



The untapped potential of sustainable Basmati rice

A RESEARCH ON THE POTENTIAL FOR PRIVATE DOWNSTREAM ACTORS IN THE NETHERLANDS TO TAKE RESPONSIBILITY IN THE TRANSITION.



M.K. Ramaki

August 6th, 2021



“The greatest threat to our planet is the belief that someone else will save it.”

- *Robert Swan*

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A research on the potential for private downstream actors in the Netherlands to take responsibility in the transition.

A master's thesis for 'International Development Studies'

By Mohammad Karim Ramaki

Student number: 3994708

E-mail: karimramaki@gmail.com

Utrecht University, Faculty of Geosciences

MSc International Development Studies

Thesis supervisor: Dr. Guus van Westen

Utrecht, 6th of August 2021



Utrecht University

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Abstract

The potential of private downstream actors in taking responsibility for contributing to the transition towards sustainable Basmati rice from India.

A transition towards sustainable Basmati rice production and consumption is not only wishful, but necessary. This research focussed on the consumption side of the narrative. A mixed-method approach with semi-structured interviews, a survey and secondary data was used to explore and address the potential of private downstream actors in taking responsibility and setting the transition further in motion in the Netherlands and beyond.

The results showed that the Netherlands took an increasingly important role in the international trade of Basmati rice by specializing in further stages of processing and therefore serving as an important hub. Businesses believed to balance between and positively contribute to the society and/or environment in some way or another but included sustainable Basmati rice (or rather their own take on *sustainable* Basmati rice) primarily based on demand from further down the supply chain, and to improve reputation and business potential. Consumers felt a high sense of sharing responsibility in the transition towards sustainable Basmati rice, to which their contribution can improve with better communication on its sustainability from businesses and the government. The gap between the consumers and production was primarily with a good understanding of sustainable Basmati rice, which businesses could close with sustainability frameworks like that of the Sustainable Rice Platform.

The research concluded that there was much potential for private downstream actors in the transition toward sustainable Basmati rice. Though, rather than taking a responsive approach to demand from further down the supply chain, they could benefit profit *and* people and planet by taking an active, strategic approach to responsibility. Transitioning to a food system with sustainable Basmati rice is a rather untapped potential waiting for the first ones to act upon it.

Key words: food transition, transition towards sustainable Basmati rice, Corporate Social Responsibility [CSR], responsible consumption behaviour, The Netherlands, India

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List of Acronyms

CnSR	Consumer Social Responsibility
CSR	Corporate Social Responsibility
CVS	Creating Shared Value
DAFWH	Department of Agriculture and Farmers Welfare, Haryana
DESAH	Department of Economic and Statistical Analysis, Haryana
EWP	Economic Water Productivity
FAO	Food and Agriculture Organization of the United Nations
GDP	Gross Domestic Product
GSDP	Gross State Domestic Product
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit
ICFA	Indian Council of Food and Agriculture
IFPRI	International Food Policy Research Institute
IRRI	International Rice Research Institute
IWP	Irrigation Water Productivity
MSP	Minimum Support Price
OECD	Organization for Economic Co-operation and Development
PCE	Perceived consumer effectiveness
SRP	Sustainable Rice Platform
UN DESA	United Nations Department of Economic and Social Affairs
UNEP	United Nations Environment Program

1. Introduction

International trade in general and more specifically of food has become an important part of our daily life. The food we eat has diversified over time and has increased in distance from farm to fork. Next to that, the population has increased rapidly in the 20th and 21st century, which has led to innovative, capital-intensive and technological techniques to increase global food production. Though, both have also led food production to bring about its own challenges. The further away the food production, the more challenging to see and realise the consequences. The higher the yield of food production, the more challenging to sustain the quality and quantity of natural resources. The attention for (un)sustainable food production and consumption has increased with public and private sector initiatives to overcome the constraints and seek opportunities on a local, regional, national and international scale. Not only in terms of sustainable food security, but also in terms of sustainable livelihoods. A transition towards sustainable food production and consumption is not only wishful, but necessary. In that sense, international trade of food has the possibility to improve, or endanger, people's livelihoods all over the world. Products like coffee and cacao have enjoyed lots of attention herein, while other products have had less. Rice is such an example.

Rice has been among the top three produced crops in the world since the Green Revolution in the 1960s. In general terms, the Green Revolution was the transfer of agricultural technology to the Global South to increase food grain production. India has been the largest exporter of rice, accounting for 9,8 MT in 2019 (UN Comtrade, 2021). While India has been producing the majority of their rice for domestic consumption, the international demand for Indian rice has increased over the years and has its fair share herein as well. The Indian rice can be categorized in two types: Basmati rice and Non-Basmati rice. While the majority of the rice varieties have been Non-Basmati, and most of the produced and exported Indian rice has been Non-Basmati, the demand from the Netherlands and the rest of Europe has been mainly for the Basmati varieties.

1.1 Problem statement

Basmati rice has been geographically protected and produced only in India and Pakistan, in which India has hold over 88% of the global export in 2018/2019 (APEDA Agri Exchange, 2021;

Rice Export Association of Pakistan [REAP], 2020). Agro- climatic conditions at the Himalayan foot of India and Pakistan, and methods of harvesting, processing and aging contribute to the characteristic features for Basmati rice (Agricultural and Processed Food Products Export Development Authority Agri Exchange [APEDA Agri Exchange, n.d.]. However, rice, including the Basmati variety has been considered the third least water efficient grain in India (2.000-5.000 litres/kg depending on various factors) and due to its high levels of production responsible for about the same water footprint as all other cereals combined in India (Kayatz et al., 2019; Naresh et al., 2017; Erenstein et al., 2008). Haryana, one of the 28 states in India and located in the northern part of the country, has had an important role herein. Haryana is by some considered one of the few areas in India where the Green Revolution has been a success. The Green Revolution has substantially increased rice production in general in Haryana from 0,2 MT in 1966-67 to 4.516.000 tonne in 2018-19. (DESAH, 2020). Basmati rice has taken an important role in Haryana, as it held 62% of India's total Basmati paddy acreage in 2019 and accounted for over 60% of India's export of Basmati rice (National Collateral Management Services Limited [NCML], 2019, DESAH, 2020).

The Basmati rice production is taking its toll on the natural resources and thus sustainability of people's livelihoods. Agricultural production in the state is highly dependent on irrigated water from conjunctive use of surface waters canals and groundwater, of which the latter is still responsible for a major share of the total water supply at the farm gate. In this tempo, Haryana and Punjab could experience desertification in the coming decades, which will not only affect irrigation, but also exacerbate the current problems with drinking water (Abraham, 2019; Singh as cited in Mathew, 2019). Next to that, the farmers increasingly used fertilizers and pesticides since the Green Revolution that have polluted the groundwater used drinking purposes, causing several health issues like cancer (Van Dijken, 2017).

Upstream efforts along the supply chain still have not paid off in tackling the challenges. The farmers do not seem eager yet to change to other crops or change rice cultivation techniques and the local government is facing difficulties in an effort to stimulate the farmers after decades of policy favouring rice cultivation. Next to that, international efforts by organizations from the private, public, research, civil society and the financial sector have not yet led to an improvement. Therefore, more attention needs to be paid to downstream actors along the

supply chain as well. The European side of consumption has become more important over the years for Basmati rice producers in India, that meet its demand for aromatic rice.

Next to practical reasons for doing field research during the COVID-19 pandemic, there are also more specific reasons to dive deeper in downstream actors in the Netherlands herein. First of all, because the Netherlands imported the most Basmati rice in total volumes in 2019-20 (54 tonnes) in the European Union (excluding United Kingdom) (Indian Rice Exports Association [AIREA], n.d.). Second of all, because sustainable consumption and production of food in the Netherlands is below averages and sustainability efforts of Basmati rice in the Netherlands have been paid little attention to in comparison to other products. Third of all, because the Netherlands has a long way to go towards goals in reducing greenhouse emissions by 55% in 2030 compared to 1990 and towards an economy with net-zero greenhouse, that it wishes to reach by accelerating the food transition in the years to come. Fourth of all, the pressure on EU and Dutch businesses to understand both their positive and negative impacts on society and environment has received greater attention over the last years.

Yet, little is yet known to what extent the social and environmental costs of Basmati rice can be integrated through private downstream actors in the Netherlands, and how responsible business and consumer behaviour could contribute herein. It is not only of importance to the Dutch and European market and the Indian farmers, but also to a larger extent on integrating social and environmental responsibilities in Western food consumption and the accumulative power of demand on upstream supply channels.

