could be improved, most answers focus on unethical conduct and human rights, as well as non-healthier/non-nutritious products (*Appendix 16.2, Q28*).

Recommendations

In this chapter, suggestions for Nestlé are brought forth, based on the benchmarking exercise, investor and supplier analysis, as well as the consumer survey, and employee interviews.

The recommendations proposed are divided in 3 main sections accordingly to the challenge areas they aim to tackle. In *Section 1*, brand perception, the main challenges addressed are the consumer mistrust towards Nestlé, the perceived lack of transparency of its sustainability efforts, the generational gap for the implementation of sustainability practices, and the opposition of farmers regarding the benefits of regenerative agriculture. *Section 2*, finance and innovation, aims to provide solutions to accelerate the transition to SFS by addressing the increasing consumers' and investors' demand for sustainability efforts, aiming to speed up Nestlé's progresses in terms of innovation and R&D. Finally, *Section 3*, new product development, aims to address the poor perception of the nutritional values contained in Nestlé's products, and the current use of plastic for product packing.

1. Brand Perception

    1. <u>Improve communication strategy related to sustainability at the corporate level, particularly promoting Generation Regeneration</u>

Given the survey results, consumers not only perceive Nestlé's competitors as more sustainable, but they are also unfamiliar with the *Generation Regeneration* strategy and the firm's overall sustainability undertakings. This indicates that the company needs to rethink its communication strategy and understand how to best inform consumers of the sought-after impact, especially for younger generations, as the survey shows that the negative perception is most prevalent in the 18-35 age group. To address this, Nestlé could employ a company specialised in communication services such as Emerging Ag, a boutique international consulting firm which

provides communication and public affair services to clients in the agriculture and food sectors (Emerging Ag 2022). Hiring such a firm would enable an improvement the communication strategy, potentially placing a greater focus on social media and digital campaigns.

Alternatively, Nestlé can make some internal improvements to convey its message to consumers, raising awareness about regenerative food systems. In the survey, consumers identified deforestation and the reduction in GHG emissions as the most urgent environmental problems to address. Moreover, based on the results obtained in the last sustainability campaign of Nestlé Portugal "É Tempo de Regenerar", consumers are more interested in topics like planting trees and regenerative agriculture rather than the usage of renewable energy or green car fleets. This should be considered as the main topics when creating content for a campaign.

2. Improve Nestlé's employee ambassador programme

From the employee interview results, one can draw recommendations to help Nestlé leverage its corporate culture embedded in sustainability. The company already uses employees as brand ambassadors with an app called "We Are Nestlé" where they have access to up-to-date content, which can be published on their social networks and shared with friends and family through the platform. However, impressions, clicks and reactions to these publications are only monitored for LinkedIn and Twitter, excluding the most used networks in Europe – Facebook and Instagram (Statcounter 2022). Therefore, Nestlé could improve its approach by accounting for these metrics on the latter social networks, while potentiating number of employees involved by offering them rewards in the form of benefits such as bonuses, vouchers, or invitations to special events, to motivate them to share Nestlé's content and turn them in micro-influencers. The company could provide them with more communication training and even create an Instagram account that employees could manage. In fact, brands close to Nestlé like Starbucks have implemented similar employee programmes by creating partner accounts on social media to encourage employees to share posts and build a community around the famous coffee brand

(Kim 2021). Having Nestlé's employees directly sharing the company's initiatives, insights of their day-to-day activities, as well as pitching the brand whilst introducing Generation Regeneration strategy, can become a great way to promote Nestlé to both consumers and future employees. The outcomes will be higher brand awareness and consumers' trust, improving employee-company engagement and employee satisfaction.

3. Improve transparency and traceability through new channels of communication with consumers

From the survey, Nestlé is seen as unsustainable because of a lack of trust caused by low transparency and traceability of Nestlé's products and the multiple scandals in which the company has been involved throughout the years. The company already undertakes a yearly reporting of sustainability efforts where it shows which areas are being targeted by company activities. However, this communication fails to reach most consumers, due to overwhelming flows of information and a lack of dedicated channels. Therefore, one recommendation is to create more effective channels to regularly communicate about the company's sustainability efforts, rather than only through annual reports. Nestlé could simplify the corporate website and develop a newsletter or monthly updates on the company sustainability developments in a creative, clear, and engaging way. Consumers would appreciate knowing about conferences and initiatives Nestlé participated in, or which new R&D developments are ongoing in packaging for instance, as it is a major concern for consumers when looking for sustainable products. This type of content would have a bigger impact, as it is sometimes difficult to implement new packaging solutions since Nestlé needs to comply with various regulations and requirements for food security (Guimaraes, Interview, December 7, 2022). Therefore, an increase in the transparency regarding regulations and further challenges faced by Nestlé would help consumers understand the dynamics that hamper MNCs sustainability endeavours.

This can also be done in an educative way, with Nestlé developing initiatives to highlight different sustainability topics to consumers, thereby featuring how Nestlé is addressing these. Other multinationals, such as IKEA, are already deploying this strategy by running a podcast where employees share relevant information on social topics (IKEA, 2022). Further, the company can improve its corporate website by giving consumers clearer information about what Nestlé is doing in terms of sustainability practices instead of having this information in a more detailed fashion on the individual brands' websites. Additionally, Nestlé could invest into an after-sales service to provide consumers with the possibility to clear any queries.

4. Narrowing generational gap through transfer knowledge communities

The results emerging from the consumer survey reveal a significant generational gap in terms of knowledge and buying habits regarding sustainable products, showing higher levels of awareness and environmental concern in younger generations. To date, older generations still hold a stronger purchasing power than younger ones when it comes to grocery shopping (Fengler 2021). Even though most individuals believe that multinationals should be the main driver behind the transition to a more sustainable future, the fact that MNCs' offerings are driven by consumers' demand is overlooked. The power dynamics in place makes consumers both the drivers and the targets of MNCs product offerings. Currently, the company provides sustainable alternatives while waiting for a solid shift in consumer's behaviour towards higher sustainable demand (Guimaraes, Interview, December 7, 2022). To accelerate sustainable trends in consumer demand, Nestlé should implement a social programme to help narrow the generational gap by bringing young and old generations together. By creating a community, the former could help the latter by raising awareness on the importance of day-to-day individual sustainability practices and sustainable product consumption. Further, this initiative is advantageous for older generations as it tackles elderly social loneliness issues, while simplifying and filtering the information on the topic for them. To increase participation and

adherence, and to promote and raise awareness about Nestlé's sustainable product offering, monetary incentives in the form of vouchers and discounts could be offered concerning Nestlé's sustainable products lines. In doing so, younger individuals can contribute to the change into SFS by collaborating with older generations, narrowing the generational gap. Moreover, it would lead to better and clearer knowledge transfer across different consumer segments, while tackling the problem concerning the inability of older generations to access information.

5. Develop Regeneration Knowledge Centre for farmers

From an interview with Rui Couceiro, Procurement Business Partner at Nestlé Portugal, one of the main challenges Nestlé Portugal is facing regarding the Regeneration approach which is also felt throughout Nestlé Zone Europe is to convince farmers about the benefits of regenerative agriculture. Farmers are reluctant to invest in such projects because of the upfront risks they take on, so the company is currently sponsoring them. The research about supply trends also highlighted how training might be essential to make sure sustainable practices are followed by suppliers. Nestlé already has a YouTube channel dedicated to farmers called "*Agripreneurship* Academy" to teach them best farming practices, but this can be expanded to different online channels. To facilitate and speed up the implementation of regenerative agriculture, Nestlé could develop a knowledge centre for farmers on its website like Danone has done (Danone n.d.) disclosing information about this new approach to agriculture, by providing handbooks about best practices and keeping this information available for consumers to increase process transparency. Additionally, Nestlé could create an area dedicated to farmers where they could log in and have more detailed information as well as share experiences and interact with other farmers. This process would also create a stronger bond between the multinational and the farmers they rely on, whilst signalling that both of their interests align strongly and cooperating further can be beneficial for both in the future.

2. Finance and Innovation

1. Establish an impact fund with a private equity firm and an institutional investor

Although since 2001 the firm does have a venture capital fund which is independently run by Inventages Ventures Capital GmbH, competitors have gone a step further in committing capital to leading the progress (Nestlé 2002). As seen in the benchmarking section, Unilever has recently set up a partnership with Tikehau Capital and AXA. Nestlé could greatly benefit from setting up a similar partnership, which in essence would entail searching for an experienced private equity firm and an institutional investor, such as an insurance company, with significant financial resources and commitments to sustainability. Given investor appetite to incorporate ESG considerations into their investment decision making, Nestlé should take advantage of this trend. Indeed, partnering with a large institutional investor and a world-renowned private equity firm would facilitate raising capital for such a fund, potentially leading more committed capital. Teaming up with a private equity firm would also ensure the availability of the necessary financial expertise and global network. Further, working together with a private equity that has an agriculture and food sector focus would enable a more synergetic approach to the partnership. Eligible candidates for this could be AGR Partners or Stafford Capital Partners, amongst others. AGR Partners deploys capital along the agriculture and agribusiness value chain (AGR Partners 2022), whilst Stafford Capital invests into the global agriculture and food sector with the goal of improving agricultural productivity in a sustainable way (Stafford Capital 2022). Therefore, setting up a fund with a specific investment focus on regenerative agriculture would allow Nestlé to access start-ups or companies specific to their journey. For the firm, this opportunity would either present an opportunity to seek a strong financial return on the investments or to enter a partnership or acquire the companies from the fund's portfolio. Lastly, this move can help Nestlé engage with investors as well as showcase the public as well as other investors that the firm is dedicating resources to accelerate the transition towards a more sustainable future.

2. Rebrand current corporate venture capital arm, aligning it with overall company regeneration strategy

Independently of whether Nestlé launches an impact fund or not, the company can also take the decision of shifting the focus of its corporate venture capital arm into an area that more strongly corresponds with the overall movement of developing sustainable food systems. This could be set up in a similar way as competitors have done such as Campbell's. Campbell's venture capital arm, Acre Venture Partners, has the goal of investing into the future of food and agriculture. Specifically, the focus is on population health, planetary well-being, climate solutions and responsible production and consumption (Acre n.d.). An advantage of corporate venturing is the fact that it allows firms to respond faster to changes in the market, such as the increasing consumer and investor demand for sustainability. In tandem with this, the ability to deploy and disengage capital faster is a stark difference to how corporate research and development works (Lerner 2013). Given Nestlé's overarching commitment to become regenerative, setting investment targets for the venture arm that help drive the transition towards sustainable food systems can be beneficial. In fact, such a move would allow an increase in its focus on acquiring emerging food brands and integrating these into the wider company network. This would not only enable the company to access innovative products and processes, but it would also allow the firm to buy up brands that can have significant future potential. Such a move can also signify future cost savings in the form of M&A transaction costs, but also benefits such as increased customer loyalty and revenue. In fact, the results from the survey indicate that consumers value sustainability and they integrate this factor into their consumption decisions. Therefore, Nestlé should capitalise on this trend and through its corporate venture arm invest money into promising sustainable start-ups.

3. Establish a partnership with a regenerative agriculture start-up accelerator

Another recommendation that can be put forth based on what a competitor is doing would be to partner with a start-up accelerator solely focused on regenerative agriculture. This is something that Kraft Heinz has undertaken, as it partners with an accelerator programme that is specifically focused on solving issues in the agrifoodtech sector. Again, the advantage of engaging in such a partnership would be the faster access to innovative solutions regarding regeneration. Further, partnering with an accelerator programme would allow Nestlé to complement its R&D initiatives by allowing a third-party to screen start-ups based on predefined criteria and benchmarks. An example of an accelerator Nestlé could partner with is HECTAR, a European agri- and foodtech accelerator. HECTAR already works together with the HEC Paris incubator which in turn provides access to its knowledge ecosystem (HECTAR, n.d.). For Nestlé this three-way partnership would enable it to gain access to young innovative start-ups whilst simultaneously working with an academic institution. Nestlé currently runs an "R+D Accelerator" network encompassing 12 sites across 8 countries with each location focusing on a specific product category such as dairy or coffee (Nestlé 2021). Although this network is important to further innovations within the relevant product categories, setting up a partnership with a specialised accelerator programme would enable the company to double down on its commitment to become a leader in sustainable food systems. Committing to such a partnership can therefore be interpreted as an all-in strategy to achieve a leadership position in the regenerative agriculture realm. Nestlé could also utilise this partnership to showcase consumers and investors which steps are being undertaken to further the multinationals sustainability commitments.

3. Product Development

    1. <u>Develop new healthier and sustainable products</u>

From the survey results it became evident that consumers perceive nutritional value as one of the most important aspects when it comes to food. However, they perceive Nestlé's products as

unhealthy or not nutritious. Even though the company has been investing in the development of healthier and more sustainable products, Nestlé could try establishing more partnerships with interesting food start-ups, betting on plant-based alternatives and developing more organic and bio products. The new products could be developed either by expanding the portfolio of existing brands or under new brand names depending on the country as consumers have different brand perceptions in different locations. Two examples of start-ups that the firm could acquire and integrate into the wider company network would be Stockeld Dreamery and NapiFeryn Biotech. As mentioned in the benchmarking section, the first start-up has created a plant-based alternative for dairy products based on legumes. Acquiring such a start-up would allow Nestlé to enter the $60 billion cheese market without committing significant capital to R&D processes and go through numerous iterations before being in the position to present a similar product. The second start-up has created a technology to extract food grade proteins from oilseeds. In line with the company commitment to become regenerative, acquiring such a raw material would enable Nestlé to break into this novel market, while promoting circular economy.

An advantage of employing this strategy would be to give the multinational the opportunity to highlight and communicate to consumers how the sustainability journey is progressing. Therefore, clearly showcasing how the company is advancing its commitments through acquisitions of innovative sustainable start-ups can help improve this metric. Further, integrating these start-ups into the wider company network would ensure that Stockeld Dreamery and NapiFeryn Biotech can profit from the resources that a multinational such as Nestlé can offer in the form of expertise and facilities.

In addition, even though the survey suggests that consumers demand more sustainable products, there is a mismatch between what they demand and what they buy (Guimaraes, Interview, December 7, 2022). High prices were pointed out as one of the major barriers for shoppers to consume more sustainable products, but a part is also related to their personal taste and mind-

set. To give consumers incentives to buy more sustainable products, Nestlé could implement QR codes on the packaging of healthier and sustainable products which consumers can scan to earn points and convert into discount coupons. Danone is one of the brands which has engaged in this sort of initiative by having QR codes implemented on their products (Tode n.d.). This strategy would create a loyalty programme to increase consumers' loyalty to Nestlé brands, promote the consumption of sustainable products, and get insights about consumption patterns.

2. Invest into start-ups working on sustainable packaging

In-line with Nestlé's sustainable packaging strategy with goals like reducing the usage of plastic packaging material, improving packaging, and ameliorating the packaging system, the firm could increase the pace of this change by acquiring and integrating start-ups (Nestlé 2022). In 2020, Nestlé not only announced that it would invest up to CHF 2 billion to source more recycled-plastic packages, but it also set out to launch a CHF 250 million sustainable packaging venture fund (Reuters 2020). Therefore, a recommendation that can be brought forth is to utilise the venture fund to acquire Bio-Lutions which has developed a technology to produce natural biodegradable fibre from agricultural residues from all sorts of crops or plants, promoting not only the reduction of single plastic use but also the advance in circular economy. Acquiring a start-up such as this one would allow Nestlé to transfer key learnings to products currently in the R&D phase. Given their size, start-ups can innovate and disrupt the status quo faster than a large multinational could. Further, giving the start-up access to leading in-house knowledge as well as capital can provide them with the opportunity to further improve their products and align their technology to Nestlé's product portfolio. Given that packaging is something consumers come into direct contact with, providing alternatives with strong sustainable credentials can help aid improve the firm's perception. In fact, Bio-Lutions provides an opportunity to showcase that through the usage of their product, Nestlé is engaging in the development and utilisation of sustainable packaging whilst also ensuring that the products used

for this are sourced locally. As mentioned before, there are different regulations that constraint Nestlé's adoption of packaging solutions. However, these alternatives to plastic can be used in in-store points of sale or packaging which is not in direct contact with the food to advance the change without compromising food security. As mentioned above, integrating these products into the company can accelerate the transition to a plastic-free future at a faster pace than without them, as key learnings can lead to further innovations.