The thesis will address this topic through eight succeeding chapters. The first chapters will present a thorough theoretical review regarding food transitions, and corresponding responsible business and consumption behaviour. Next, a chapter will discuss the methodology through which the topic will be researched, followed by a chapter on the geographical contextual framework. Subsequently, the results will be presented through three chapters, each one corresponding to one sub-research question. Lastly, two chapters will discussing the results and conclude the research.

2. Theoretical review

In the past, the responsibilities along a supply chain were narrower and easier to attribute (Phillips & Caldwell, 2005). Long supply chains like with Basmati rice are more fragmented, and the increase the risk that nobody feels the urge to take responsibility for sustainable production and consumption. The following literature review will first discuss transitions towards sustainable consumption and production of food. Subsequently, it will review how businesses can be stimulated to take their responsibility herein and how that ties to demand from consumers. Therefore, the last part will review the literature on responsible consumption behaviour. The purpose is to discuss the main literature relevant to the study, combine it within the research scope and come forth with concepts that will be used during the study.

2.1 Transition towards a sustainable food system

A radical transition of the production and consumption are required for modern food systems to become more sustainable and tackle the challenges associated with Basmati on a long term. These transitions serve as a response to problems confronting modern society like with Basmati rice regarding food, water, livelihoods and development (Grin et al. 2010). Multilevel, multiscale innovations are necessary in advancements and improvements of the transition by giving far greater recognition and power to grassroots actors and processes and must be examined as well (Leach et al., 2012). Though, according to Blok et al. (2015) examples of these type of innovations are easier to find on the production side than on the consumption side, while consumers are increasingly recognized as important for the wider discourse on achieving sustainable goals (Blok et al., 2015). In order for consumers to contribute to the transition towards a more sustainable food system, the underlying perceptions towards sustainability and the corresponding actions need to change with time as well. Though, the policy debate on sustainable consumption in many European countries is dominated by from an individualistic perspective (Spaargaren, 2011). Watson summarized it well as ‘systemic transitions only happen if enough people do enough things differently enough, ... [yet called it] individualistic and sociologically naïve’ (2012, p. 488). The debate focuses on the consumer’s agency in the transition towards a more sustainable food system, while there is a need to find a more balanced approach that takes into account both structural determinants

and individual agency (Spaargaren, 2011). Too much depending on individual influence and power of consumers as key determinants for agency to change the food system turned out to be have a marginal effect over the years (Vittersø & Tangeland, 2015). Factors contributing to (un)sustainable food systems are attributable to policy making, prevalent business practices and consumers values and habits (Reisch et al., 2017). According to Michaelis (2012), the role of businesses practices is key to the debate about sustainable consumption. Yet, he states that 'corporation are most of the time simply playing by the rules and culture of the market' (Michaelis, 2012, pp. 915). Though, further connecting the production and consumption, and making sure that both perspectives are taking into account can help overcome factors that would otherwise lead to hindering factor such as rebound effects (Blok et al., 2015). An opportunity to further connect sustainable production and consumption therefore does lay with businesses. It will have to include fundamental changes in business models and management approach to transitioning beyond organizations to broader societal changes. The changes include alternative ways to review business performance and success that might develop a competitive advantage vis-à-vis countering and mitigating negative impacts of production and consumption (Loorbach & Wijsman, 2013). The responsibility of businesses as connection between production and consumption in the transition towards a more sustainable food system is therefore discussed next.

2.2 Responsible business practices

From a Marxist perspective, internal and external extraction (on a national scale) of surplus value by capitalists (business owners) in pursue of profit and capital accumulation has resulted in unequal results in terms of benefits (Peet & Hartwick, 2015). Though, it was during Marx his lifetime, and perhaps even thanks to him, in the mid-to-late 1800s that businesses were increasingly concerned with more than just profit and capital accumulation: the employees. Though, not generalizing as if no business was concerned with that in the centuries before. Also, one could debate whether the concern came forth more prominent in the 19th century for social reasons, or businesses reasons by considering it as a method to increasing productivity. Nevertheless, businesses' attention expanded further than profit and capital accumulation by taking into account the society around it more often.

According to Schwartz and Carroll (2008), there are currently five prominent, complementary frameworks on the relation between businesses and society that are used interchangeably: Corporate Social Responsibility [CSR], business ethics [BE], stakeholder management, sustainability and corporate citizenship. While different in nature, the core concepts are the same and based on value, balance and accountability. Though, in a later work by Carroll himself, he discussed how these interrelated and overlapping concepts are incorporated in CSR as the centrepiece as global concept (2015). Therefore, CSR will be used as the basis for responsible business in this research.

CSR has been put firmly on the agenda of many (international) businesses since the 20th century. Since, CSR has seen numerous definitions, synonyms and related concepts. In an attempt to 'map the territory' of CSR and related concepts, Garriga and Melé (2004) have set out four theoretical categories 'from the perspective of how the interaction phenomena between business and society are focused' (p. 52): instrumental (focus on CSR for corporate objectives), political (focus on political power of CSR), integrative (focus on integration of social demands in CSR) and ethical (focus on ethics of CSR towards the society). The categories are further discussed hereafter.

First of all, the instrumental field includes different CSR approaches and theories related to achieving the corporate's economic objectives through the social activities. The approaches include maximizing shareholders value, CSR as a strategy for competitive advantage and marketing purposes (Garriga & Melé, 2004). McWilliams and Siegel (2001) fit this field well. McWilliams and Siegel (2001) look at CSR from a company's perspective as an opportunity to increase profit rather than as a cost. According to their demand-supply model of CSR, there is an ideal, company dependent level of resources that should be devoted to CSR to maximize profits while simultaneously satisfying the demand for sustainable business practices from multiple shareholders. Though, their view on CSR is rather too much focussed on maximizing the benefits for the company's sake rather than for the benefits of the society. It is as if society can only benefit to a certain extent, based on CSR as a means to the company's profit. Therefore, limiting social activity as a subject of wealth creation (Garriga & Melé, 2004).

Second of all, the other side of the coin would be integrating the demands from society into the core strategies of the company, referred to as the integrative field. Those approaches may come forth to manage certain social or political issues, from public policy, from balancing and managing stakeholders' interest or a combination of these (Garriga & Melé, 2004). The latter fits well with Carroll's (1979) model of 'corporate social performance' that focus on three aspects: what to include in CSR, what social issues and what business philosophy. According to him, CSR should address every obligations business have towards society and therefore defined it as: 'The social responsibility of business encompasses the economic, legal, ethical, and discretionary expectations that society has of originations at a given point of time.' (p. 500). The model lay the foundation for one of the most influential papers and frameworks on CSR. Carroll (1991) introduced the 'pyramid of corporate social responsibility' with economic responsibilities as the basic building block, and subsequently the legal, ethical and philanthropic to cover the entire range of responsibilities. It provides managers with a stakeholders-responsibility matrix to assist them in incorporating demands from society into its cultures.

Third of all, CSR has been about focusing on a responsible use of business power in the political arena, where the social power of businesses is emphasized through accepting social duties and rights, or participating to social cooperation (Garriga & Melé, 2004). The Corporate constitutionalism approach has been about the social responsibilities of business that come forth from the amount of power in society they have, like the power-responsibility equation like clarifies managerial responsibilities (Davis, 1967). The Integrative Social Contract Theory on the other hand come forth more from the implicit understanding, referred to by the 'social contracts', that bind economic systems, industries, and companies into the society, or exists between them (Donaldson & Dunfee, 1999). Lastly, the Corporate (or business) citizenship approach considers the businesses as part of the community, like a citizen, with certain involvement and therefore responsibilities. According to Logsdon and Wood it even requires a shift in our way of thinking from businesses as communitarian to a position of universal human rights (2002).

Fourth of all, the ethical field of CSR. While there are also papers that come forth from solely the ethical field, it is often subordinate (and often integrated into) the instrumental and

integrative fields of CSR. The stakeholder management approach from the former integrative field, is rather normative in the ethical field as 'managers bear a fiduciary relationship to stakeholders' (Freeman, 1984, pp. xx). One such example is an article by Freeman and Phillips (2002) about how these relationships should be deeply rooted in libertarian notions of freedom and voluntary action, and how that relates to core principles of business: value creation and trade. Not only within the arm's length of the company as rejecting responsibility becomes less viable, but across the entire value chain (Phillips & Caldwell, 2005). The ethical field of CSR deals with the moral principles and standards that guide behaviour, while integrative CSR deals with how this behaviour is established within the company (Adda et al., 2016). Ethical leadership within CSR is not simply about rejecting immoral management, but rather acting upon moral management (Carroll, 1991). Other approaches within the ethical field are derived from the common good to society and sustainable development (Garriga & Melé, 2004). The latter refers to sustainable development by the Brundtland report as 'ensuring that it needs the needs of the present without compromising the ability of future generations to meet their own needs' (UN General Assembly & World Commission on Environment and Development, 1987, p. 24).

Though, each aforementioned theory and approach within the categories of CSR as set out by Garriga and Melé (2004) is rather responsive in its relation to society and treats both as if separate from each other. Responsive to the companies' shareholders needs for profit accumulation (i.e. instrumental field), to the companies' political power and its responsible use (i.e. political field), to satisfying the social demands (i.e. integrative field), and ethical reasoning (i.e. ethical field). Porter and Kramer (2006) therefore elaborated on a 'strategic CSR' rather than a 'responsive CSR' in which businesses and society are interdependent and not like in a zero-sum game. They did so by focussing on the interdependence of the four prevailing justifications and fields of CSR (i.e. Carroll, 1991), rather than the tension between them (Garriga & Melé, 2004). In doing so, businesses should focus on contributing to society from the core strategies onwards and focus on creating value on the long-term, both for society and the company, as 'the most important thing a corporation can do for society, and for any community, is contribute to a prosperous economy' (Porter & Kramer, 2006, p. 13), which they believe will be increasingly important to competitive success. In a follow-up article, Porter and Kramer (2011) elaborated on the concept of strategic CSR by focussing on Creating

Shared Value [CSV]. Herein, companies should focus on connecting societal and economic progress through joint value creation that is integral to competing and profit maximization, and company specific by realigning its entire budget to it. Kind of like a for-profit social entrepreneurship in a 'higher form of capitalism' (p. 15). Rather than avoiding doing harm, it would be about 'reinforcing corporate strategy by advancing societal conditions' (p. 85). Companies could do so by 'reconceiving products and markets, redefining productivity in the value chain, and building supportive industry clusters at the company's locations' (Porter & Kramer, 2011, p. 7). Reconceiving the products and markets is all about going back to the basics and critically reflecting upon whether the products and services meet needs from society like health, financial security and less (or no) environmental damage, and are 'arguably, the greatest unmet needs in the global economy' (p. 7). The companies are dependent on the markets, the society and the consumers that it consists of, and should therefore not overlook and incorporate their needs herein. These needs change over time, and are diverse, complementary and contradictory to each other. In a strategic CSR, the companies and society are not separate from each other, but rather part of each other and of other facets of life. Therefore, the following section discusses responsible consumption.

2.3 Responsible consumption behaviour

The demand from society in its turn has an effect on the way businesses incorporate CSR, or more specifically to this study, strategic CSR with creating shared value at its core, into their strategy. The power of influence of consumers was demonstrated centuries ago:

The [English East India] Company was also caught up in the debate over slavery. In the 1790s, Elizabeth Heyrick launched the first consumer boycott, urging her fellow citizens in Leicester to stop buying "blood-stained" sugar from the West Indies; the Company was eventually forced to get its sugar from slaveless sugar producers in Bengal (Micklethwait & Wooldridge, 2003, p. 27)

The social and environmental aspects of consumerisms have evolved much since then. Muncy and Vitell (1992) have pioneered the role of consumers herein by introducing 'consumer ethics', which lay the foundation to further concepts like Consumer Social Responsibility [CnSR] and became of utmost importance to business activities. Consumer ethics comprises 'moral principles and standards that guide the behaviours as they obtain, use and dispose of goods and services' (Muncy and Vitell, 1992, p. 298). Multiple studies have shown that

consumers demand greater transparency on health, environmental, and ethical consequences of the food they eat. As a result, food companies all across the globe step up their sustainability efforts by integrating it into their business models and working together with actors all along the value chain (Malochleb, 2018). The same has been recognized regarding sustainability issues with paddy cultivation of rice. In Vietnam for example, the role of consumers to an integral solution in sustainable rice cultivation has been acknowledged more often and hence could be a key driver of change. Though, the rice first needs to fit their preferences, safety and health concerns, quality standards and affordability. Although secondary to the previous factors, the consumers do more often show interest in and demand for sustainably produced rice, with particular opportunity for labels and supermarkets as sources of information herein (Barcella et al., 2018).

That sustainability concerns in food purchasing decisions are subordinate to other factors in the consumer decision-making process is shown in other studies as well. It illustrates a clear gap between their recognition and attitude towards CSR business activities, and truly acting upon sustainable consumption. In a Belgian study on consumption of fair-trade coffee, the results showed that the brand, flavour and only then the label were important herein. The average consumer was willing to pay 10% more and ten percent was willing to pay the current premium (27%) of fair-trade coffee, with various sociodemographic factors underlying the differences herein (De Pelsmacker et al., 2005). In the Italian context, Boccia et al. (2018) confirmed that there is a difference between intentions and behaviour, as the consumers' attitude in case of CSR business was positive, but their willingness to pay negative. Brand had a relatively important role as a sign of quality, in particular in markets with high levels of information asymmetry. On a general level, information asymmetry simply means 'different people know different things' (Stiglitz, 2002, p. 469), regardless of whether it is a buyer vis-à-vis seller, worker and employer, or those governing and those being governed. The concept is often referred to when the seller has more information than the buyer, or the other way around, about certain aspects of product quality, which might eventually result in bad products crowding out the good products (Akerlof, 1970). Though, according to Hudson et al. (2013), it is unlikely that will happen as people make purchases always with a certain level of information about its quality. Branding and labelling could indeed play an important role herein, but could both alleviate and exacerbate information asymmetry, depending on the

actions of the ones in power in the industry and the governing it is subject to. It implies that using branding and labels in reversing information asymmetry might result to be advantageous to sellers of good products (e.g. sustainably produced rice). Though, it might also limit these companies due to consumer distrust, consumer confusion and rising competition (Hudson et al., 2013). To overcome the possible challenges with branding and labelling that represents certain qualities like sustainability of certified products, just providing information and knowledge might therefore not be enough. Zecca and Rastorgueva (2016) suggest taking a two pathways approach to improve this: external and internal pathways. External pathways could for example be clarifying definitions as a basis for supporting claims to sustainability performance like attempted by the Sustainable Rice Platform for rice production, clarifying regulations like on providing food information to consumers (Regulation 1169/2011) and implementing standards from society and businesses. Internal pathways include communication strategies to promote a food brand and the application of Internet of Things (connecting any sort of devices to the internet) to enhance food traceability on the packaging to reduce information asymmetry (Zecca & Rastorgueva, 2016).

Based on the above literature, two factors are most dominant in the relationship and gap between the consumer *recognition* and *attitude* towards CSR businesses and actually sustainable consumer purchasing *behaviour*: willingness to pay and information asymmetry. It implies that it is not a one-way street in which societal demand affects company's strategy CSR, but rather an opportunity for strategic CSR to affect purchasing behaviour as well. According to Etilé and Teyssier (2013), the main barriers to Consumer Social [CnSR], a new concept in light of ethical consumerism, are indeed willingness to pay, which is related to social preferences, and information asymmetry. Education programs, enhancement of self- and social image and label regulations are encouraged to promote consumer socially responsible behaviour. The behaviour will eventually affect how businesses decide to take up their responsibilities as well (Etilé & Teyssier, 2013). External factors like prior experiences, media advertisements, word-to-mouth, labelling, brand reputation are what shape consumers' product choice behaviour, perhaps even more than a function of individual preferences. Therefore, studying the external factors and how it affects CnSR are of importance 'to fill in many of the missing pieces of the CSR puzzle' (Devinney et al., 2006, p. 11). Both by investing in the positive externalities of CSR, but more of all reducing negative

externalities of CSR. The importance of information has been stressed by Mohr and Webb (2005) as well, as it positively correlated with consumers' attitude and willingness to purchase. It means that there is still room left for consumer educators, marketers and government in providing consumers information related to sustainable business and purchasing. Vermeir and Verbeke (2006) explore the 'attitude-behavioural intention gap' through a consumer's behaviour model. The model rests upon three building blocks: individual values, needs, and motivation, information and knowledge, and behavioural control. Communication efforts and providing information can raise involvement, the perceived consumer effectiveness [PCE], certainty, social norms and perceived availability, which in turn stimulate more sustainable and ethical food consumption.