Implementation Plan

To map the recommendations and to provide Nestlé with a concrete action plan, the action priority matrix was used which lays out effort versus impact (*Appendix 17*). Impact for Nestlé is defined as the advancement in the company's leadership position in sustainable food systems, while effort is measured in terms of pre-requisites, financial resources, time, and human capital. All recommendations were analysed and discussed with Nestlé to understand their relevance and feasibility. With all this information, Nestlé should implement the recommendations with high impact (Major Projects or Quick-Wins) in a way they can engage stakeholders in their quest to be a leader in the SFS transition (*Appendix 18*).

1) Communication on corporate level – Major Project

To educate consumers and increase awareness about regeneration and SFS, a campaign should be launched targeting the age group 18-35 by using main channels such as social media and in-store point of sales to have more direct contact with consumers. The marketing and communications team will be essential to develop and implement the campaign, while the sustainability team will support with content creation about Nestlé's sustainable practices.

The campaign should focus on people and nature to invite consumers to return to their origins. Currently, Nestlé's social media posts are too focused on the product, but more emphasis should be placed on the fact they are part of a greater mission by always including a sustainability remark in images posted. More educational posts should be published on social networks in the

form of pictures and videos, webinars and virtual events should be organised to discuss different current topics, allowing consumers to actively participate and learn how to contribute to a more sustainable world. The interaction with consumers will be crucial, so giving them the possibility to engage in activities like planting trees with Nestlé, visit the company's factories or even the farms where ingredients come from, will add value.

The main message will be that all generations need to take action to cause meaningful change. The implementation of the campaign will require some team capacity and create additional HR costs for salaries of the respective team members and potential new employees hired to oversee sustainability communication and interact with consumers. One challenge will be financial resources as most of the communication budget is allocated to each brand individually. Therefore, getting the budget from the corporate level will require internal rearrangement and potentially create some tensions (Guimaraes, Interview, 7 December 2022). The campaign could be launched on the 22nd of April 2023, Earth Day, to signal Nestlé's commitment to restore the planet. KPIs can include the number of likes and shares, number of impressions, number of followers on social media, visits to the website, and participation in the initiatives.

2) Transparency in reporting – Quick-Win

Focusing on communicating impact through different channels closer to consumers is the main point when implementing this recommendation. The marketing and communication team would oversee the redesign of Nestlé's corporate website while the sustainability team would contribute with content creation with detailed information about the sustainability practices' impact. When looking at the upfront cost with regards to the budget, this recommendation would be easy to implement since Nestlé would only have to leverage existing channels by simplify the content shared with consumers. This will require a weekly/bi-weekly preparation to deliver relevant communication and updates. Nestlé could start this communication strategy when launching the Sustainability Report for 2022 by sharing relevant key take-aways of the

report to present on the new channels, and improve old ones, and connect with consumers. To assess the success of the recommendations it would be valuable to run another survey among European consumers, defining questions which aim to understand whether improvements in the perception of Nestlé's strategies and brand have occurred.

3) Narrowing Generational Gap – Quick Win

Narrowing generational gaps would require Nestlé to adopt different communication strategies and channels to target the different age groups, aiming for a strong social media presence for younger generations and TV and radio communication plans for older ones. Moreover, the company could organize recurrent workshops where sustainability experts provide recommendations on sustainable individual practises and other related topics to provide even more information to consumers interested in adopting a better lifestyle. A large part of the initiative's budget will be allocated to the marketing department for realizing communication plans that will have to be developed both on digital and non-digital platforms. Significant emphasis must be placed on the advantage of storytelling that people have when communicating, simplifying concepts for easy and quick understanding. To build these communities, the company could partner up with existing digital communities focusing on divulging sustainability information, in so doing it would be easier to launch the initiative among younger generation and the people reach would be substantial. To reach older generations, possible partnerships could be with local community centres, in-store advertising and TV ads. The main KPIs for this initiative are aimed to assess the community members (in terms of total amount of members, new members, active members), the engagement rates (number of likes, comments, post created), and the community traffic (assessing the number of visitors, returning visitors, homes page traffic).

4) Impact Fund Partnership – Major Project

Launching a fund would signify a major undertaking for Nestlé. Firstly, within the firm, it will be necessary to identify which teams need to be involved in the process, what the desired objectives and outcomes should be and how much money the firm will commit to the newly established fund. The most crucial point of this strategy will be the identification of suitable partners whose interests in regenerative agriculture align with Nestlé's. Central to setting up this partnership will be outlining the roles of each partner and the terms of the general agreement. Realistically, the process of finding suitable partners and the related discussions will likely take up to a whole year. Once this has been done, another major undertaking will be the process of raising capital for the fund, although one would expect the private equity to run this process due to its international network and financial expertise. The main financial KPI for the fund would be the IRR of the projects committed to, whereas a strategic one would be how many companies that have been invested into partner with or end up acquired by Nestlé. These two metrics would shed light into the effectiveness of the fund.

5) Regenerative Agriculture Accelerator Partnership – Quick Win

As outlined in the recommendation section, a possible partner for Nestlé could be HECTAR. The most time-consuming aspect of this undertaking would be the internal discussions between Nestlé's headquarters and the relevant teams to understand what impact and outcomes would need to be reached through the partnership. Once an internal consensus is in place, discussions with potential candidates would ensue to align interests and to ensure a productive partnership. Given that Nestlé is a large and well-known firm, it can be the case that accelerator programmes around Europe apply to be considered. As the firm already has the "R+D Accelerator" programme running, once this new specialised partnership is functional, integrating interesting and innovative start-ups should be a straightforward process. The most relevant KPI for this undertaking could be the number of start-ups taking part in the accelerator versus how many partner with or are integrated into Nestlé.

6) Develop new products and labelling - Major Project

The most important factors when considering new products development is consumers' needs and the timing according to consumers' education (Martins, Interview, 10 December 2022). Nestlé should create an implementation plan based on the pipeline strategy to ensure consumers will demand the solution before it is presented by the company.

The innovation and nutrition teams will be the main responsible for the product development, working with the start-ups on the use of their innovative key ingredients to ensure food security and nutrition of new plant-based options. The sustainability team will play the role of assessing if the product is indeed sustainable. Moreover, to develop the QR code idea to incentivize new product consumption, a team would need to be responsible for the management of the program, guaranteeing organisation of points and support to consumers. Potentially, an app should be developed for consumers to easily access their points and further to read news on sustainability efforts from Nestlé.

The costs of implementing this recommendation would be considerable since new recipes would need to be perfected, an app would need to be developed, and the label redesigned. It would require an increase in HR costs for the salaries of the people from the different teams. The QR code could be implemented in the second half of 2023 with a basic app just to collect points, with the functionalities to be potentially expanded to include more information about the products and sustainability at Nestlé.

When accessing the measurement of the recommendation, possible KPIs could be the number of QR code scans done per day, the number of app downloads and number of sales of new products compared with QR scans.

Conclusions

<u>Key Findings</u>

This report identified some of the main challenges of food systems and explored how Nestlé is tackling them through its current CSV strategy by providing nutritious and affordable products, improving living conditions of communities, and reducing environmental impact with different measures to protect, renew and restore natural resources. The regenerative approach reinforced the company's commitment to promote a more sustainable future of food by implementing regenerative agriculture along its sourcing activities.

The research focused on finding ways to increase Nestlé's impact by collaborating with all stakeholders to foster effective change. Based on the analysis of investor, supplier, employee and consumer trends, recommendations were given to improve communication and transparency to raise awareness and build trust, as well as to ensure financial support and innovation. Overall, consumers were identified as the most crucial stakeholders as they can accelerate the sustainability efforts of multinationals mostly by driving demand and regulatory change. Therefore, one of the most important aspects for this transition to be successful is for consumers to change their individual behaviour towards more sustainable consumption patterns so companies can keep betting on more sustainable ways of operating.

Next Steps

Due to several limitations and the biases detected in this study, the presented study can be interpreted as the starting point for further research on stakeholders' engagement in the transition to sustainable and regenerative food systems. Specifically, one that examines the role of governments and impacts of legislation on sustainability in the F&B industry, as the results from the interviews showed that most impediments for MNCs, when taking steps towards sustainable solutions, arise from complicated and country-specific legislation. It could possibly contribute to a deeper understanding of the communication problems between MNCs and governments.

TEACHING NOTE

The value of transparency across supply chain operations

PART 1: *Case Overview and Teaching Background*

Case Synopsis

The case study at hand, explores Nestlé's launch and implementation of the Nescafé Plan, and the reasons that led to it. The company launched the Nescafé Plan in 2010 and, after 10 years of progress, it is considered to be one of the world's most comprehensive sustainability projects in the coffee sector. The heads of the Procurement and Sustainability Agriculture Departments made the strategic decision of developing the Nescafé Plan, in line with the decision of adopting the Creating Shared Value (CSV) strategy, as they believed in the necessity of integrating a long-term global strategy that would culminate in competitive advantage. In general terms, CSV aims to reconcile a company's profit orientation with environmental and societal needs, focusing on building competitive advantage by incorporating a social value proposition into the firm's strategy, while maximizing shareholder value (Rachmawati et al., 2019). Nestlé's adoption of CSV has, in fact, been geared to create economic value, generating profits for shareholders, but also addressing long-term societal issues. By reviewing the impact and challenges arising from the company's supply chain, with the launch of Nescafé Plan, Nestlé decided to focus its work on three macro areas: livelihoods of farmers, sustainable and ethical sourcing of coffee, and minimization of environmental impacts. Firstly, the plan dealt with the poor living conditions of farmers by distributing over 230 million seedlings, providing trainings on durable, regenerative agricultural practices, and monitoring and improving the rights of agricultural workers (the latter, specifically in Mexico and Philippines).

To ensure the sustainable production of its coffee, Nestlé focused on reducing its negative environmental impact in terms of water usage and Green House Gas (GHG) emissions. The

Nescafé Plan was implemented in countries across South America, Asia, and Africa, and after a 10-year assessment, the figures show extremely positive results, with Nestlé having accomplished most of its initial goals and going beyond expectations in others. Nestlé knew about the importance of positive change and emphasized monitoring and evaluation so that this change could be measured and communicated. For this reason, throughout the years, the firm developed a number of partnerships with external organizations (e.g., Rainforest Alliance), and collaborated in the development of frameworks, standards, and Key Performance Indicators (KPIs) to better monitor and evaluate its activities. Among the reasons that led Nestlé to consult third parties was to increase levels of transparency of its operations across the supply chain.

Although Nesté has been able to achieve remarkable results, its operations have not been without challenges. These include the high incidence of child labour, the detriment of crops and farmers' livelihoods caused by climate change, and the generally poor living and working conditions of farmers and agricultural workers. (Nestlé, 2021).

Case Use and Teaching Objectives

The referred case study is intended for academic purposes in programmes related to topics as Corporate Strategy, Corporate Social Responsibility (CSR), and Sustainable and Humanitarian Development studies. It presents a relevant starting point for students to understand the complex challenges and dynamics behind Multinational Corporations' (MNCs) efforts towards sustainability, and the relevance of supply chain transparency (SCT) in the assessment and monitoring of these efforts. In addition, the present case study underlines the importance of multinational companies' supply chain when deciding to incorporate business strategies, with particular attention paid to the opportunities of increasing a firm's competitive advantage and enhancing a company's reputation through better levels of visibility and transparency of its operations.

In line with the case study highlights and the proposed teaching notes, we identify the following strategic objectives:

1. Understand the importance of transparency across supply chain operations.
2. Understand SCT effects on human rights
3. Identify SCT impacts on brand reputation of a company
4. Discuss how to improve SCT practices through innovative solutions

PART 2: Teaching Plan

The case study should be introduced by professors to students, firstly inviting them to reflect about the challenges and the questions presented. The ideal way to approach the paper would be through different lectures organized per field of relevance (e.g. environmental impact, human rights implications). First, students shall have time to prepare in advance and generate drafts of viable alternative solutions to the challenges. Second, students and professors should openly debate (a Socratic-style seminar) their opinions and ideas in order to enhance critical thinking and facilitate the exchange of opinions.

Case introduction

The case should be approached following a thorough analysis and explanation of the distinct stages of a supply chain, along with the structure of complex supply chains of companies operating on a global scale like Nestlé. Subsequently, the professor could introduce some past examples of the implications of poor SCT on company's brand perception and on human rights, with particular focus on Nestlé past greenwashing allegations.

Class discussion

Following the proposed introduction, after familiarizing the students on the matter of SCT in multinational companies, the professor could open a discussion presenting the following questions:

1. Why was the Nescafé Plan launched and how did it enhance operations' transparency?

One of the reasons for the launch of the Nescafé Plan was to respond to the need of enhancements in the transparency of its operations, which, due to its global scale and scope, was not without complex challenges.. Before discussing transparency, Nestlé realized, first of all, the importance of generating monitoring and evaluation standards to measure the impact of its operations. This resulted in the creation of two important operating frameworks: the "Theory of Change" (*see Appendix 2*) and a Monitoring & Evaluation (M&E) toolkit (launched in 2014), representing fixed criteria applicable across multiple countries and diverse range of operations. Moreover, the company set standards define what defined sustainable sourcing and transparency and linked pillars of the KPIs put in place withh environment, human rights, and animal welfare outcomes. According to the company, the concept of transparency is encompassed in the process of sustainable sourcing. Notions that are closely related to transparency are visibility and traceability of operations, all of which are part of the objectives of the Nescafé Plan. Supply chain transparency deals with the disclosure of information on the supply chain operations to all stakeholders, with focus on the frequency, comprehensiveness, and target audience of the information disclosed. On the other hand, supply chain visibility (SCV) and traceability, often interchangeable with each other, consist in the ability to track products from the sourcing or manufacturing stage to final destination (Roy, 2021).

All three concepts have at their core information sharing and were taken into serious consideration by Nestlé and when developing the Nescafé Plan. To achieve higher levels of transparency, as mentioned before, the company decided to partner with third-party organizations such as the Rainforest Alliance (RA), 4C Services, and Fairtrade to assess the impact of its operations throughout the initial stages of its supply chain. In the meantime, such partnerships enforced supply chain efficiency, while benefiting farmer communities (once again, in line with the Nestlé CSV strategy).

2. How does transparency of supply chain operations impact human rights?

The case study shows that, when assessing the main challenges emerging from the supply chain operations, among the most critical ones are: child labour, poor living and educational standards of farmers and their families, and subpar or even exploitative working conditions. As previously mentioned, improving the livelihoods of farmers and a human rights approach were positioned at the core of the Nescafé Plan. Transparency is, in fact, a promoter of both companies' value chains (Ford and Nolan, 2020), and suppliers' adoption of socially responsible practices as defined by human rights frameworks and international labour standards (*see Appendix 3*), (Awaysheh and Klassen, 2010).

To tackle the mentioned human rights-related challenges, Nestlé decided to conduct human rights due diligence, taking into considerations global standards such as the UN Guiding Principles on Business and Human Rights and the Guidelines for Multinational Enterprises set by OECD (Nestlé, 2021). The case study shows that, with the implementation of these activities through the Nescafé Plan, the firm is committed to integrating higher levels of CSR practices, which translate into a valuable competitive advantage within the market. As depicted in the case study, the programme recorded several accomplishments in this area, the company's M&E standards were in fact implemented across 15 countries, where farmers programmes were in place. The choice of selecting external parties for the monitoring and evaluation process also allow the company to receive information not only about the accomplishment, but also on the areas where amendments are needed.

3. How does transparency of supply chain operations impact a brand's reputation?

The case study also highlights the relevance of trust and credibility for generating value to the business, with CSR and sustainability practices serving as drivers of such value creation. For this reason, not only are supply chain transparency and visibility beneficial to efficiency optimization but, the former particularly focuses on increasing brand loyalty and credibility

across all stakeholders. By committing to improving transparency, a firm is able to boost the willingness of stakeholders to be involved with such company, from the employees, partner companies and/or organizations, investors, to end consumers. A study conducted in 2016 showed that 94% of sampled consumers reported attributing great importance to the transparency of food supply chains (Label Insight, 2016 cited in Astill, 2019). For this reason, improving transparency would boost consumer trust, highly affecting their buying behaviour, which would implicate a better brand reputation while increasing sales (MIT Sloan, 2020). The increasing consumers demand for both sustainable products and the traceability of companies' operations are crucial to implement, but precautions should be taken. Since an elevated level of transparency in information could implicate higher vulnerability to greenwashing allegations, information should be public but mediated at the same time. As the case study displays, throughout the Nescafé Plan, Nestlé relied on a number of "infomediaries," who worked towards the simplification of complex value chain activities, carrying out a process of standardization, and ensuring accessibility while keeping information up to date (Gardner et al., 2018). Nesté's choice of relying on partner organizations, and more specifically on local auditors, aims to leverage external expertise in M&E processes and to reassure stakeholders, excluding all eventual allegations of disclosing biased information.