In the 21st century, few people would actually think positively of buying sugar knowing slavery was involved in providing it to them. Yet, when shopping responsibly and paying attention more closely, one may find themselves unknowingly contributing to similar problems. Even when not willing to pay the price themselves, attributing moral value to it encourages businesses to pay better attention to CSR. It links back to Porter and Kramer's (2006; 2011) idea of focussing on 'strategic CSR' in order to strive for Created Shared Value, both for society and business. In particular as little attention is paid to the role of consumer responsibilities to CSR and the 'attention-behavioural intention' gap, emphasizing the role and potential of consumers as crucial for CSR to fully engage with societal needs (Vitell, 2015).

3. Methodology

The following chapter will discuss the methodology for the research. First of all, a conceptual model will bring together the literature reviewed in relation to the research objectives, followed by the main and sub research questions that come forth from it. Next, the variables relevant to the research will be operationalized, followed by an outline of the research methods. Lastly, the chapter will discuss how the research has been adapted to the COVID-19 pandemic, a critical reflection on the researcher's positionality, potential limitations and biases and conflict of interest.

3.1 Conceptual model

International trade shows the potential, and perhaps the necessity, of private downstream actors in the transition towards a sustainable food system and to improve or endanger livelihoods. The consumption of sustainable food is therefore dependent on two important downstream actors: the consumers themselves and the businesses that serve as the connection between the producers and the consumers. The way forward is to take into account both the agency and structure in which the consumers and downstream businesses can set the transition in motion.

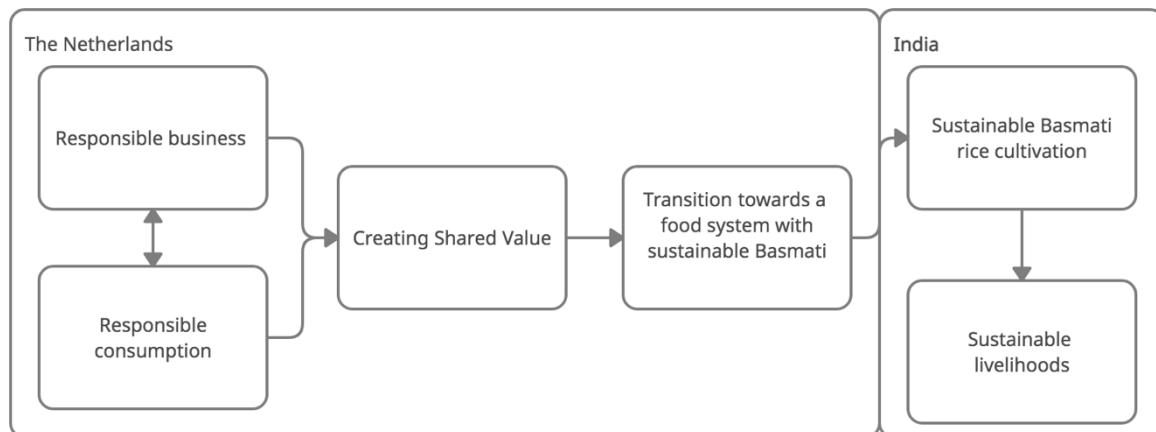
Herein, CSR 'has evolved from being limited to the generation of profit (i.e. McWilliams & Siegel, 2001) to include a broader set of responsibilities (i.e. Carroll, 1991) to the latest belief that the main responsibility of companies should be the generation of shared value (i.e. Porter & Kramer, 2006)' (Latapí Agudelo et al. 2019, p. 1). Furthermore, CSR expanded from a rather local to global scale, and from just dealing with a few stakeholders to society at large, in which corporation were more often seen as institutions with social obligations to fulfil, like governments (Carroll, 2008). It would be naïve to think that CSR has come forward from an altruistic motivation, it is rather about benefits for both themselves and society (Carroll, 2015).

At the same time, sustainable purchasing behaviour has evolved from solely consumers ethics (i.e. Muncy & Vitell, 1992) to broader understanding of how Consumer Social Responsibility relates to CSR. It has put emphasis on the internalities and externalities to consumer decision making. Despite a 'attitude-behavioural intention' gap (i.e. Vermeir & Verbeke, 2006) more

attention should be paid to CnSR, to allow strategic CSR to create shared value, and taking into account the societal needs and business potential herein (i.e. Porter & Kramer, 2011; Vitell, 2015;).

The following conceptual model (Figure 1) brings these factors together, both regarding private downstream actors in the Netherlands and indirectly to the farmers in India.

Figure 1: Conceptual model



3.2 Main research question

In order to get both a broad and in-depth understanding of the potential of private downstream actors in the Netherlands in taking responsibility in the transition towards sustainable Basmati rice from India, the research will seek an answer to:

What is the potential for private downstream actors in the Netherlands in taking responsibility for contributing to the transition towards sustainable Basmati rice from India?

3.3 Sub research questions

The following sub research questions serve to answer the main research question through three different stages.

- What is the role of private downstream actors in the Netherlands in the supply chain of sustainable Basmati rice from India?
- How can businesses in the Netherlands be encouraged to take responsibility in the transition towards sustainable Basmati rice from India?
- What role do consumers have in taking the responsibility to contributing to the transition towards sustainable Basmati rice and be encouraged herein?

3.4 Operationalization of variables

In order to measure, collect and analyse the data necessary to answer the research questions, the following relevant variables have been operationalized in the Table 1.

Table 1: Operationalization of the research variables

Private downstream actors in NL	<ul style="list-style-type: none"> - Businesses (in)directly involved with Basmati rice that operate in the Dutch market or internationally from the Netherlands - Sustainability conscious consumers
Transition towards sustainable Basmati	<ul style="list-style-type: none"> - Trends of import to and export from NL of Basmati rice - Understanding of <i>sustainable</i> Basmati rice
Basmati rice	Combination of: <ul style="list-style-type: none"> - 34 varieties as notified under the seeds Act, 1966 - Stages of processing (paddy, husked, semi-milled, wholly milled) - Raw and parboiled
Responsible business	<ul style="list-style-type: none"> - Own interpretation of CSR - Ensuring standards regarding social and environmental issues - Role of businesses in and factors contributing to the transition - Relating to responsible consumption
Responsible consumption	<ul style="list-style-type: none"> - Consumption behaviour of sustainable food and Basmati rice - Main reasons and factors contributing to behaviour - Perception of own and others' responsibility herein

The variables were used in developing the survey and interviews as part of a mixed-method research, as will be discussed hereafter.

3.5 Outline of methods and techniques

The research used a mixed method approach, with both quantitative and qualitative data collection methods. In doing so, the research strived to find a balance between reaching broad and in-depth results to answer the research questions. The primary data collection was a combination of semi-structured interviews and surveys including informal conversations with some of the respondents. Supportive to these activities have been different activities like exploring the neighbourhood where the surveys have been conducted and several other support activities. Informed consent was obtained written by agreeing to start the

questionnaire and verbally at the beginning of the interviews. The informed consent was for the respondents and participants to receive and understand information regarding the scope of the research, their voluntary and anonymous (except when stated otherwise in an interview) contribution herein and secure storage of recording and data.

Qualitative data collection

First of all, semi-structured interviews were held with key informants and exports directly involved with Basmati rice and indirectly like certification or experience with the transition in another sector like coffee and fruit and vegetables for qualitative data collection purposes. The interviews have had a threefold purpose. The main reason has been to get a better understanding of the sustainability of Basmati rice and the role of their businesses herein. Next to that, it has been to set out a clear image of the supply chain of the Basmati rice landscape in the Netherlands, to which the statistics on international trade would be complementary. Lastly, the interviews serve to discuss the sustainability of Basmati rice in a broader scope: food transition towards a more ecologically and socially responsible food system. It refers to a range of topics: Corporate Social Responsibility [CSR], the importance of traceability, Consumer Social Responsibility [CnSR] and true price, the role of businesses in general, supermarkets and the politics, the corona pandemic, and anything else based on the course of the interview. The interview guide (Appendix A) served as the basis from which the course of the interview was built upon. A list of the interview participants by type of organization and their relevance was added as Appendix B.