4. <u>What are viable solutions to enhance supply chain transparency?</u>

As shown in the 10-year assessment of the Nescafé Plan, it is evident that the company has taken significant steps in terms of supply chain transparency (SCT) and optimization in communicating its activities, both internally and externally. Although the actions taken by the company up until now are solid, in terms of partnership and prioritization of effective monitoring and evaluation practices, many are the viable alternatives that the company could explore.

Technology plays a crucial role in supply chain transparency, serving as a connector across business operations, favouring informed future business decisions that, in turn, could reduce disruptions and optimize business processes. High levels of transparency can help increase the responsiveness of various stages within the supply chain, making the logistics more efficient and resilient (Fobes, 2021).

Data acquisition technologies represent promising solutions to facilitate data collection, processing, analysis, transfer, and storage (Gardner, 2018). Increasing internet accessibility presents a world of opportunities for the employment of technologic practices, from the stage of sourcing materials to the end product.

Among the technologies that could favour SCT there are:

- **Radio Frequency Identification Devices (RFID)** allows the transmission of real-time information in a short amount of time.
- **Internet of Things (IoT)** could present a valuable solution as it serves of sensors and devices allowing to collect, transfer, and exchange data without the need of additional human or computer inputs.
- **Blockchain** promotes improved transparency of information transmitted between supply chain participants. It, in fact, enables the security and accessibility of information previously retrieved (Zelbst et al., 2019). Moreover, studies suggest that IoT can support the implementation of blockchain practices along the supply chain. It is considered one of the most effective tools to ensure high quality SCT, traceability, in turn positively affecting sustainability within a company.

Nestlé should thus take into consideration to invest efforts and resources for the employment of data acquisition technologies. A combination of the three proposed technologies would be suggested to maximize the sustainability commitments in terms of visibility, traceability, and transparency of supply chain operations. The adoption of such solutions would bring value to

the company, concerning areas like brand reputation and operational effectiveness, finally resulting in highly competitive advantage in comparison to other players in the market.

Summary and Updates

The current teaching note aimed to make students understand the significant implications that SCT has on a business, when considering its operations and stakeholders satisfaction. The case study about the Nescafé Plan shows how actions have been taken in the respective areas of interest, highlighting the many accomplishments achieved throughout the 10 years of the programme. The positive outcomes of improved transparency practices are evident, both in terms of human rights and sustainability frameworks. Finally, the case study ends with several open questions, including what next innovative steps Nestlé could undertake. By providing the readers with an overview of innovative technologic solutions, students will have a starting point for further class discussions on how technology can be integrated in corporate's CSV strategies.

LIST OF ABBREVIATIONS

CSR	Corporate Social Responsibility
CSV	Creating Shared Value
GHG	Greenhouse Gas
IoT	Internet of Things
KPIs	Key Performance Indicators
M&E	Monitor & Evaluation
MNCs	Multinational Corporations
RA	Rainforest Alliance
RFID	Radio Frequency Identification Devices
SCT	Supply Chain Transparency
SCV	Supply chain Visibility
UN	United Nations

REFERENCES

Abu-Shakra, Emile. 2021. "Three-quarters of institutional investors say they may divest from companies with poor environmental track records". Ernst & Young. Accessed 2 October 2022. https://www.ey.com/en_gl/news/2021/11/three-quarters-of-institutional-investors-say-they-may-divest-from-companies-with-poor-environmental-track-records

Acre. n.d. "We know food, and we know the system". Acre. Accessed 14 November 2022. https://acre.vc/

Astill, Jake, Rozita A. Dara, Malcolm Campbell, Jeffrey M. Farber, Evan D.G. Fraser, Shayan Sharif, and Rickey Y. Yada. "Transparency in Food Supply Chains: A Review of Enabling Technology Solutions." Trends in Food Science & Technology 91 (2019): 240–47. https://doi.org/10.1016/j.tifs.2019.07.024.

Awaysheh, A, and R Klassen. "The Impact of Supply Chain Structure on the Use of Supplier Socially Responsible Practices." *International Journal of Operations & Production Management* 30, no. 12 (2010). https://doi.org/10.1108/01443571011094253.

ProductPlan. N.d. "Action Priority Matrix". Accessed December 2, 2022. https://www.productplan.com/glossary/action-priority-matrix/.

Acumen. 2021. "Resilient Agriculture Can Help Solve Poverty, Adapt to Climate Change". Acumen. Accessed on November 18, 2022. https://acumen.org/blog/climate-change-poverty-resilient-agriculture/

AGR Partners. 2022. "Why AGR". AGR Partners. Accessed 1 November 2022. https://agrpartners.com/investment-approach/why-agr/.

Albrecht-Heider, Christoph. 2019. “Disposable tableware without plastic”. KfW. Accessed on 17 November 2022. https://www.kfw.de/stories/environment/nature-conservation/biolutions/

Atradius N.V. 2022. *Industry Trends Food & Beverages: Focus on sector business performance and credit risk*. Amsterdam: Atradius N.V. https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=&ved=2ahUKEwjWg4mz_vT7AhXOgM4BHZkjAkcQFnoECAwQAQ&url=https%3A%2F%2Fatradius.fr%2Frapports%2Findustry_trends_food_beverages_-january_2022.pdf&usg=AOvVaw3Vu3lhPKYYVvSeavj5fyT3 (accessed on 27 November 2022)

Baldy, Jana. 2019. “Framing a sustainable local food system – how smaller cities in southern Germany are facing a new policy issue”. *Sustainability* 11 (6): 1-25. https://doi.org/10.3390/su11061712.

Beek, Bram van. 2022. “Kraft Heinz Partners With StartLife To Tap Into Startup Innovation”. StartLife. Accessed 10 October 2022. https://start-life.nl/kraft-heinz-partners-with-startlife-to-tap-into-startup-innovation/ .

Bellotti, Elisa, and Luca Panzone. 2016. “Media effects on sustainable food consumption. How newspaper coverage relates to supermarket expenditures”. *International Journal of Consumer Studi*es 40 (2): 186-200. https://doi.org/10.1111/ijcs.12242.

Biceika, Jurgita. and Maria Coronado Robles. 2022. “Sustainable Food: Will Consumers Pay a Premium?”. Euromonitor International. Accessed on 2 October 2022. https://www.euromonitor.com/article/sustainable-food-will-consumers-pay-a-premium

BIO-LUTIONS. 2019. “Natural Fibres for Sustainable Product Applications”. BIO-LUTIONS. Accessed on 3 December 2022. https://www.bio-lutions.com/solutions/

Napiferyn Biotech. 2020. “Our technology”. Napiferyn Biotech. Accessed on 1 December 2022. https://napiferyn.com/our-technology/

Boston Global Immersion. 2021. “4 key trends for food sustainability in 2021.” Boston Global Immersion. Accessed on 2 October 2022. https://www.bgi.pt/post/4-key-trends-for-food-sustainability-in-2021

Brown, M.E., J.M. Antle, P. Backlund, E.R. Carr, W.E. Easterling, M.K. Walsh, C. Ammann, W. Attavanich, C.B. Barrett, M.F. Bellemare, V. Dancheck, C. Funk, K. Grace, J.S.I. Ingram, H. Jiang, H. Maletta, T. Mata, A. Murray, M. Ngugi, D. Ojima, B. O’Neill, and C. Tebaldi. 2015. *Climate Change, Global Food Security, and the U.S. Food System*. Accessed November 18, 2022. http://www.usda.gov/oce/climate_change/FoodSecurity2015Assessment/FullAssessment.pdf

Bureau Européen des Unions de Consommateurs. 2020. “Most EU consumers open to eat more sustainably but face hurdles, new survey shows”. Bureau Européen des Unions de Consommateurs. Accessed 27 September 2022. https://www.beuc.eu/press-releases/most-eu-consumers-open-eat-more-sustainably-face-hurdles-new-survey-shows

Capgemini. 2020. “How sustainability is fundamentally changing consumer preferences”. Capgemini. Accessed 2 October. https://www.capgemini.com/wp-content/uploads/2020/07/20-06_9880_Sustainability-in-CPR_Final_Web-1.pdf

Chava, Sudheer. 2014. “Environmental externalities and cost of capital”. *Management Science* 60 (9): 2223-2247. https://doi.org/10.1287/mnsc.2013.1863.

ClimateTrade. “How Does the Paris Agreement Affect the Private Sector?,” February 17, 2022. Accessed November 14, 2022. https://climatetrade.com/how-does-the-paris-agreement-affect-the-private-sector/.

Columbus. 2022. “The biggest issues facing the food and beverage industry and how to tackle them”. Columbus. Accessed 13 November 2022. https://www.columbusglobal.com/en-gb/the-biggest-issues-facing-the-food-and-beverage-industry-and-how-to-tackle-them.

Contributor, Ryder. “Ryder Brandvoice: Supply Chain Transparency Creates Resilient Operations.” Forbes. Forbes Magazine, June 1, 2021. https://www.forbes.com/sites/ryder/2021/06/01/supply-chain-transparency-creates-resilient-operations/?sh=e64cc9e13c70.

Danone (D):

Danone. N.d. “Our Partners”. Danone. Accessed 17 October 2022. http://ecosysteme.danone.com/partners/

Danone (C):

Danone. N.d. “Discover All Projects”. Danone. Accessed 17 October 2022. http://ecosysteme.danone.com/list-of-projects/

Danone (B):

Danone. N.d. “Social Innovation Funds”. Danone. Accessed 17 October 2022. https://www.danone.com/impact/social-innovation-funds.html

Danone (A):

Danone. N.d. “Our History and Mission”. Danone. Accessed 17 October 2022. http://ecosysteme.danone.com/history-and-mission/

Danone (E):

Danone. N.d. “Danone Manifesto Ventures”. Danone. Accessed 17 October 2022. https://www.danone.com/about-danone/sustainable-value-creation/Danone-Manifesto-Ventures.html#DMV

Danone. n.d. “Planting the seeds of tomorrow”. Regenerative Agriculture. Accessed on December 1, 2022. https://regenerative-agriculture.danone.com/

Deloitte Belgium. 2022. *The Future of Food: Challenges and Opportunities*. Deloitte. https://www2.deloitte.com/content/dam/Deloitte/be/Documents/future_of_food_2022_v2_consumer_deloitte_be_report_en.pdf (accessed on 24 September 2022)

De Luca, Riccardo. 2022. “Tackling food loss and waste: A triple win opportunity”. Food and Agriculture Organization of the United Nations. Accessed November 16, 2022. https://www.fao.org/newsroom/detail/FAO-UNEP-agriculture-environment-food-loss-waste-day-2022/en

El Ghoul, Sadok, Omrane Guedhami, Hakkon Kim, and Kwangwoo Park. 2018. “Corporate environmental responsibility and the cost of capital: international evidence”. *Journal of Business Ethics* 149, 335-361: https://doi.org/10.1007/s10551-015-3005-6.

Emerging Ag. 2022. “Who we are”. Emerging Ag. Accessed 2 November 2022. https://emergingag.com/

European Environment Agency. 2020. “Food security and environmental impacts”. European Environment Agency. Accessed on November 5, 2022. https://www.eea.europa.eu/themes/agriculture/greening-agricultural-policy/food-security-and-environmental-impacts

European Commission. n.d. “A European Green Deal”. European Commission. Accessed on November 5, 2022. https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en#timeline

European Commission. 2020. “Farm to Fork Strategy: For a fair, healthy and environmentally-friendly food system”. European Commission. Accessed on November 6, 2022. https://food.ec.europa.eu/system/files/2020-05/f2f_action-plan_2020_strategy-info_en.pdf

Fengler, Wolfgang. 2021. “The silver economy is coming of age: A look at the growing spending power of seniors”. Brookings. Accessed on December 5, 2022. The silver economy is coming of age: A look at the growing spending power of seniors (brookings.edu)

Fernando, Chitru S., Mark P. Sharfman, and Vahap B. Uysal, 2017. “Corporate environmental policy and shareholder value: Following the smart money.” *Journal of Financial and Quantitative Analysis* 52 (5): 2023-2051. https://doi.org/10.1017/S0022109017000680

Food and Agriculture Organization of the United Nations. 2013. “Food wastage footprint: Impacts on natural resources”. Food and Agriculture Organization of the United Nations. Accessed November 16, 2022. https://www.fao.org/3/i3347e/i3347e.pdf

Food and Agriculture Organization of the United Nations. N.d. “Seeking end to loss and waste of food along production chain”. Food and Agriculture Organization of the United Nations. Accessed November 18, 2022. https://www.fao.org/in-action/seeking-end-to-loss-and-waste-of-food-along-production-chain/en/

Food and Agriculture Organization of the United Nations. 2022. “Word Food Situation”. Food and Agriculture Organization of the United Nations. Accessed 10 November 2022. https://www.fao.org/worldfoodsituation/foodpricesindex/en/

Ford, J, and J Nolan. "Regulating Transparency on Human Rights and Modern Slavery in Corporate Supply Chains: the Discrepancy between Human Rights Due Diligence and the Social Audit." AUSTRALIAN JOURNAL OF HUMAN RIGHTS 26, no. 1 (2020). https://doi.org/0.1080/1323238X.2020.1761633 © 2020 Australian Journal of Human Rights.

Fresco, Louise O., Ruerd Ruben, and Marion Herens. 2017. "Challenges and perspectives for supporting sustainable and inclusive food systems". ECDPM: The centre for Africa-Europe relations. Accessed November 16, 2022. https://ecdpm.org/work/sustainable-food-systems-volume-6-issue-4-september-october-2017/challenges-and-perspectives-for-supporting-sustainable-and-inclusive-food-systems

Gardner, T.A., M. Benzie, J. Börner, E. Dawkins, S. Fick, R. Garrett, J. Godar, et al. "Transparency and Sustainability in Global Commodity Supply Chains." World Development 121 (2018). https://doi.org/10.1016/j.worlddev.2018.05.025.

Garnett, T., 2013. "Food sustainability: problems, perspectives and solutions." *Proceedings of the Nutrition Society* 72 (1), 29-39. https://doi.org/10.1017/S0029665112002947

Glasshallmark. 2022. *Future Made Clear: What are shoppers interested in now?*. Glasshallmark. https://glasshallmark.com/wp-content/uploads/2022/01/Future-Made-Clear-Report.pdf (accessed on 29 September 2022)

The Global Goals. N.d. "The 17 Goals". The Global Goals. Accessed 27 September 2022. https://www.globalgoals.org/goals/

Harbert, Tam. "Supply Chain Transparency, Explained." MIT Sloan, February 20, 2020. https://mitsloan.mit.edu/ideas-made-to-matter/supply-chain-transparency-explained.