Quantitative data collection

Moreover, questionnaires were used to collect primary quantitative data amongst the Dutch final consumers. The goal for the survey was to collect primary data amongst the Dutch consumers about their food purchasing behaviour in general, purchasing behaviour of Basmati rice and their attitudes towards ethics and CSR. The questionnaire (Appendix C) was partly based on a former research in the Netherlands on motives for making the food system more sustainable and consumer behaviour. The research showed that most Dutch people does deal with food consciously and in one way or another pays attention to making the food system more sustainable, but not consistently (PBL, 2014). Yet, it was adapted to specify it more to this research and get more insight in their reasons for consuming sustainably and the factors

that could contribute to promoting the consuming sustainably. While the former research by PBL asked about these latter two in multiple choice questions, this research changed the answers to statements with a Likert score to increase the information on each statement rather than only in comparison to the rest.

The survey was conducted by means of non-probability, purposive sampling that allowed to gain detailed knowledge about a specific group of people through a clear criteria and rationale. Rather than conducting the surveys with (large) consumers of Basmati rice, the research attempted to prevent socially desirable answers and overcome the 'attention-behavioural intention' gap, a prominent concept in the literature. Therefore, the research eventually narrowed the target group to people that were already *consciously* consuming sustainable food, including Basmati rice. As it would be difficult to differentiate between people *not* consciously buying or consciously buying sustainable food at regular supermarket, the surveys were conducted in front of organic shops like Ekoplaza and Odin (Appendix D).

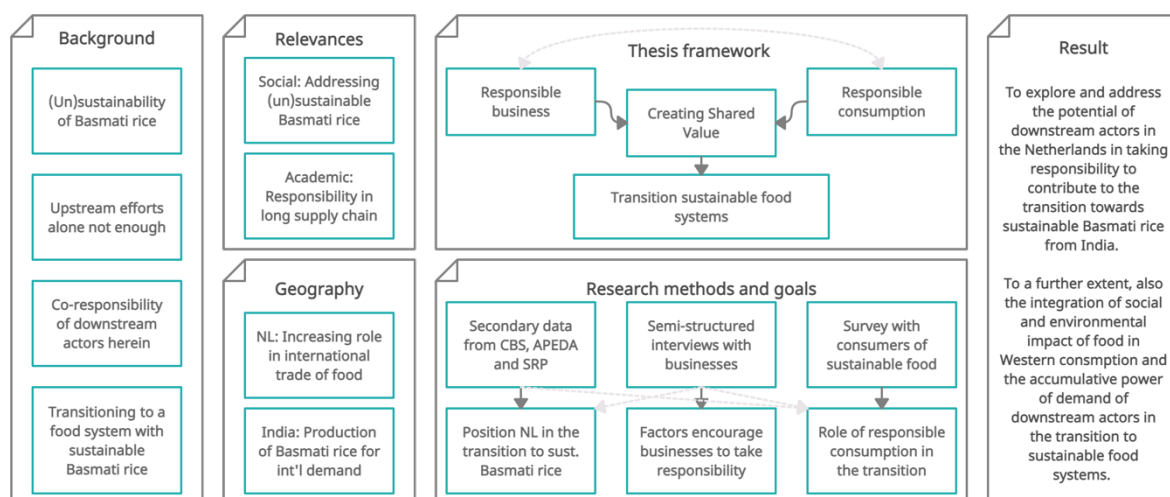
The surveys were only conducted in-person in the city of Utrecht, as Utrecht has been stimulating purchasing food that is healthy for people, animals and planet in their public health policy and has a high percentage of people that sometimes buy organic and fair-trade products (76% in 2019) (Utrecht Municipality, 2019). The surveys have been collected during different days, different times and different locations. The benefits of conducting the survey offline in real life allowed for many informal conversations with some survey respondents and turned out to be informative, like will be further discussed in the results.

Secondary data collection

The secondary data was a combination of complementary (grey) literature, statistics on the international trade of Basmati rice in the Netherlands and a survey conducted by SRP in the Netherlands. As the research has been concerned with the Dutch side of the Basmati rice narrative, the goal has also been to set out a clear image of the supply chain and corresponding volumes and composition of the Basmati rice landscape in the Netherlands in order to assess its share in the market. In other words, to see how the import of Basmati rice has evolved over the years, both total by its own, and relative to the total volumes of rice (varieties) and what businesses are involved herein. To get a better understanding of its role within the

international trade, the base for the secondary data has been the Central Agency for Statistics [CBS], an independent, governmental institution responsible for gathering statistical information on the Netherlands and more specifically the ‘Types of goods by country; nature, food and tobacco’ data set. The dataset is classified according to the most detailed goods level of sections 01 to 04, subdivided into chapters 01 to 24 of the Harmonized System [HS] and available for 2008 to 2019 (Statistics Netherlands, 2020). Though, the collected data was based on EU’s Combined Nomenclature for classifying goods, which does not specify up to the different varieties of rice and therefore not detailed enough. Therefore, the data was complemented by data from APEDA Agri Exchange; the trade portal of the Agricultural and Processed Food Products Export Development Authority [APEDA] in India. After all, the secondary data was complementary to the primary data, which was the focus of this research. The methods were visualized as part of the research strategy in Figure 2.

Figure 2: Visualization of research strategy



3.6 Reflection of adapting the topic to the pandemic related lockdowns

The COVID-19 pandemic and related travel restrictions brought about the need for adaptability. The first way the research has been adapted was by choosing to stay in The Netherlands for practical reasons and focus on the Dutch side of the problems that come along with paddy cultivation in India. It was possible to do the primary data collection fully in line with government protocol during the pandemic, both with online interviews and an in-person survey. While conducting the survey, health measures due like maintaining enough space with the respondents and cleaning the tablet with a disinfectant spray after every survey were maintained to minimize health issues that might occur from participating.

3.7 Reflection on the positionality as researcher

The positionality as researcher need to be taken into account as well, as the beliefs might be of influence on the research. The most important factors were self-reflection and reflexivity during the research to 'identify, construct, critique, and articulate [one's] positionality' (Holmes, 2020, p. 2). First of all, with regards to cultural differences, especially as it will involve different forms of cross-cultural exchanges, both with Indian (not implying that there is just one Indian culture) and Dutch people. The researcher's personal background with parents from Afghanistan and Russia, living for most of his life in The Netherlands, an international degree, and therefore friends, fellow students and colleagues with various nationalities, did provide a good preparation herein.

Second of all, an academic background in International Business led to addressing this topic from the perspective of the businesses. Also, knowledge of business ethics and sustainable business and a personal belief in the good of humankind, could bias the researcher's view as if all consumers and businesses care about doing good in life, especially if their understanding of 'good' contradicts with own understanding of it.

3.8 Limitations and risks of the research

The limitation of the research was that qualitative data was based upon a minimum number of businesses directly involved with Basmati rice and non-profit support service and businesses indirectly, and in once case even not at all, to Basmati rice. Also, by conducting these interviews and the survey with consumers, the perspective from the public sector was left out. The research only discussed the role of the public sector from the perspective of the interview participants and survey respondents.

Also, the research based the businesses' view mostly on the interviewees and available information on their website, yet not every company set out or discussed its corporate social responsibility (or synonyms) on the website/internet. Personal perception on the situation might differ from the company's perspective herein, depending on who the interviewee is and his/her role in the company. Next to that, the research focussed on sustainability conscious consumers that were already purchasing at organic, more expensive shops. Therefore, the research deliberately chose to attempt to prevent the attention-behaviour gap, however, might have overlooked other consumers.

Furthermore, the research is limited to the downstream actors in The Netherlands. Even though the Dutch have strong presence in the procurement of rice from India for the European market, it is part of a far greater value chain and market. Therefore, while mostly focussing on the private downstream actors in the Netherlands, other actors along the value chain and in other markets should not be forgotten as in practice it stretches far beyond the Dutch/European borders only. Next to that, the Netherlands still only account for a relatively small portion of total Basmati rice in India, which also accounted for only 6.3% of India's total rice production. Therefore, this study actually only focussed on a relatively small story within the rice production narrative in India and beyond.

3.9 Conflict of interest

There was no conflict of interest involved in this research.