Halper, Jason, Sara Bussiere, and Timbre Shriver. 2021. ""Sustainable" Companies Face Increased Pressure". Harvard Law School Forum on Corporate Governance. Accessed 10 October 2022. https://corpgov.law.harvard.edu/2021/12/26/sustainable-companies-face-increased-pressure/

Harvey, Celia A., Zo Lalaina Rakotobe, Nalini S. Rao, Radhika Dave, Hery Razafimahatratra, Rivo Hasinandrianina Rabarijohn, Haingo Rajaofara, and James L. MacKinnon. 2014. "Extreme vulnerability of smallholder farmers to agricultural risks and climate change in Madagascar". *Philosophical Transactions of The Royal Society*. Accessed on November 18, 2022. https://royalsocietypublishing.org/doi/epdf/10.1098/rstb.2013.0089

HECTAR. N.d. "HECTAR accelerator, the first Agri and FoodTech ecosystem in Europe". HECTAR. Accessed on 3 December. https://en.hectar.co/accelerateur

HPG Consulting. 2021. "Challenges and Opportunities in the Food and Beverage Industry". HPG Consulting. Accessed on 18 November. https://hpgconsulting.com/food-beverage-consultants/challenges-and-opportunities-in-the-food-and-beverage-industry/

International Labour Organization. 2022. *Vulnerabilities to child labour*. Geneva: ILO. https://www.ilo.org/wcmsp5/groups/public/---ed_norm/---ipec/documents/publication/wcms_845129.pdf (as accessed on 18 November)

University of Oxford. N.d. "Environmental impact of 57,000 multi-ingredient processed foods revealed". University of Oxford. Accessed on November 18, 2022. https://www.ox.ac.uk/news/2022-08-09-environmental-impact-57000-multi-ingredient-processed-foods-revealed

IKEA. "Podcast Igualmente." IKEA. Accessed December 4, 2022. https://www.ikea.com/pt/pt/this-is-ikea/work-with-us/podcast-igualmente-

pub059d3400?gclid=EAIaIQobChMIupHawZr6-wIVBJ7VCh3V9ANSEAAYASAAEgL6v_D_BwE

Kaltenbach, Pierre-François. 2022. "Inflation, disruption and supply chains: Decisions to make now". Accenture. Accessed on November 2, 2022. https://www.accenture.com/us-en/blogs/business-functions-blog/inflation-supply-chain-disruption

Kim, Jenn. 2021. "Turning employees into brand ambassadors: Stories from Starbucks, Walmart, & Macy's". Aspire. Accessed 25 November 2022. https://aspire.io/blog/turning-employees-into-brand-ambassadors/

Lerner, Josh. 2013. "Corporate Venturing." Harvard Business Review. Accessed 20 November 2022. https://hbr.org/2013/10/corporate-venturing

Ma, Li, Shijun Wang, and Anders Wastfelt. 2022. "The Poverty of Farmers in a Main Grain-Producing Area in Northeast China". *Land* 11 (5), 594. Accessed on November 18, 2022. https://www.mdpi.com/2073-445X/11/5/594/htm

Mariana Nicolau, L. Esquivel, I. Schmidt, C. Fedato, L. Leimann, A. Samoggia, F. Monticone, D.M. Prete, R. Ghelfi, M.N. Saviolidis, G. Olafsdottir, H. Sigurdardottir, P.M. Aubert, E. Huber, A. Aditjandra, C. Hubbard, A. De, M. Gorton, L. Čechura, G.S. Bogason, L. Brimont, J. Odene, and D. Schamari. 2021. "Food consumption behaviours in Europe. Mapping drivers, trends and pathways towards sustainability." VALUMICS project. Accessed November 14, 2022. https://valumics.eu/wp-content/uploads/2021/06/Valumics-Report-1-_Mapping Behaviours.pdf

Mohajan, Haradhan. 2018. "Qualitative Research Methodology in Social Sciences and Related Subjects." *Journal of Economic Development, Environment and People*, 7,1:

24. https://mpra.ub.uni-muenchen.de/85654/1/MPRA_paper_85654.pdf (accessed 14 October 2022)

Mooney, Attracta. 2020. "Investors pile pressure on companies over ESG at annual meetings". Financial Times. Accessed 14 October 2022. https://www.ft.com/content/844783f8-c9c4-4cda-960f-bec2543a5e12

Nestlé. N.d. "Regenerative Agriculture," Nestlé: Good Food, Good Life. Accessed 14 October 2022. https://www.Nestlé.com/sustainability/nature-environment/regenerative-agriculture.

Nestlé. 2022. "The Nestlé Agriculture Framework." Nestlé: Good food, Good life. Accessed 16 October 2022. https://www.Nestlé.com/sites/default/files/2022-07/Nestlé-agriculture-framework.pdf.

Nestlé. 2021. *Creating Shared Value and Sustainability Report 2021*. https://www.Nestlé.com/sites/default/files/2022-03/creating-shared-value-sustainability-report-2021-en.pdf (accessed 8 October 2022)

Nestlé. 2022. "Our packaging sustainability strategy". Nestlé: Good food, Good life. Accessed on 5 December 2022. https://www.Nestlé.com/sustainability/waste-reduction/packaging-strategy

Nestlé. 2002. "Nestlé: Venture Capital Fund Established". Nestlé: Good food, Good life. Accessed 21 November 2022. https://www.Nestlé.com/media/pressreleases/allpressreleases/venturecapitalfund-5mar02

Nestlé. 2021. "Bringing innovations to life at the Nestlé R+D Accelerator, together with start-ups, students and intrapreneurs." Nestlé: Good food, Good life. Accessed 20 November 2022.

https://www.Nestlé.com/media/pressreleases/allpressreleases/Nestlé-rd-accelerator-lausanne-inauguration

Nestlé. 2021. “Nestlé sharpens geographic focus, creates Zones North America and Greater China”. Nestlé: Good food, Good life. Accessed on December 5, 2022. https://www.Nestlé.com/media/pressreleases/allpressreleases/geographic-focus-north-america-greater-china

OECD. 2020. “Building a coherent response for a sustainable post-COVID-19 recovery”. OECD. Accessed on 25 September 2022. https://www.oecd.org/coronavirus/policy-responses/building-a-coherent-response-for-a-sustainable-post-covid-19-recovery-d67eab68/

Ollagnier, Jean-Marc, Kris Timmermans, and Michael Brueckner. 2022. “From disruption to reinvention: The future of supply chains in Europe”. Accenture. Accessed 2 November 2022. https://www.accenture.com/us-en/insights/strategy/ukraine-future-supply-chains-europe

Owen, Jasmine. “World Hunger: Facts & How to Help,” July 2022. Accessed December 4, 2022. https://www.worldvision.ca/stories/food/world-hunger-facts-how-to-help

Poore, J., & Nemecek, T. (2018). Reducing food’s environmental impacts through producers and consumers. OurWorldInData.org/environmental-impacts-of-food

PricewaterhouseCoopers. 2021. “Beyond compliance: Consumers and employees want business to do more on ESG: How business can close the expectation gap”. PwC. Accessed on 24 September 2022. https://www.pwc.com/us/en/services/consulting/library/consumer-intelligence-series/consumer-and-employee-esg-expectations.html

Protein Report. 2022. “NapiFeryn BioTech”. Protein Report. Accessed on 1 December 2022. https://www.proteinreport.org/directory/napiferyn-biotech

Qiang, Christine Zhenwei, Abhishek Saurav, and Brody Viney. 2021. "Global investors shift focus to sustainability amid push for a green recovery" World Bank. Accessed 21 October 2022. https://blogs.worldbank.org/psd/global-investors-shift-focus-sustainability-amid-push-green-recovery .

Rachmawatia, T., Basukib, and Hamidahc. "Creating Shared Value (CSV): The Sustainable Business Model." *International Journal of Innovation, Creativity and Change* 8, no. 9 (2019): 263–64.

Reuters. 2020. "Nestlé to invest up to 2 bln Sfr to shift to recycled plastics." Reuters. Accessed on 25 November 2022. https://www.reuters.com/article/Nestlé-environment-idUSFWN29K0R9

Ritchie, Hannah, and Max Roser. n.d. "Environmental Impacts of Food Production". Our World in Data. Accessed on November 17, 2022. https://ourworldindata.org/environmental-impacts-of-food

Ritchie, Hannah, and Max Roser. n.d. "Farm Size". Our World in Data. Accessed on November 17, 2022. https://ourworldindata.org/farm-size

Roy, V. (2021), "Contrasting supply chain traceability and supply chain visibility: are they interchangeable?", *The International Journal of Logistics Management*, Vol. 32 No. 3, pp. 942-972. https://doi.org/10.1108/IJLM-05-2020-0214.

Stafford Capital Partners. N.d. "Stafford Agriculture & Food." Stafford Capital Partners. Accessed 2 November 2022. https://www.staffordcp.com/agriculture

Statcounter. 2022. “Social Media Stats Europe.” Statcounter GlobalStats. Accessed 10 December 2022. https://gs.statcounter.com/social-media-stats/all/europe

Stockeld Dreamery. N.d. “We create the world’s most ambitious cheese”. Stockeld Dreamery. Accessed on 1 December 2022. httQs://www.stockeld.com/about-us

Southey, Flora. 2022. “Kraft Heinz teams up with start-up accelerator to drive innovation: “We can create win-wins””. Food Navigator. Accessed 28 October 2022. https://www.foodnavigator.com/Article/2022/09/29/Kraft-Heinz-and-StartLife-partnership-to-drive-innovation-in-food-and-beverage

The World Bank. 2021. “Employment in agriculture (% of total employment) (modelled ILO estimate)”. The World Bank. Accessed on November 17, 2022. https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS?end=2019&start=1991

Searchinger, Tim, Richard Waite, Craig Hanson, and Janet Ranganathan. Rep. “CREATING A SUSTAINABLE FOOD FUTURE, A Menu of Solutions to Feed Nearly 10 Billion People by 2050”. World Resources Institute, 2019.

Tikehau Capital. 2022. “Regenerative agriculture transition to be accelerated through impact fund from AXA, Unilever and Tikehau Capital”. Tikehau Capital. Accessed 2 November 2022. https://www.tikehaucapital.com/~/media/Files/T/Tikehau-Capital/pr-2022-en/AXA-Unilever-Tikehau-Capital-PR-11052022.pdf

Tode, Chantal. n.d. “Danone links QR codes with loyalty program to drive savings”. Marketing Dive. Accessed on December 5, 2022. https://www.marketingdive.com/ex/mobilemarketer/cms/news/database-crm/15706.html

Toh, Andre. 2021. “How to enhance long-term business value through sustainability”. Ernst & Young. Accessed 12 October 2022. https://www.ey.com/en_vn/sustainability/how-to-enhance-long-term-business-value-through-sustainability

Unilever. 2022. “New tool to help accelerate the transition to regenerative agriculture”. Unilever. Accessed 25 October 2022. https://www.unilever.com/news/news-search/2022/new-tool-to-help-accelerate-the-transition-to-regenerative-agriculture/

Unilever. 2022. “Regenerative agriculture transition to be accelerated through new impact fund”. Unilever. Accessed 25 October 2022. https://www.unilever.com/news/press-and-media/press-releases/2022/regenerative-agriculture-transition-to-be-accelerated-through-new-impact-fund/

United Nations. N.d. “Stop Food Loss and waste, for the people, for the planet”. United Nations: International Day of Awareness on Food Loss and Waste Reduction. Accessed November 14, 2022. https://www.un.org/en/observances/end-food-waste-day

United Nations. N.d. “The Paris Agreement.” United Nations: Climate Action. Accessed November 14, 2022. https://www.un.org/en/climatechange/paris-agreement.

University of Oxford. n.d. “Challenges Facing the Food System.” University of Oxford. Accessed November 14, 2022. https://www.futureoffood.ox.ac.uk/food-system-challenges

U.S. Department of Agriculture. n.d. “Soil”. Farmers.gov: U.S. Department of Agriculture. Accessed November 14, 2022. https://www.farmers.gov/conservation/concerns-tool/soil

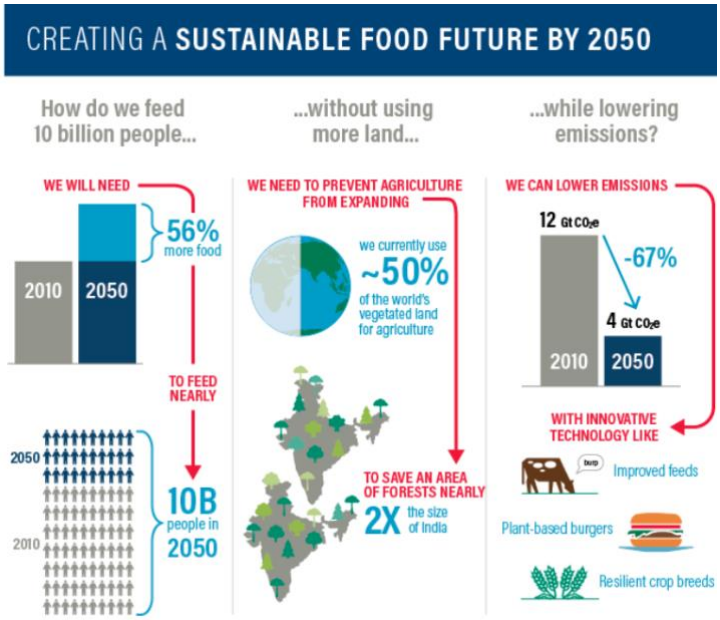
Zelbst, Pamela J., Kenneth W. Green, Victor E. Sower, and Philip L. Bond. “The Impact of RFID, Iiot, and Blockchain Technologies on Supply Chain Transparency.” Journal of

Manufacturing Technology Management 31, no. 3 (2019): 441–57. https://doi.org/10.1108/jmtm-03-2019-0118.

Zieffler, A., and Catalysts for Change. 2019. “Statistical Thinking: A simulation approach to uncertainty.” 4,3. Minneapolis: Catalyst Press. http://zief0002.github.io/statistical-thinking/ (accessed 25 October 2022)

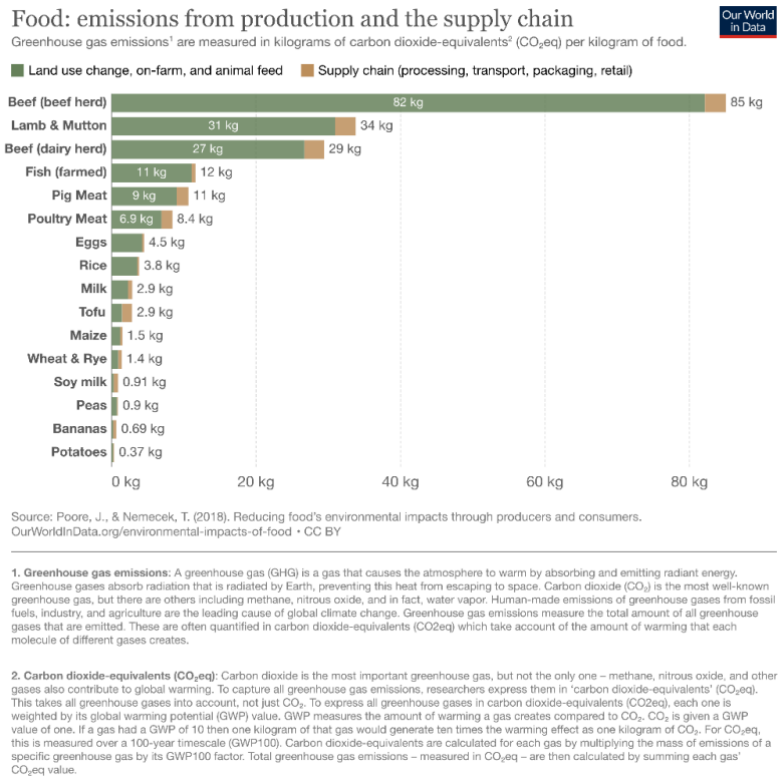
APPENDIX

Appendix 1 – Creating a sustainable food future by 2050



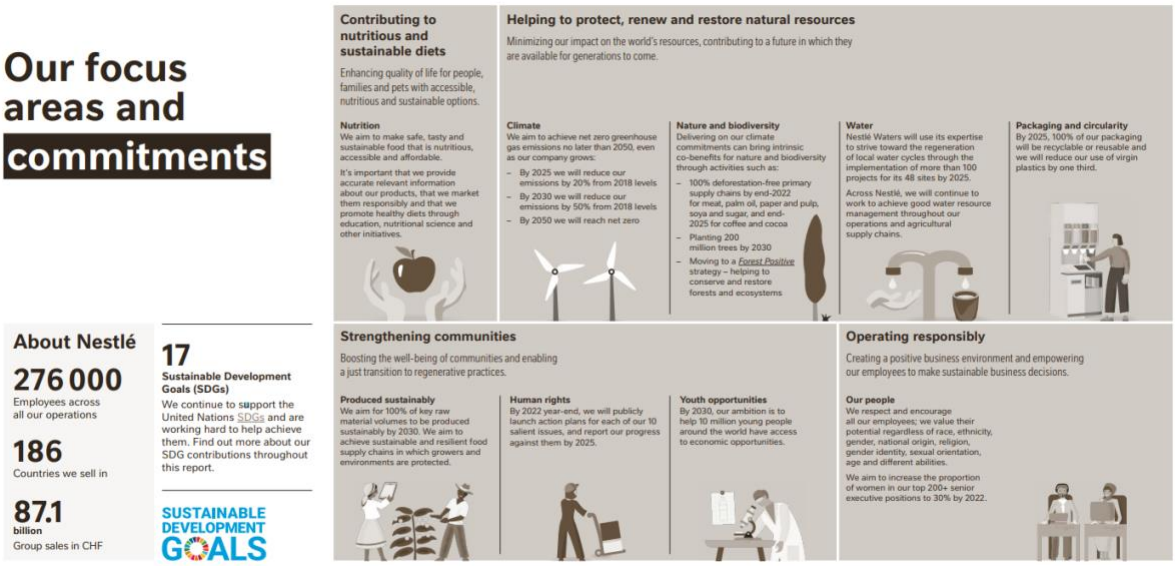
Source: (World Resource Institute, 2019)

Appendix 2 - Food Emissions in Production and Supply Chain



Source: (Our World in Data, 2018)

Appendix 3 - Nestlé SDGs contributions



Source: (Nestlé, 2021)

Appendix 4 - Water Stewardship at Nestlé

Nestlé factories serving our Nestlé Waters business	Agricultural supply chain	Nestlé factories	Water in communities	Water partnerships and advocacy
Nestlé Waters pledge: We will advance the regeneration of the water cycle to help create a positive water impact everywhere our water business operates by 2025.	We promote and implement better water management practices in water-stressed areas. This is to help protect watersheds and ensure regeneration of the water cycle.	We monitor water efficiency and the quality of the water we discharge.	We believe businesses have a role to play in helping to ensure that more people have access to safe water.	We work together with local stakeholders to address watershed challenges.