4. Geographical contextual framework

Agriculture has been the largest water consuming sector and has accounted around 70% of global water withdrawals (Food and Agriculture Organization of the United Nations [FAO], 2020b). But, centuries of agricultural practices, of which the last couple of decades more intense, and high levels of population growth are taking its toll on the amount of available water. Particularly in water stressed places. Yet, the responsibilities regarding water stretch beyond the borders and are an important part of the geography for sustainable rice. Therefore, it will be used as an important part of sustainability of Basmati rice in the section on the geographical contextual framework. Initially by presenting it from the perspective of India, where the majority of the Basmati rice in the Netherlands comes from and where the farmers live whose livelihoods could be endangered when continuing business as it is. Then, the context in the Netherlands will be presented, which is the scope of this research.

4.1 India

India is such an example where decades of agricultural intensification and population growth starts to take its toll on water and therefore the livelihoods of its people. According to the United Nations Department of Economic and Social Affairs [UN DESA] World Populations Prospects, the population in India has grown from well over 376 million in 1950 to just over 1.380 million in 2020, which is an annual compound growth rate of 1,87% compared to a world average of 1,63%. India is expected to surpass China in 2027 as the most populated country in the world (2019). Harvest failures that led to near-famine situation in the midst of the 1960s stimulated the Green Revolution to ensure national food security in India. In India, it involved stimulating high-yielding seeds of mostly, not exclusively, wheat and rice through High Yielding Varieties Program [HYVP] and improving agricultural practices by using fertilizers, pesticides, extracting groundwater, guaranteeing minimum support prices for certain commodities, and its procurement and public distribution (Parayil, 1992; Bouton, 2019). The result is that the Gross Production Value (constant 2014-2016 US\$) of total agricultural production in India has annually grown by 2,8% compared to a world average of 2,4% in that same period (FAO, 2020a). Despite the world average of 70%, it has been estimated that agriculture takes 80% of freshwater use in India (National Institute of Transforming India, 2019). Amongst other factors, the corresponding intensification of agriculture and population growth put extra

stress on the levels of land and water resources used. By now India is already facing a water crisis with approximately 820 million people facing high to extreme water stress situation and demand for fresh water is expected to exceed supply by twofold in 2030 (National Institute of Transforming India, 2019).

Haryana is one of the 28 states in India and located in the Northern part of the country. Amongst others, Haryana is neighbour to the capital city and territory of Delhi and the state of Punjab, which Haryana administratively separated from in 1966 to give the Sikh people their own state. Both states are considered as one of the few Indian states where the Green Revolution truly has been a success. Though, both now face challenges regarding groundwater. Parayil (1992) stated that the Green Revolution led to 'lasting and irreversible changes' (p. 738) from the old paradigm of subsistence farming to market orientated farming in Haryana and other states where it took root, which led to 'India becoming self-sufficient in food grain production' (p. 756). On a more critical note, Bouton (2019) stated what has changed prominently due to the Green Revolution is the substitution of more nutritious pulses and cereals by wheat and rice and led to the current high levels of malnutrition. Also, in a case study on the environmental consequences of the Green Revolution in Haryana, Singh (2000) stated that it had 'resulted in continuous environmental degradation particularly of soil, vegetation and water resources' (p. 97). In a reflection of the global crisis 2007-08 by the International Food Policy Research Institute [IFPRI], resource degradation has been identified as one of the 'long-term threats to global food production' (Headey & Fan, 2010, p. 97).

The result of the Green Revolution is that while Haryana only covers an area of merely 1.3% of India, it accounted for 7,3% of the country's agricultural exports in 2018-19 and 3,6% of the Gross Domestic Product [GDP] in 2017-18 (Adhana & Yadav, 2020). Grains, mostly wheat and rice, sugarcane, cotton and oilseeds are now the main commodities cultivated in the state. The Gross State Value of the Agricultural and Allied sector has grown by an average annual compound rate of approximately 3,3% between 1980-81 and 2019-20 (Mathur et al., 2006; Department of Economic and Statistical Analysis, Haryana [DESAH], 2011; DESAH, 2020). In states like Haryana that receive relatively less rainfall compared to the natural evapotranspiration and demand, the canals and groundwater have been used to irrigate the paddy fields for Basmati rice. Evapotranspiration in the state is at least 1.400 mm/year

compared to precipitation (rainfall) ranging from 300 mm/year in some areas to 1.100 mm/year in others (Erenstein et al., 2008). Paddy cultivation of rice in its turn has the highest groundwater footprint and lowest groundwater productivity in irrigation dominant states like Haryana and Punjab in the Northern parts of India (Srivastava et al., 2015). Paddy cultivation in Haryana as it currently is, is not a sustainable economic practice, and therefore not surprisingly identified as one of the water risk hotspots in the world (Sharma et al., 2018, Organization for Economic Co-operation and Development [OECD], 2017). The average decline of groundwater in the state was 9,3m between 1999-2016 due sustained groundwater pumping for intensive cropping systems like paddy cultivation (DESAH, 2020, The Groundwater Foundation, 2020). Water resources, soil resources and climate change, have been identified as Haryana's major agricultural issues and threats to farmers' livelihoods that can be mitigated and improved through crop diversification and other cultivation methods among other things (ICFA, 2019).

In first case, the responsibility of water resources development and management in India is primarily with the individual states, but it seems to face difficulties from fragmentation of responsibility both on a state and national level (Pandit & Biswas, 2019; Panda, 2011). Last year, the Haryana Governments did recognize the problems associated with decades of agriculture intensification and production of large amounts of the world's Basmati rice. Therefore, the Government of Haryana initiated a new scheme in 2020 promising Rs. 7.000 per acre to farmers that adapt at least 50% non-paddy cultivation crops. Also, an additional grant should be made available for cultivating fruitful plants and vegetables instead of paddy and an 85% subsidy will be provided by the installation of Drip Irrigation Systems. In doing so, the government wants to promote alternative crops for sustainable farming, promoting conservation of resources, maintain ground water levels, protect soil health from the effects of paddy-wheat cycle, and give the farmers profitable alternatives (Department of Agriculture and Farmers Welfare, Haryana [DAFWH], 2020). The latter needs to be achieved by procuring alternative crops at Minimum Support Price [MSP], which is a program launched just before and further established during the Green Revolution to guarantee minimum prices to farmers of 23 commodities.

Yet, the farmers themselves do not seem to be eager to take the responsibility and switch to non-paddy cultivation that easy. Which is, ironically, due to government policy as well (Yesvi, 2020). Decades of providing free or subsidized power to ensure food security in the country, motivating people to utilise scarce resources like groundwater, lack of suitable alternative crops and at the same time lack of adequate cold storage and assured markets, in combination with the economically viability of rice due to its MSP, do not make it attractive for farmers to switch crops (Nehra, 2016). Just a couple of years ago in 2014-15, electric tube wells powered 72% of Haryana's agriculture as the state had the lowest tariffs (INR 0,08-0,10 KW/h) of the country. 46% of agriculture subsidies were spent on electricity (groundwater irrigation) subsidy in that same year (International Institute for Sustainable Development, 2015). Another problem with pumping deepening groundwater is visible in the neighbouring state of Punjab that is also facing groundwater depletion. The installation of more tube wells to fetch water from deeper levels causes farmers to borrow more money from formal and informal channels, resulting in indebtedness and suicides among the farmers (Vasudeva, 2019). Though, even with the new promises, farmers seem to be unwilling. According to them, the soil is not always suitable for profitable alternatives like maize and pulses, only paddy cultivation can survive the waterlogged fields during the monsoon, the average gross return for paddy (Rs 102.345/ha) is much higher than maize (Rs 26.250/ha), and the Minimum Support Price [MSP] for Maize (Rs 1.850/kg) still does not offer guarantees as farmers get as low as Rs 700-800/kg at *mandis* (regulated markets that should guarantee MSP) due to a lack of a procurement system for these crops (Kapil, 2020; DESAH, 2019). Moreover, there seems to be a general lack of trust towards the government's plans to provide profitable alternatives in the future. Currently, farmers all over India, and especially in Haryana and Punjab state whose farmers are the main beneficiaries of MSP, are protesting against three new laws that endangers the MSP and might leave them at 'the mercy of big corporates' (The Times of India, 2020).

4.1.1 Partner organization

Although it was not possible to go abroad for the graduate research due to the COVID-19 pandemic, which was usually obligated, the research finds its origin in the depleting groundwater levels in Haryana, India. Therefore, not surprising, the research comes forth from an Indian partner organization: Partners in Prosperity. Partners in Prosperity is a non-profit

organization that seeks to achieve an inclusive, self-reliant, and economically and environmentally sustainable India. To do so, the organization collaborates with international businesses and organizations and intergovernmental organizations like the United Nations Development Program. The organization is involved in various agriculture related project in eight states all across India, and more specifically with growing long grain rice in Haryana. The organization finds its expertise in four domains: institutional development, climate change adaptations, livelihood enhancement and sustainable value chain (Partners in Prosperity, 2020). The latter to which this research fits well. As the research was not in the Indian context or perspective, the partner organization was only limited involved in the research process. Therefore, the research was independent and the partner organization not accountable for any of the conclusions or recommendations.

4.2 International

Next to the governments and farmers in India, the international community directly or indirectly involved in the paddy cultivation, has made an effort to take some responsibility as well to stimulate sustainable (Basmati) rice. An initiative from the International Rice Research Institute [IRRI], the United Nations Environment Program [UNEP] and Deutsche Gesellschaft für Internationale Zusammenarbeit [GIZ] has led to the establishment of the Sustainable Rice Platform [SRP] in 2013. Over 100 members from the private, public, research, civil society and the financial sectors, have formed the multi stake-stakeholder alliance 'to promote resource efficiency and sustainability in the global rice sector' (SRP, n.d.). Yet, it has not yet resulted in countering the water depletion, which could also not be expected in the initial years of its existence. The maximum depth to water levels in the state's districts increased over all four seasons in 2018-19 compared to 2014-15 and the monitored wells shifted in all seasons towards higher levels of depth (Central Ground Water Board, 2015; Central Ground Water Board, 2019).

The Netherlands is well represented in the alliance and holding 7 out of a total of 107 positions (SRP, 2020). Therefore, there is a lot of opportunity to progress in procurement and consumption of sustainable Basmati rice purchasing in The Netherlands.

4.3 The Netherlands

The Netherlands was selected as the geographical area through which the downstream actors were researched for multiple reasons. Next to practical reasons for doing field research during the pandemic, there are several reasons to dive deeper into the Basmati rice in Europe, and more specifically the role of Netherlands, on the downstream responsibilities and potential for the sustainability of Basmati rice production and consumption. First of all, the export of Basmati rice to the EU has increased over the years substantially from an average of 136.319 metric tons [MT] in 2000-2010 to an average of 299.999 MT in 2010-2020 (APEDA Agri Exchange, 2021). The Netherlands has had an important role herein and has been importing the most Basmati rice in the European Union since 2007-08 (excluding United Kingdom) and imported 50.246 MT in 2019-2020 (AIREA, n.d.). The imports have not only been destined for the Dutch market, as it serves an important hub through which many agricultural and non-agricultural products flow to Europe and other parts of the world. Despite its relatively small geographical area compared to the rest of the world, it has been the second largest agricultural exporter in the world for some years now, only preceded by the United States (Jukema et al., 2021).

Second of all, because the sustainability efforts and transition in sustainable consumption of Basmati rice in the Netherlands have been paid little attention to in comparison to other products. The supply of products like chocolate and coffee in the Netherlands have become almost completely sustainable as the standards regarding sustainability have been implemented in the supply chain almost unanimously. Though, only a small portion of the Dutch consumers consciously buy for sustainable products and the market share for sustainable products has only increased slightly (PBL Netherlands Environmental Assessment Agency [PBL], 2016). According to a consumer insight survey of PricewaterhouseCoopers [PWC] 'there is a perception that The Netherlands is a world leader in sustainability... [while] Dutch consumers actually lag slightly behind the citizens of many other nations when it comes to sustainable shopping habits' (2019). It means that there is still potential in increasing the market share for sustainable products in general, and more specifically for Basmati rice.

Third of all, because the Netherlands has a long way to go towards goals in reducing greenhouse emissions by 55% in 2030 compared to 1990 and towards an economy with net-

zero greenhouse. The goals are part of the European Green Deal that strives for Europe to become the first climate-neutral continent and in line with the 2015 Paris Agreement objective to keep the global temperature increase to well below 2°C and pursue efforts to keep it to 1.5°C (European Commission, 2021). According to the most recent *Annual European Union greenhouse gas inventory 1990–2019 and inventory report 2021*, the Netherlands had only decreased greenhouse emissions as CO₂ equivalent by 18,0% in 2019 compared to 1990. The reduction was about one-third lower than the EU average of 28,3% and in some cases about half as much compared to countries like UK, Germany and Denmark that reduced their emissions by 43,2%, 35,1% and 37,6% respectively (European Environment Agency, 2021). The EU Farm to Fork strategy is at the heart of the EU Green Deal and aims to accelerate the transition to a sustainable food system that is fair, healthy and environmentally friendly (European Commission, 2020).

Fourth of all, the pressure on EU and Dutch businesses to understand both their positive and negative impacts on society and environment has received greater attention over the last years. The European Commission [EC] has made several efforts since 2001 in the development of public policy to promote corporate social responsibility [CSR]. The EC also presented a renewed EU strategy on corporate social responsibility [CSR] in 2011. By promoting CSR, the EC aimed ‘to create conditions favourable to sustainable growth, responsible business behaviour and durable employment generation in the medium and long term’ (2011, p. 4). Though, just promoting CSR has not been enough. As of writing the thesis, the importance of downstream responsibilities in the EU and the Netherlands for upstream environmental costs have once again been confirmed. The European Parliament voted with a large majority (504 votes in favour, 79 against and 112 abstention) for legislative initiative report to adopt a binding law that will hold businesses accountable for harm of human rights, good governance and the environment along the value chain. It will also apply to small- and medium enterprises [SME] that will receive technical assistance with as main purpose to identify, address and find solutions across the value chain to these challenges (European Parliament, 2021). At an extension of the European legislature and in light of the 2021 government elections in The Netherlands, four political have proposed a private member’s act on responsible and sustainable international business. It is supposed to oblige Dutch companies to ban human rights violations and environmental damage in their value chains (GroenLinks, 2021).

Next to that, the Netherlands had a high carbon-, land- and footprint. The carbon- and land footprint of the Dutch is well above world average, with the latter even 60% above the world average (Wilting et al., 2015). The water footprint has been established to illustrate the global dimension of water in production and consumption by taking into account international virtual water flows through trade in agricultural and industrial produces. According to U.P. Singh, the Secretary of the Ministry of Water Resources in India, 'water footprint will be as vital as carbon footprint in the future discourse of development globally' (as cited in Mathew, 2019). While a relatively small country, The Netherlands is the ninth major importer of virtual water, whereby sourcing from abroad accounts for 95% of the country's water footprint (Hoekstra & Mekonnen, 2011). The relatively high share of the Netherlands herein is not a surprise due to its role as the second largest agricultural exporter of the world. Though, it does mean that the footprints are more a representation of the countries' role in international trade than other factors like food security. As an example, the Netherlands led the 'Good Enough to Eat Index' that indicated the country as the best place to eat (Oxfam Novib, 2014). International trade has an important role in the availability, accessibility, utilization and stability of food security, particularly due to the differences in caloric self-sufficiency between countries. These range from Norway as the least caloric self-sufficient country with 50,1% to Argentina as the most caloric self-sufficient country with 273%. International trade of food has been vital herein for the Netherlands as well, which ranked among the top 10 least caloric self-sufficient countries in the world and therefore depend on foreign partners for to fill the caloric gap (FAO, 2012). According to an integrated assessment of food self-sufficiency of 165 countries that considers a range of factors affecting future food production and demand throughout the 21st century, the Netherlands and half of all other countries will depend on trade even in the most favourable scenario (Beltran-Peña et al., 2020). The footprints do not serve to promote or imply for caloric self-sufficiency by nation-states. Rather, the footprints indicate the potential to set a change in motion from the Netherlands in terms of its positive and negative role in environmental and social impacts of food.