Source, (Nestlé, 2021)

Appendix 5 - Five-pillar strategy

Source: (Nestlé, 2021)

Appendix 6 - Human Rights Framework

Source: (Nestlé, 2021)

Appendix 7 – Our People Approach

Source: (Nestlé, 2021)

Appendix 8 – Roadmap for Employee Health

Source: (Nestlé, 2021)

Appendix 9 - Four Compliance Programme Pillars

1. Compliance governance and culture

Our strong culture of business ethics is led and driven by senior managment. We are determined to ensure that our policies, standards and procedures, supported by a robust governance system and processes, enable Nestlé to conduct business in an ethical and principles-based manner, to fulfill our business requirements and to meet societal evolution and expectations, all the while reinforcing a *Speak Up* culture.

3. Monitoring and reporting

Our global CARE Audit program is an internal social audit verification that aims to ensure that all our employees and sites operated by Nestlé comply with local legislation, our Corporate Business Principles and our Code of Business Conduct.

External auditors assess compliance with our Corporate Business Principles against seven pillars: conditions of work and employment, business integrity, safety and health, environmental sustainability, security, local communities, and labor accommodation.

In addition, we have recently issued our evolved Human Rights Framework and Roadmap that provides a comprehensive framework to continue developing our preventive measures to protect human rights in our business relations with third parties.

2. Communication and training: dissemination of processes and tools

We run an annual communication campaign in order to achieve the proper dissemination of ethics and compliance guidance, as well as information on the ongoing evolution of our compliance culture, principles and values. Training materials and tools are continually developed and implemented to support and monitor this dissemination process.

4. Closing gaps

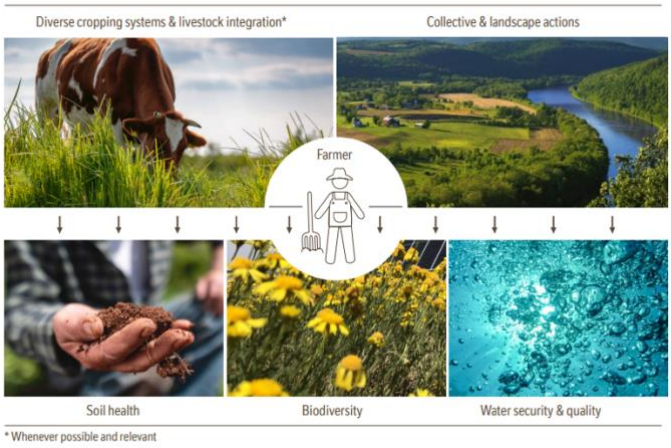
We execute continuous risk assessments in order to define the priorities and focus areas of our Compliance Program. We also ensure that ethical discussions, consequence management and action plans are duly executed.

In all areas: automation of systems and processes

The execution of our Compliance Program is supported by the continuous deployment and improvement of digital tools, which provide effective and actionable monitoring and reporting.

Source: (Nestlé, 2021)

Appendix 10 – Holistic Model



Source: (Nestlé, 2022)

Appendix 11 - Potential benefits of soil conservation

Source: (Nestlé, 2022)

Appendix 12 - Impact of each practice

Impact: • Minor •• Moderate ••• Major	Soil	Water	Biodiversity	GHG mitigation
Cover crops	•••	••	••	•••
Diversified crop rotation	•••	—	•••	••
Mulching & crop residues cover	•••	••	•	•••
Minimum tillage	•••	••	••	•••
Organic fertilizers	•••	•••	••	•••
Integrated nutrient management	•••	•••	••	•••
Irrigation technology	•	•••	—	•
Riparian buffers	•••	•••	•••	•••
Intercropping	•••	•	••	•
Agroforestry & silvo-pastoral systems	•••	•	•••	•••
Hedgerows & green buffers	•••	•	•••	•••
Integrated pest management & bio-controls	••	•••	•••	—
Precision farming	•	•••	••	••
Manure storage & process	••	•••	—	•••
Herd management	—	—	—	•••
Integrated pasture management & grazing strategies	•••	••	•	•••

Source: (Nestlé, 2022)

Appendix 13 - Main Pillars Implementation

Source: (Nestlé, 2022)

Appendix 14 - Assessment Tools Indicators (examples)

Practice-based KPIs

TOPIC	KPI
Soil cover	Number of months when soils are covered through crops, cover crops, plant residues or mulch (on an annual basis)
Cover crops	% of crop land planted with cover crops
Crop rotation	nbr of different crops grown over 3 years on the same piece of land (including cover crops)
Minimum tillage	% of crop land managed with minimum tillage
Farming practices	% of farmland under specific practices (practices to be defined per cropping system & region)

Result-based KPIs

TOPIC	KPI
Soil organic matter	Soil organic matter
Fertilizer productivity	Fertilizer productivity (crop yield per kg N applied); Crop yield per per kg N from artificial fertilizer
Habitats	% of habitat areas on the agricultural land (hedges, tree alleys, flower strips, green belts, riparian buffers)
Riparian buffers	% of watercourses with riparian buffers
Pesticides	# of applications of synthetic pesticides on the Nestlé crop

Sources: (Nestlé, 2022)

Appendix 15 – Employee Interviews at Nestlé Portugal

Name	Function	Department
Ana Sofia Martins	Innovation Beyond the Core Iberian (IBTC) Project Manager	Innovation
António Carvalho	Customer & Category Development Manager	Marketing and Communications
Beatriz Guimarães	Sustainability Leader & Project Management Officer (PMO)	Sustainability
João Bernardes	Corporate & Sustainability Controller Team Lead	Finance
Rui Couceiro	Procurement Business Partner	Supply Chain and Procurement

Appendix 16 – Survey Results

Section Titles	Number of Questions
SECTION 1 - Consumer Profiling	7
SECTION 2 - Consumer Perception of Sustainability	9
SECTION 3 - Sustainable Food Systems for the Future	7
SECTION 4 - Nestlé and its Regenerative Food Systems	11

16.1 Survey Introduction

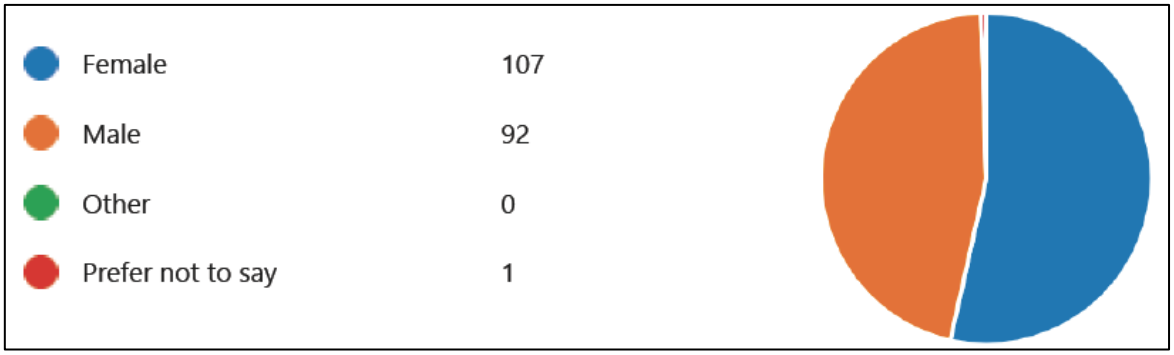
The survey will take approximately 10 minutes to complete. The purpose of this survey is to contribute to our Master's Thesis at Nova School of Business and Economics, developed to analyse efforts by businesses, governments, international institutions, and non-profit organisations to contribute to the UN's Sustainable Development Goals. All responses are confidential and protected by anonymity and will only be used for the purpose described.

Please take the survey ONLY if you are living in Europe.

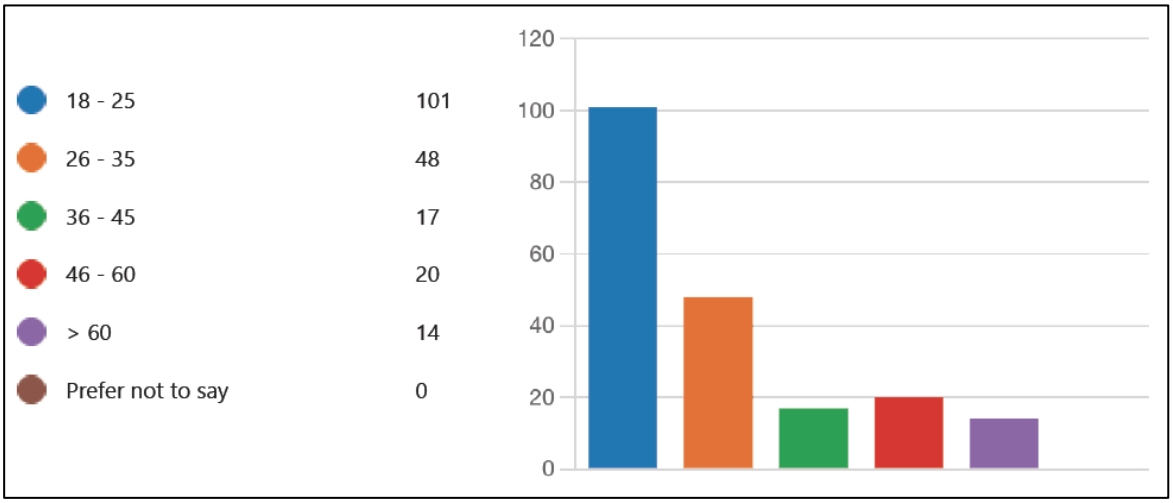
16.2 Survey Results

SECTION 1: Consumer Profiling

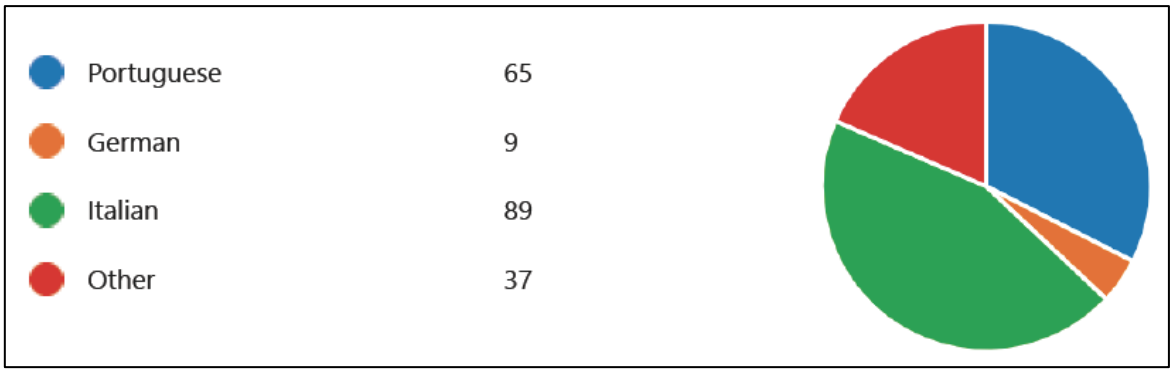
Q1: What is your gender?



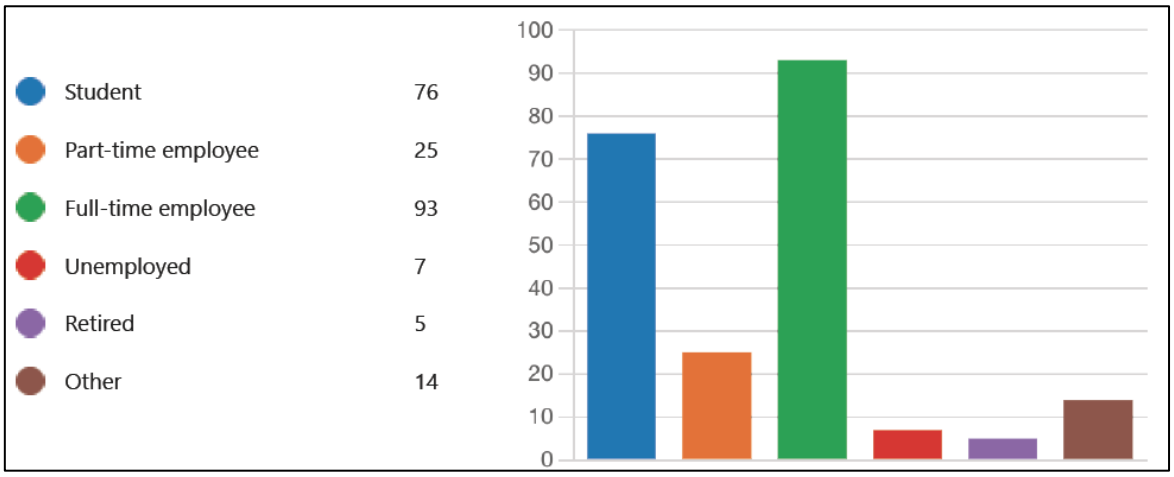
Q2: How old are you?



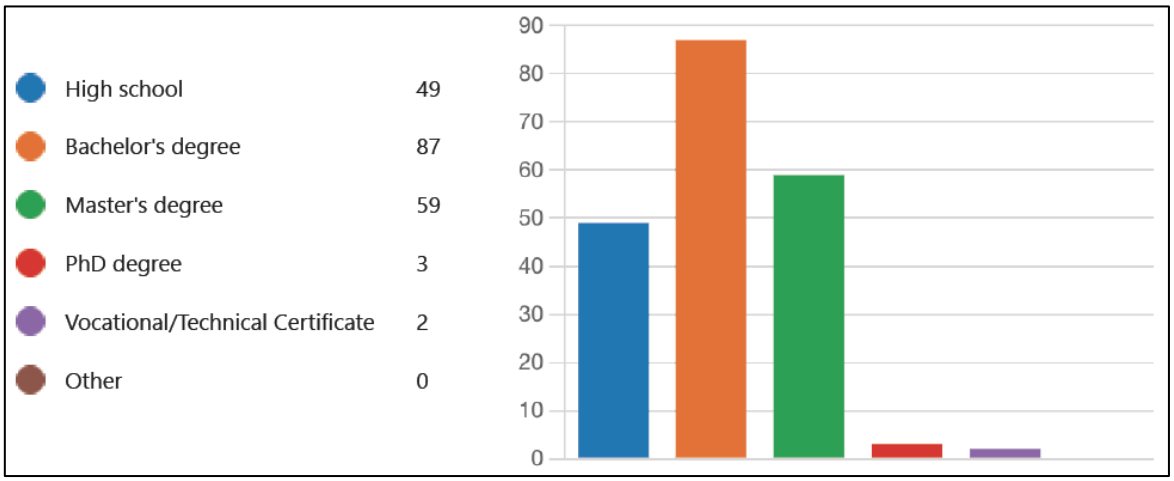
Q3: What is your nationality?



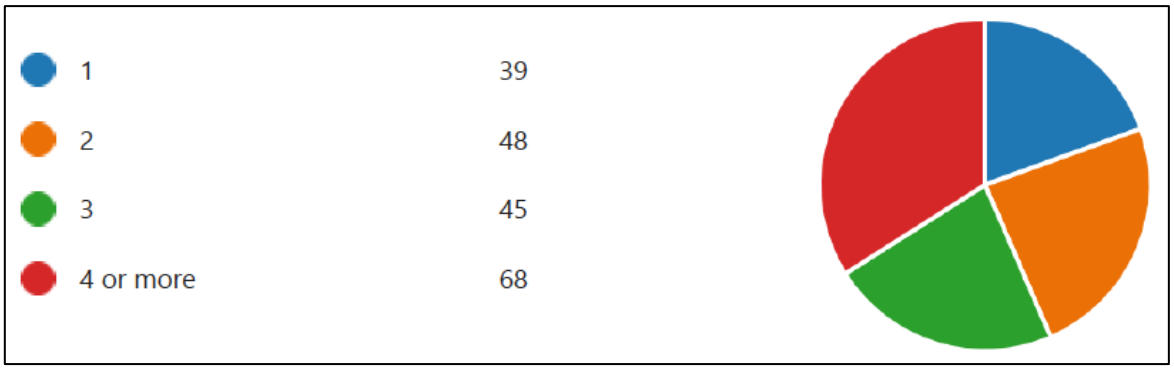
Q4: What is your current professional status?



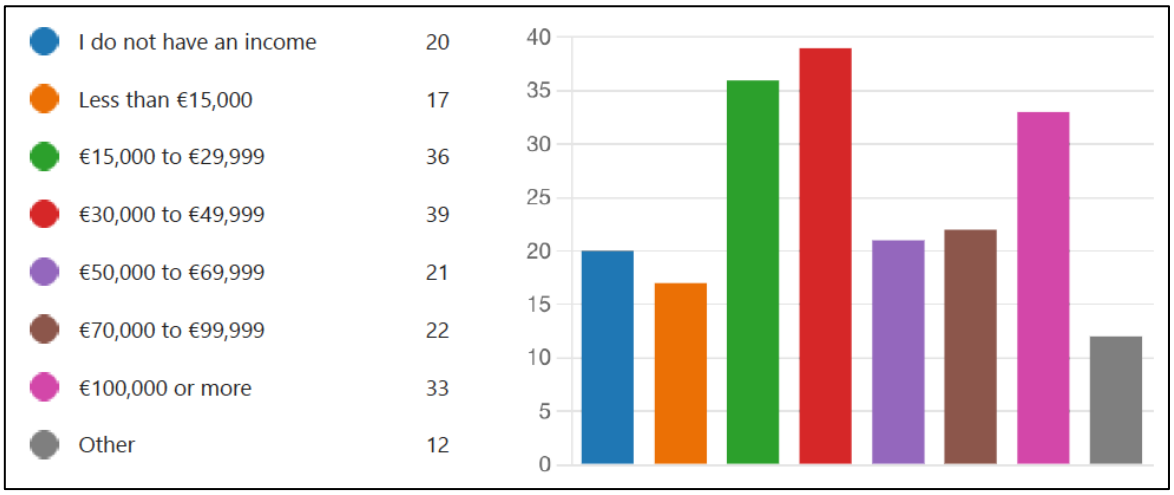
Q5: What is the highest level of education you've completed?



Q6: How many people are part of your household?



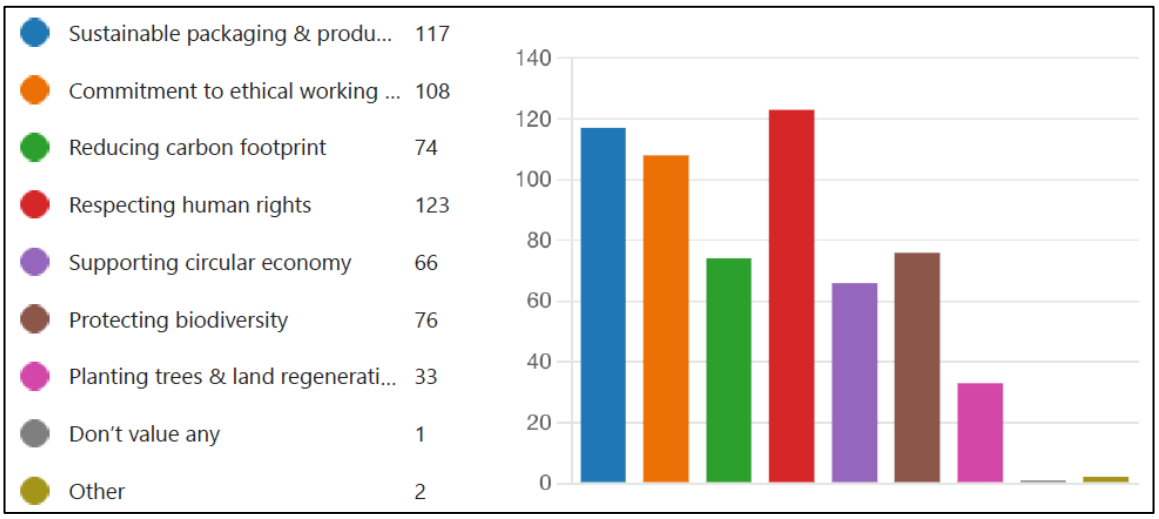
Q7: What is your annual household income? (Please remember all answers are anonymous)



SECTION 2: Consumer Perception towards Sustainability

Q8: What factors influence your **purchasing decision** the most when **shopping groceries**? Please rank the factors below from most to least likely.

Q9: What are the 3 most important **environmentally sustainable/ethical practices** to you?

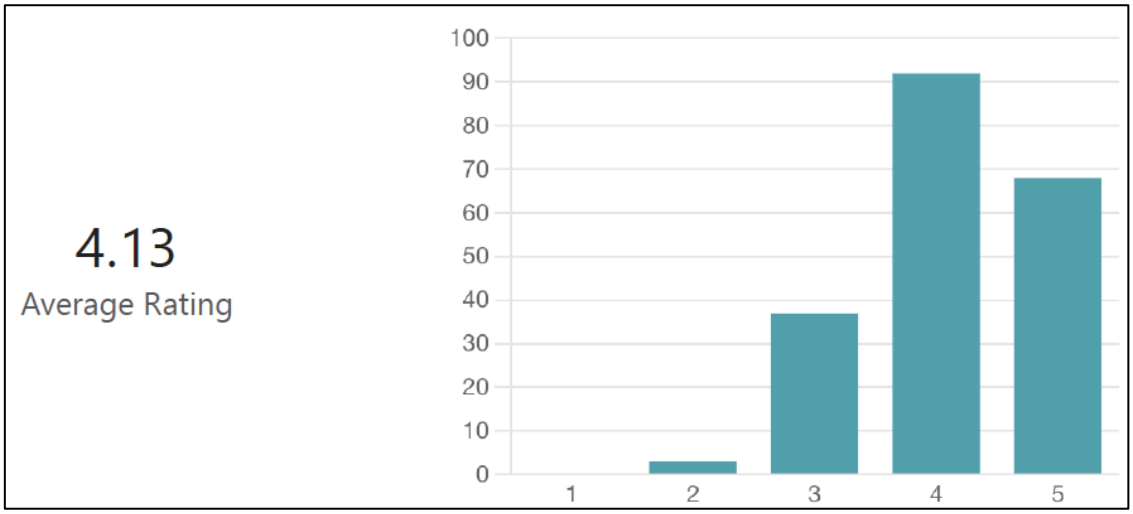


(Options: Sustainable packaging & product sourcing, Commitment to ethical working practices, Reducing carbon footprint, Respecting human rights, Supporting circular economy, Protecting biodiversity, Planting trees & land regeneration practices, Don't value any)

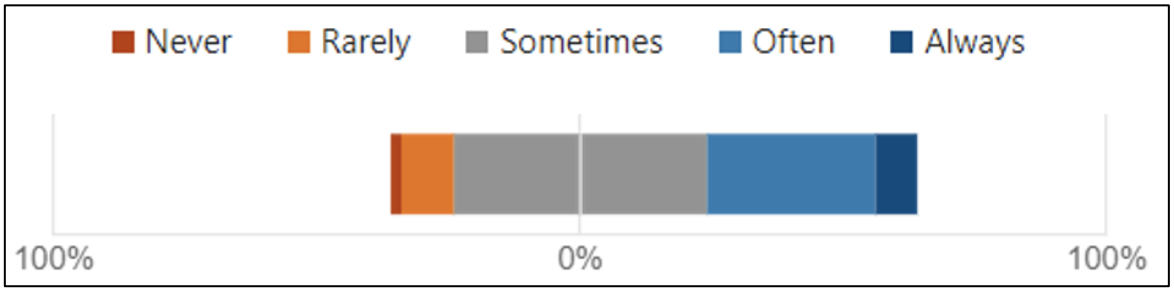
Q10: **Sustainability** is the capacity of meeting the present needs **without compromising the ability of future generations to meet their own needs**.

Sustainable consumption involves using goods and services produced with a **reduced impact on the natural resources** and **fewer pollutants**, or **purchasing, consuming, and disposing of products in a sustainable manner**.

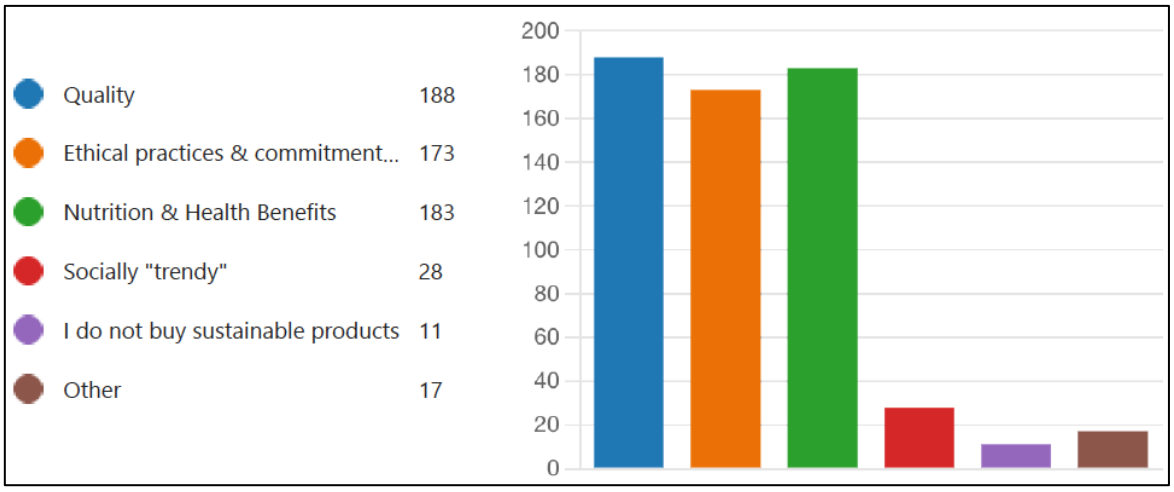
On a scale of 1 to 5, how important is sustainability to you?



Q11: Do you tend to buy more sustainably sourced/produced products when you shop for groceries?

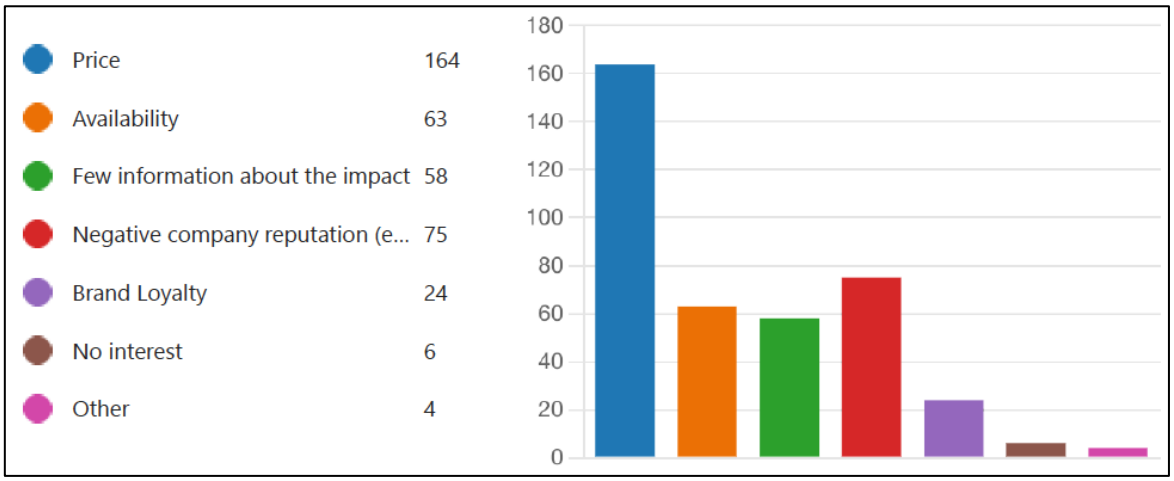


Q12: When grocery shopping, what pushes you to buy sustainable products?

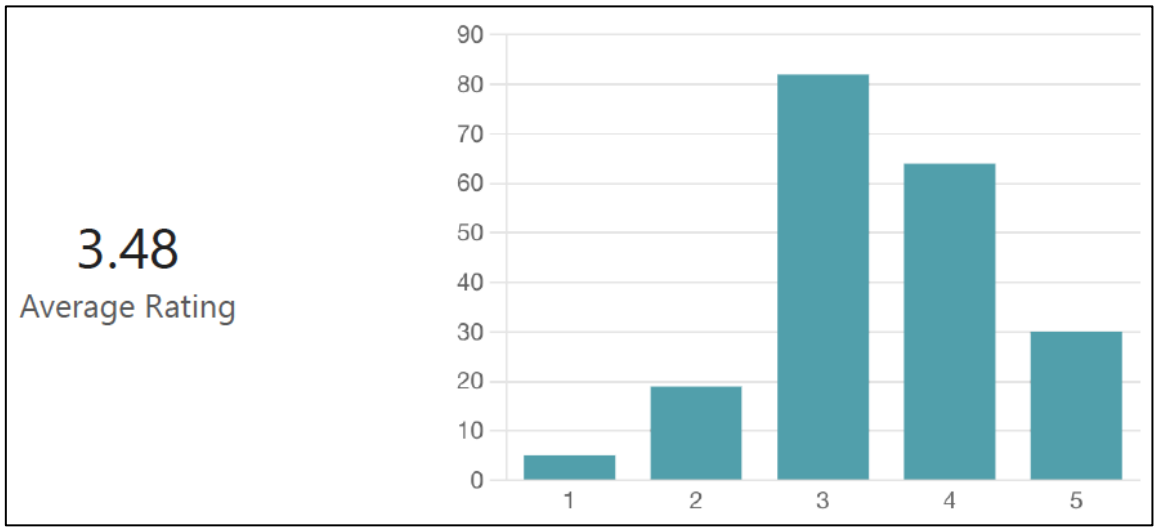


(Options: Quality, Ethical practices & commitment towards society/environment, Nutrition & Health Benefits, Socially "trendy", I do not buy sustainable products)

Q13: What factors are most likely to stop you from buying more sustainable products?

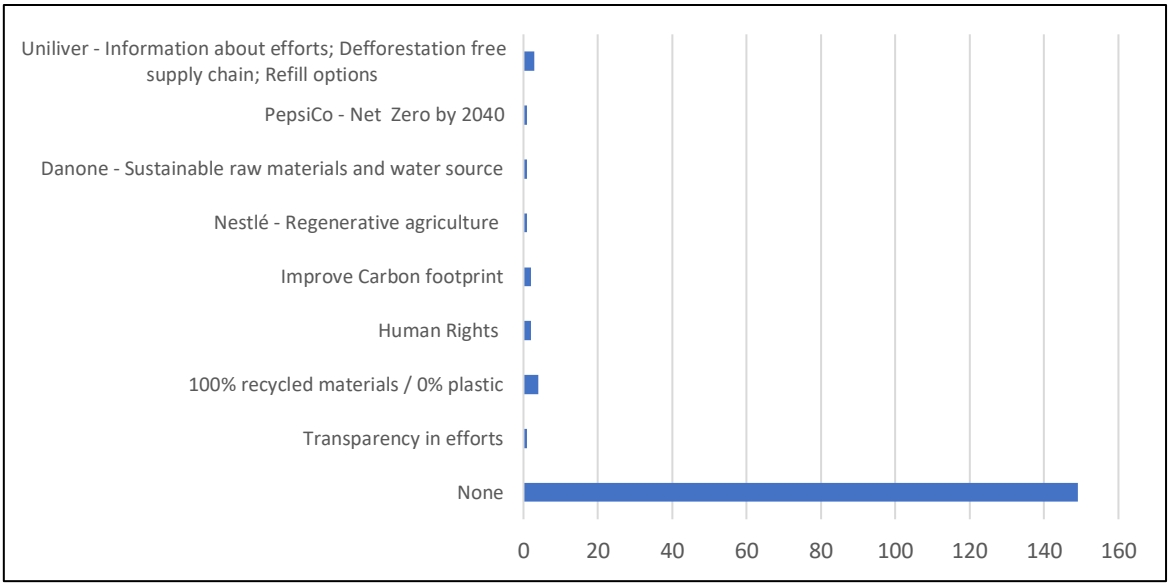


Q14: How important are sustainability efforts to determine your loyalty to a specific brand?



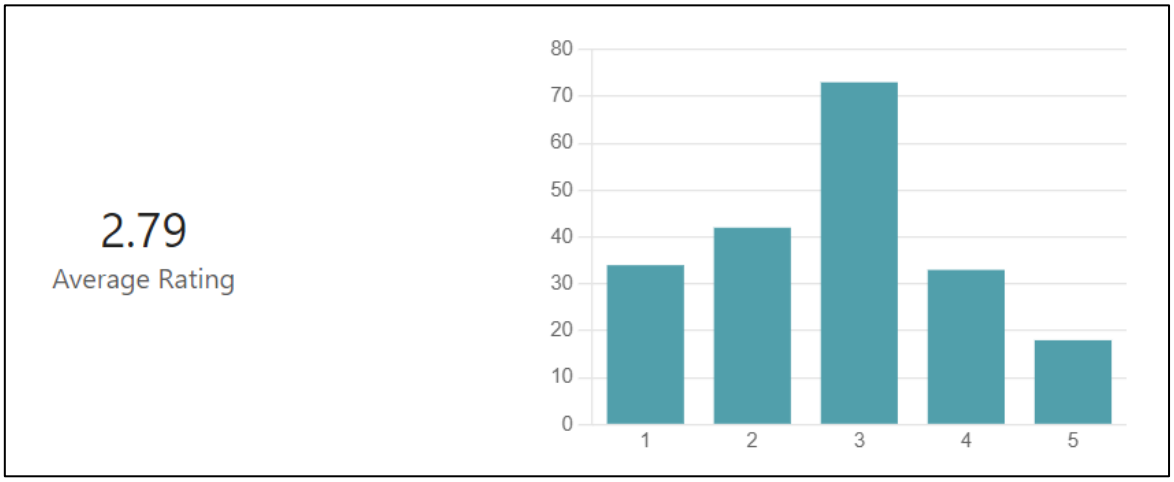
Q15: Please rank the following brands from most to least sustainably responsible according to your own perception (top - most)

Q16: Is there any particular sustainability initiative launched by the brands mentioned above that you found particularly interesting or impactful which ended up influencing your purchasing choices?



SECTION 3: Sustainable Food Systems for the Future

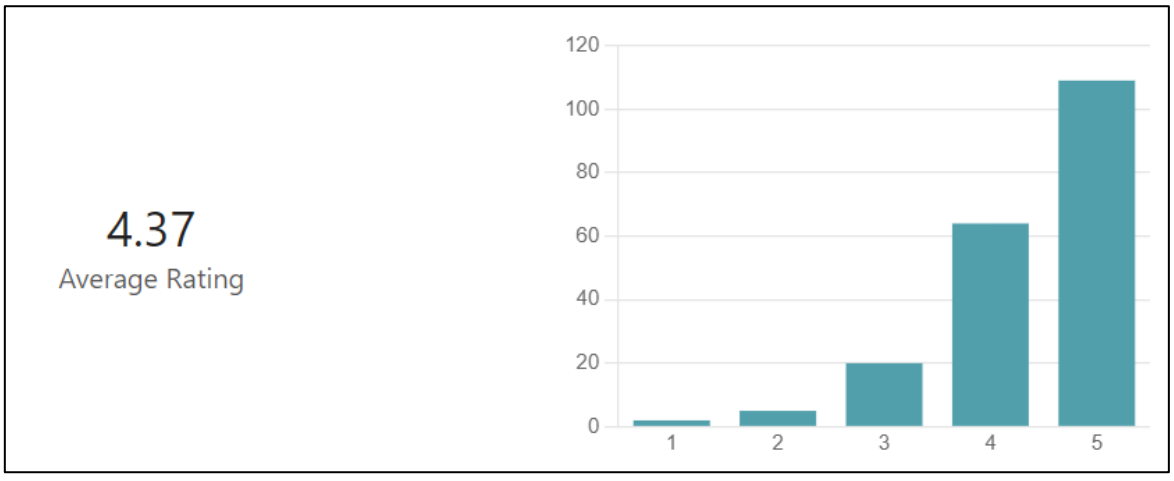
Q17: How familiar are you with the concept of **sustainable food systems**?



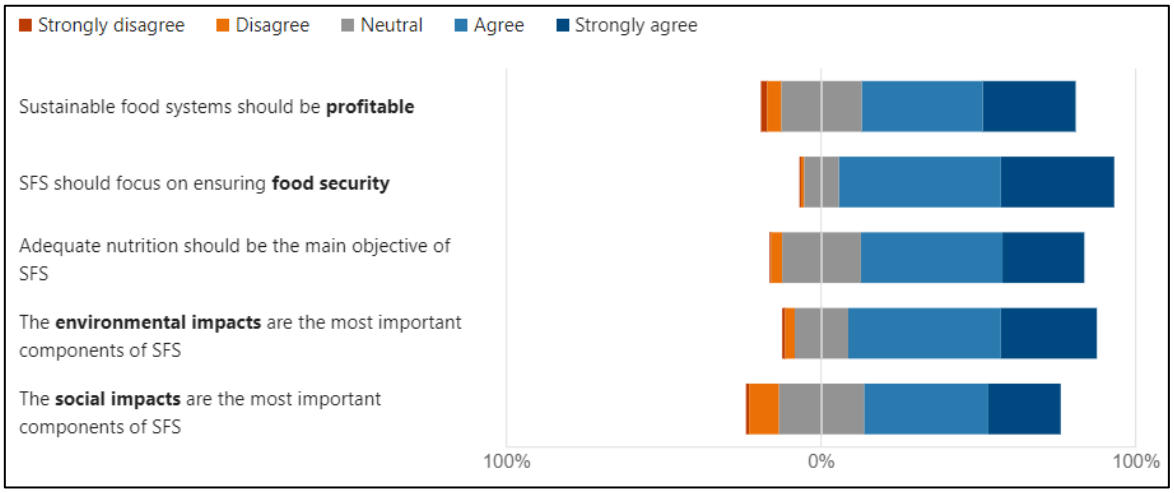
Q18: Sustainable Food Systems (SFS) are those that deliver food security & nutrition for all without compromising the economic, social and environmental resources to generate food security and nutrition for future generations.

This implies that food systems are profitable, widely beneficial to society, and have positive or neutral environmental impact.

After understanding what Sustainable Food Systems are, how much do you consider them to be important for the future?

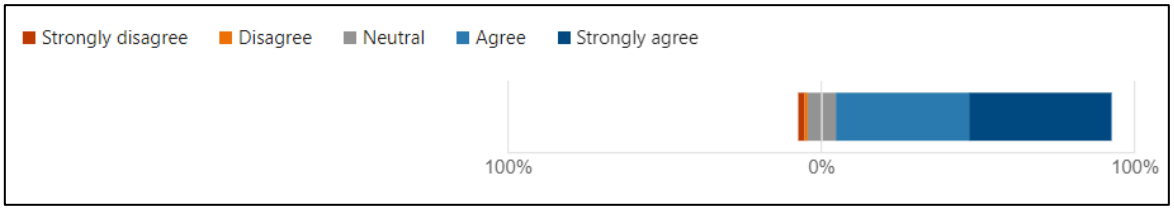


Q19: How much do you agree with the following statements?

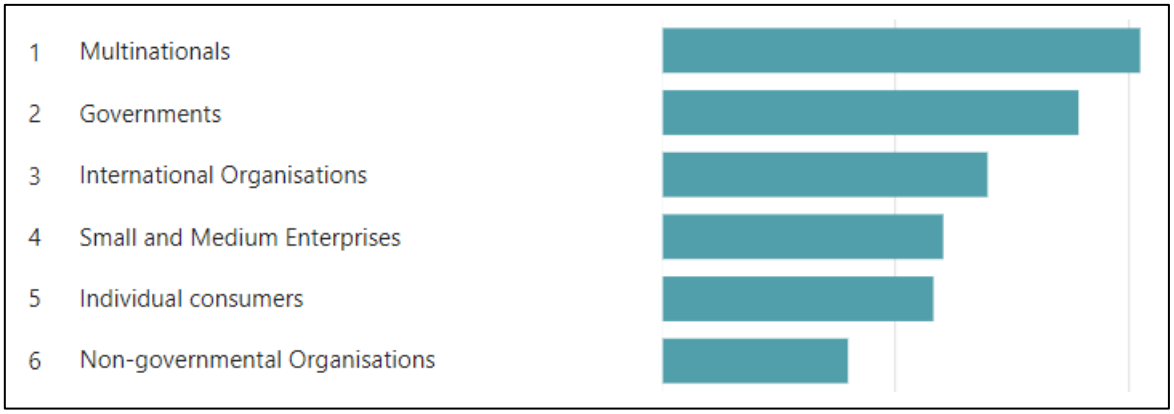


Q20: "Food and beverages multinationals have a significant impact thus responsibility over environmental changes"

To what extent do you agree with the statement?



Q21: Rank the following players according to their contribution to environmental damage from most to least likely.



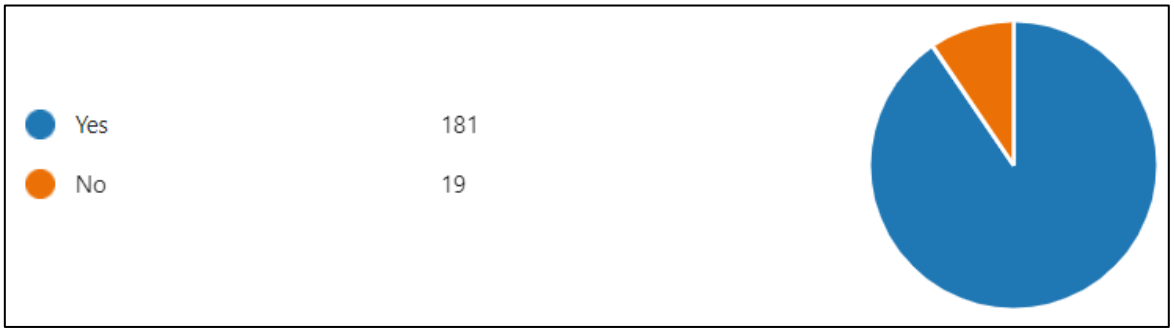
Q22: Rank the following industries according to their contribution to environmental damage from most to least likely.

Q23: Rank the following challenges according to the importance of mitigating them, from most to least.

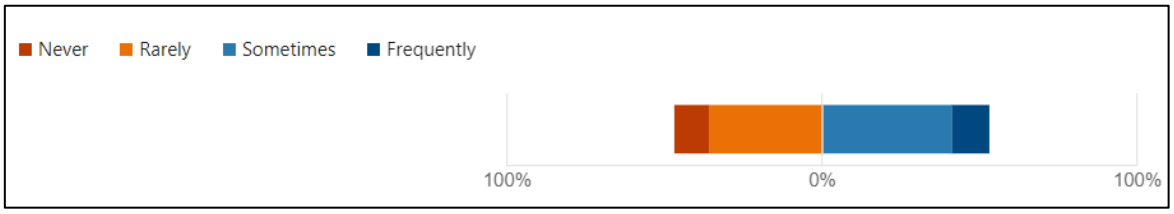
(Options: Deforestation; Ocean acidification; Sea level rise; Green House Gases (GHG) emissions; Extreme weather events (droughts, floods))

SECTION 4: Nestlé and its Regenerative Food Systems

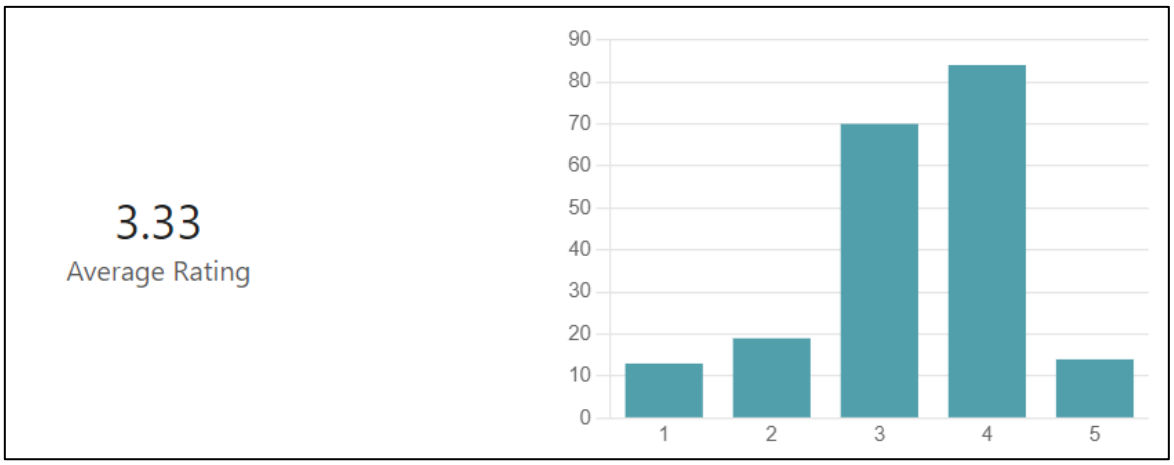
Q24: Are you familiar with Nestlé?



Q25: With what frequency do you buy Nestlé? (Keep in mind that Nestlé)

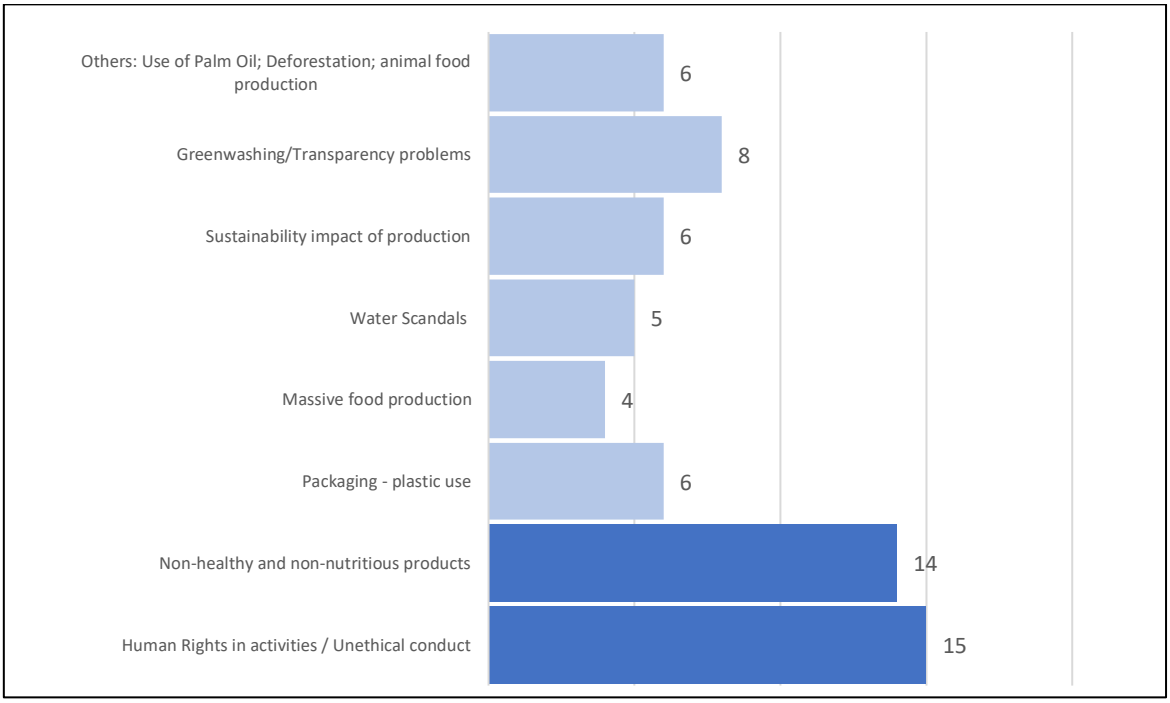


Q26: Overall, how would you classify Nestlé products?

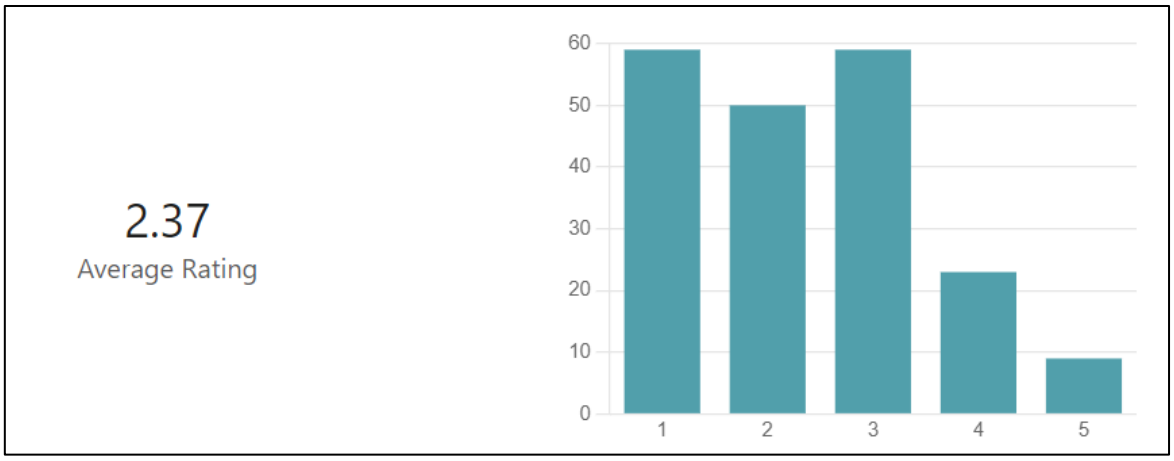


Q27: Please rank below which factors may make you choose Nestlé over competitors.

Q28: What factors of Nestlé's brands and/or products do you perceive as negative or that can be improved?



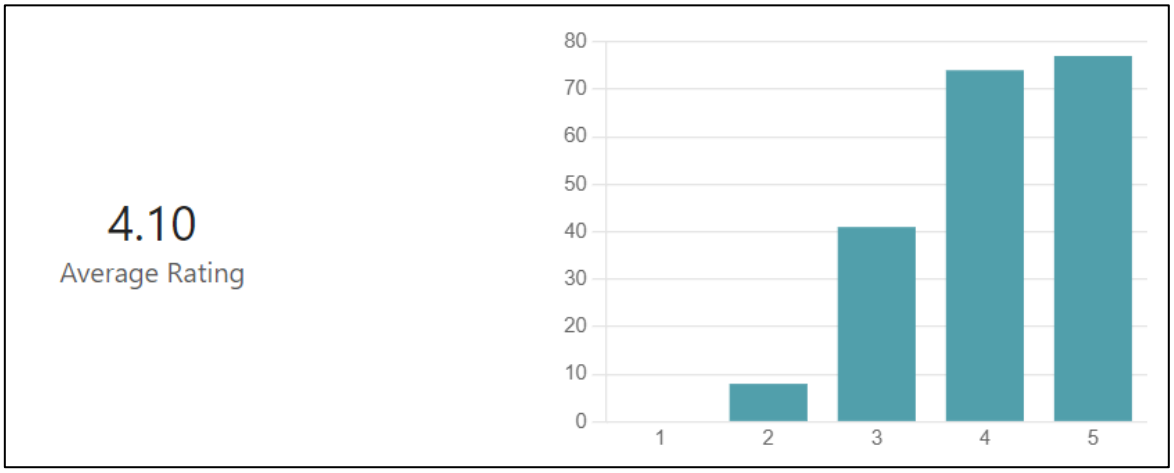
Q29: How familiar are you with the concept of regenerative food systems?



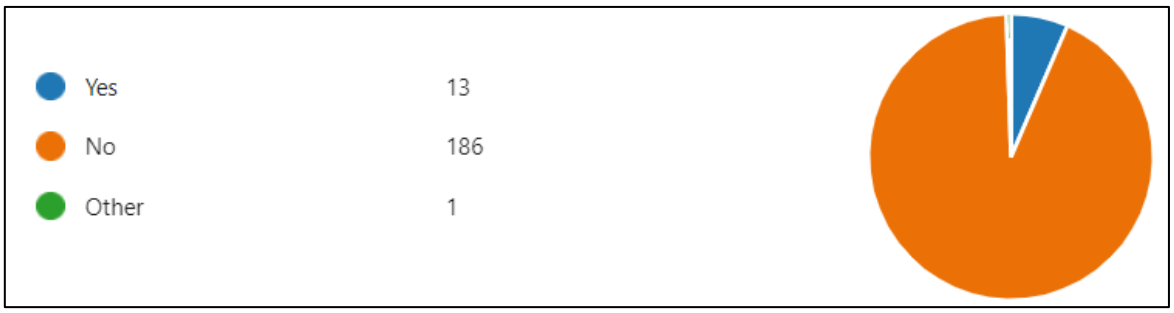
Q30: Regenerative Food Systems (RFS) are a new approach to the future of food production, which intends to feed humanity while also repairing damaged ecosystems.

Regenerative refers to farming, ranching and pastoral practices that contribute to stabilizing the planet's climate and carbon cycles by rehabilitating organic matter in soil, thereby increasing carbon storage, retaining moisture, and safeguarding biodiversity and living systems.

After understanding what RFS are, how much do you believe they would contribute to a future solution to secure food supply for our and the upcoming generations?

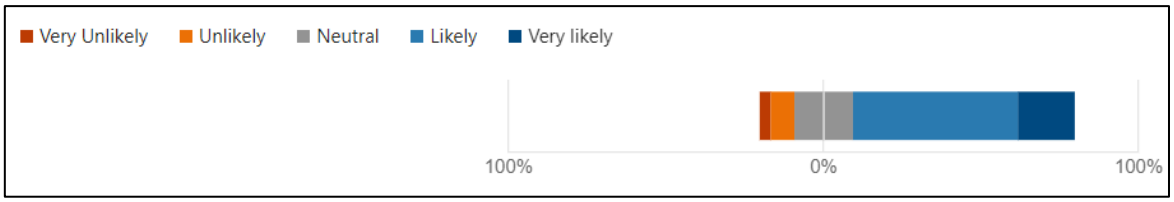


Q31: Do you know about the Generation Regeneration strategy developed by Nestlé?

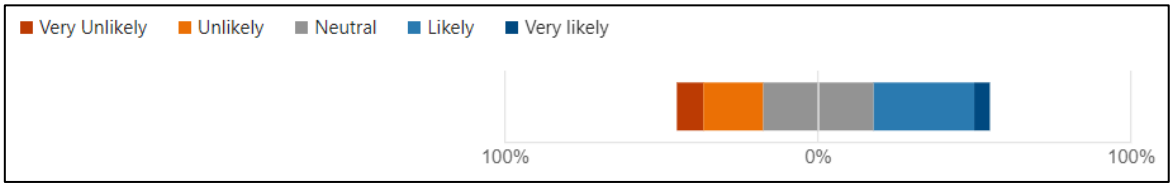


Q32: Generation Regeneration's objective is to help protect, renew and restore the environment through regenerative practices; improve the livelihoods, resilience and well-being of farming communities; and provide more access to nutritious food to improve the well-being of consumers all over the world.

Do you think your loyalty to Nestlé brands would increase if the company kept implementing regenerative strategies?



Q33: To what extent would you be willing to pay more for Nestlé products because of this strategy?



Q34: Please rank the factors below by order of importance that would make you buy/pay more for Nestlé.

(Options: Transparency in communicating the projects supported by Nestlé; Impact measurement; Packaging that raises awareness on the product origin/sourcing; Mention the % of price that would be devolved to this cause; Products labels highlighting prizes won)

Appendix 17 – Action Priority Matrix

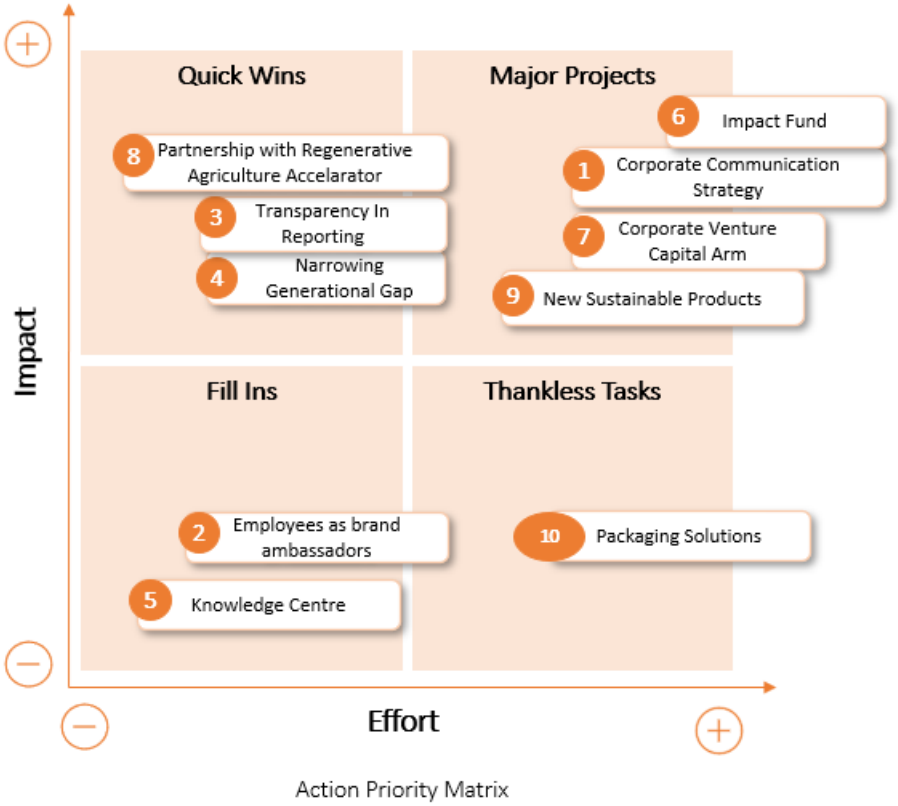
Source: (Product Plan, 2020)

Appendix 18 – Recommendations' Evaluation

Recommendations		**Effort (1-5)**	**Impact (1-5)**	**Position in matrix**
Brand perception	Communication on corporate level	(3-4) Budget allocation to communication is done by brand, and not specifically on the corporate level, which makes it difficult to ensure an overall target for Nestlé efforts.	(3-5) The impact of the corporate strategy can depend on locations within Europe. Some brands are communicated separately from the Nestlé umbrella to ensure location-specific poor reputation does not harm new brands, which could be damaging if a general corporate communication exists.	Major Project
	Improve employee's ambassador program	(1) Easy to implement as it is an extension of the company culture.	(2) Possibly low impact on consumer perception. However, it can have a high impact on attracting new talent for the company.	Fill-In
	Transparency in reporting - More accessible channels	(2) Nestlé has strict rules when it comes to sharing results publicly. Only when it's approved by a third entity it can be considered completely true and hence shared. The firm already has a newsletter which they can leverage to communicate better.	(3) If the company could provide better reports of what is being done, the consumer perception consumers could improve in the long-term.	Quick-Win
	Narrowing Generational gap	(2) Nestlé would have to allocate resources and possibly partner up with other organizations.	(3) The expected impact could be significant, as Nestlé would ultimately be educating consumers.	Quick-Win
	Knowledge Centre	(2) Nestlé would only need to organize information and made it available to farmers. However, training sessions would require teams available.	(2) As different employees referred, a major challenge in leading SFS is farmers' resistance, which is caused not only by misinformation but by investments.	Fill In
Partnerships	Impact Fund	(5) Time and money invested will need to be high to set up funds for regenerative agriculture. Decision to be taken in the headquarters.	(5) Implementation and speed of regenerative agriculture can be done faster. Companies with strategic value can be acquired or partnered with to develop Nestlé operations.	Major Project
	Corporate Venture Capital Arm	(4) Decision taken in headquarters on a group level. The M&A activity is mostly done to increase Nestlé's portfolio, not necessarily to improve operations.	(3) Acquiring start-ups with strategic value to further development into sustainable food systems. Innovative products and processes can complement in-house R&D.	Major Project
	Regenerative Agriculture Accelerator Partnership	(1) Nestlé already has connections and normally uses and leverages start-ups, which can make it easier to find accelerator.	(4) Partnering with a start-up accelerator can be seen as an all-in approach to complement the current accelerator programme, but with a sole focus on regenerative agriculture. Acquiring innovative start-ups can accelerate transition through cross-sectional synergies.	Quick-Win

Product	Develop new healthier and sustainable products	(3) Already doing but it involves lengthy R&D processes.	(4) The impact will depend, as sometimes it can be reduced by consumer not being ready yet to perceived new solutions – Wunda example, that answered to a lot of sustainability problems, but consumers were not ready to pay more or even try it.	Major project
	Invest into start-ups working on sustainable packaging	(3) Packaging entails a lot of issues around legislation since it can differ from country to country. Nestlé is already targeting packaging solutions, which can be easier to understand potential of partners. Focusing on packaging solutions that are not in contact with food products decrease potential threat of regulations.	(2) Innovative ideas on packaging can help complement in-house R&D undertakings. However, given strict consumer regulation impact is hard to estimate. Moreover, Nestlé already has alternatives to plastic in packaging in place, which decreases the impact of this recommendation.	Thankless Tasks

Appendix 19 – Recommendations in the Action Priority Matrix



Action Priority Matrix

Appendix 20 – 10-years Partnerships of Nescafé Plan

OUR 2010-2020 PARTNERS

MEXICO	Exportadora de Cafes California, Certificadora de Productos Sustentables (CPS), Inifap, Agromod, Tec de Monterrey, Verité
COLOMBIA	Federación National de Cafeteros de Colombia (FNC)
CENTRAL AMERICA COUNTRIES: GUATEMALA, NICARAGUA, HONDURAS, EL SALVADOR, COSTA RICA	Cohonducafe, Volcafe, Mercon, Neuman, Ecom, Ihcafe, Anacafe
BRAZIL	Cooxupe, Olam, Stockler, Volcafe
CÔTE D'IVOIRE	R&D-Abidjan, Centre National de Recherche Agronomique (CNRA), Rainforest Alliance, Centre d'Etudes, Formation, Conseils et Audits (CEFCA)
UGANDA	Sucafina/Ugacof
ETHIOPIA	Technoserve
BURUNDI	Sucafina/Kahawatu Foundation
KENYA	Coffee Management Services (CMS)
RWANDA	Sucafina/Rwacof/ Kahawatu Foundation

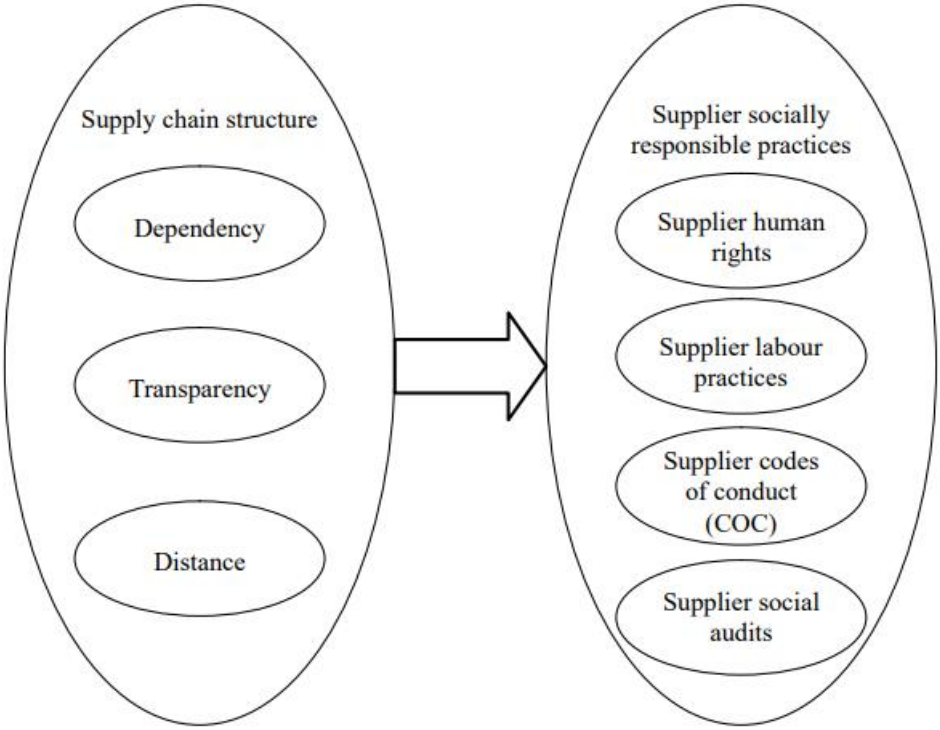
INDIA	India Coffee Board
CHINA	China Green Agriculture, Pu'er Coffee and Tea Office, Yunnan Agricultural University, Yara, Penagos
VIETNAM	Western Highlands Agriculture & Forestry Science Institute (WASI), Ministry of Agriculture and Rural Development (MARD), National Agricultural Extension Centre (NAEC), Neumann Foundation, Swiss Development Corporation
MYANMAR	Department of Agriculture, local authorities
PHILIPPINES	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), East-West Seed Co.
THAILAND	GIZ, Department of Agriculture
INDONESIA	GIZ, Indonesian Coffee and Cocoa Research Institute (ICCRI), Rabobank Syngenta, YARA, World Wildlife Fund (WWF), Rainforest Alliance
PAPUA NEW GUINEA	Volcafe

Source: Nestlé, 2021

Appendix 21 – Nescafé Plan's Theory of Change

Source: Nestlé, 2021

Appendix 22 – Relation between Supply Chain Structure and Supplier Socially Responsible Practices



Source: Awaysheh and Klassen, 2010