5. The sustainability of Basmati rice from India in the Netherlands

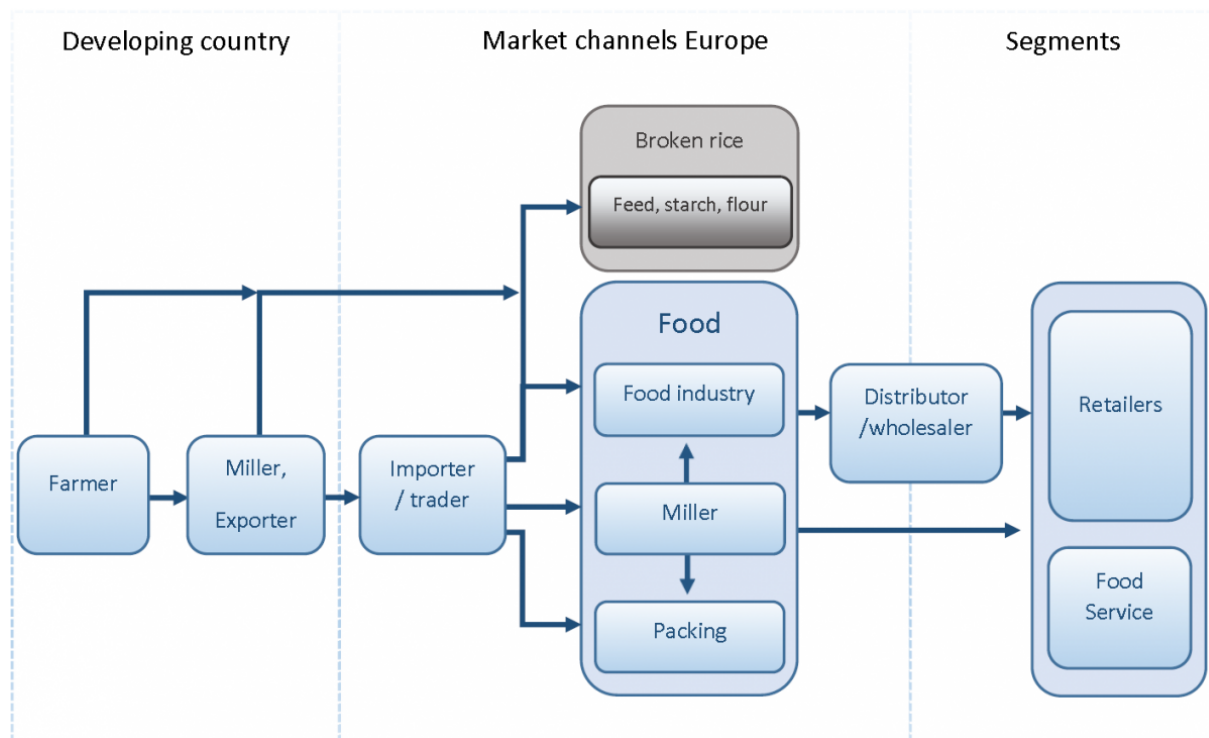
In the previous chapters, the foundation for the rest of the research has been discussed; an introduction to the problem statement and the academic and social relevance; the knowledge gap in current literature, the underlying theoretical framework and the corresponding research questions; the methodology through which the problem has been researched; and the geographical contextual framework. The following three chapters will build upon the foundation and elaborate on the results from both the secondary as well as primary data collection. The first of these chapters aims to answer to sub research question: *What is the role of private downstream actors in the Netherlands in the supply chain of sustainable Basmati rice from India?* It will do so by setting out the value chain of Basmati rice to the Netherlands and an image of the Basmati rice landscape in the Netherlands by statistics on the volumes and composition of international trade. After that, it will elaborate on how sustainability is incorporated herein.

5.1 The value chain of Basmati rice to the Netherlands

Rice in general, including Basmati rice, has been known for its generally long supply chain, particularly when traded internationally. Its basic framework follows a multi-stage supply chain from the farmer to the final consumer, including middlemen or agents, processors, importers, distributors, wholesalers and retailers, just to name a few. At every stage, another set of activities takes place that have an effect on the next stage, which requires them to co-operate, either directly or indirectly (Sharma et al., 2013). The Centre for the Promotion of Imports from developing countries [CBI], funded by the Ministry of Foreign Affairs, has made an attempt to visualise the supply chain of rice from developing countries¹ to European channels, including the Netherlands (Figure 3). Yet, the trade channels as set out by CBI were based on the basic supply chain framework for rice. In reality, it is more complex for two reasons. Beforehand, one should understand that what applies for the supply chain of Basmati rice, also applies to rice in general. Therefore, the section does not solely apply to Basmati rice.

¹: CBI classified a developing country as any country that received Official Development Assistance, which also included India as a Lower Middle Income country.

Figure 3: Trade channels and segments for rice from developing countries to Europe



Source: CBI, 2017

First of all, the supply chain for rice has simultaneously experienced diffusion by specialization and concentration through vertical integration. Over the years various supply chain actors have taken multiple roles in the supply chain on them by vertically integrating (in Figure 3 that would be horizontally) throughout the supply chain on both a national and international scale. One such example from a downstream actor has been MARS Foods, an American multinational and owner of the popular rice brand in the Netherlands by the new name of Ben's Original, that has formed partnerships with local and international organizations to create a shared benefit for various actors along the supply chain (Ben's Original, n.d.). Vertical integration allows businesses to gain systemwide-control, including different facets of the supply chain like production, procurement, processing and marketing. At the same, vertical integration in the rice sector has allowed them to have higher levels of control over the quality of the raw materials and therefore of the final product that led to competitive advantage (Prasertwattanakul & Ongkunaruk, 2018). Also, vertical integration has allowed the farmers to match the quality of their fields with the demand of final consumers. The process is not unique to (Basmati) rice, likewise not from the other side of the supply chain by upstream actors. One such example is LT Foods, one of the global leaders in in Basmati rice, which was the first Indian foods company in 2017 to set up a rice processing plant in Europe in Maasvlakte

Rotterdam. These companies have already been well integrated in the Indian rice industry and have now rapidly integrated further down the supply chain. Multinationals like MARS and LT Foods are well enough integrated to stretch their operations all the way from the farmer to the final consumer. Though, examples like those are rather minimal compared to the majority of other businesses. In reality, most rice does not reach the final consumers through such vertically integrated businesses, as the rice has been considered a commodity on the international trade market for decades now and allowed for a diffusion of specialization. Therefore, the number of actors involved from the farmer to the consumers have also increased and also depend on the stages of processing it has been going through.

The second reason for the supply chain to be more complex than illustrated by CBI, have been the variety in stages of processing to meet demand for various sorts of rice. Not every grain of rice follows the same number of stages within the supply chain. The number of stages depend on a number of factors, of which the level of processing is an important one. Up till now, the research referred to Basmati rice as the overarching term for a number of different sorts of Basmati rice as well as the total of the different stages of processing. As there have been 34 approved varieties of Basmati rice, each of these is also further divided by the stage of processing in which it has been traded; paddy, husked, semi-milled or wholly milled rice. As discussed in the Methodology chapter, international standards upon which the Combined Nomenclature and the data from CBS have been based upon stages of processing at first and then further divided by raw and parboiled, and the size categories to which the rice belongs to. In its turn, the stage of processing has an effect on the number of stages it goes through, before and after entering European channels. The rice been brought in all four of the stages of processing to Europe, and in some cases further processed in one country before exporting it further to another European country. It means that rice imported into the EU does not necessarily reach its destination in Europe directly from a developing country. As will be discussed later, the Netherlands has an important role herein for the rest of the EU.

5.2 The Basmati rice landscape in the Netherlands

The following section will further elaborate on the Basmati rice landscape in the Netherlands by means of statistical data from CBS and subsequently the APEDA Agri Exchange and put in perspective what its relevance is for the Basmati rice cultivation in India.

5.2.1 Significance of Indian Basmati rice to the downstream actors in the Netherlands

As discussed in the methodology, the data from CBS was not specified enough to distinguish Basmati rice from other rice varieties. It means that other rice varieties that fall in the same category of a minimum length of 6.1 mm and a minimum length/width [l/w] ratio of 3.0 (long grain paddy with $l/w \geq 3.0$), of which Jasmine rice the most commonly known, are clustered together with Basmati rice in the analysis of the data from CBS. Next to that, when speaking about the type of Basmati rice or other rice varieties in general, one should keep in mind the stage of processing it is in. Paddy rice is the least processed and not edible, while the ones thereafter (husked, semi-milled and wholly milled rice) are edible. These stages of processing are also the basis upon which the rice has been categorized internationally and by CBS for data collection, before distinguishing between its size. Therefore, the following data does not allow to compare the international trade of Basmati rice in the Netherlands to other varieties. Rather, it represents the comparison of international trade of rice based on the stage of processing and size categories they fall in. The data for 2020 from CBS are preliminary and marked by * in the figures. The choice to represent the data in graphs rather than in tables has been made to visualise the high levels of fluctuations over the years, both in the total import and export as well as the composition by the different categories of rice. The averages were only used when relevant. The period 2008-2020 was chosen based on data availability from CBS.

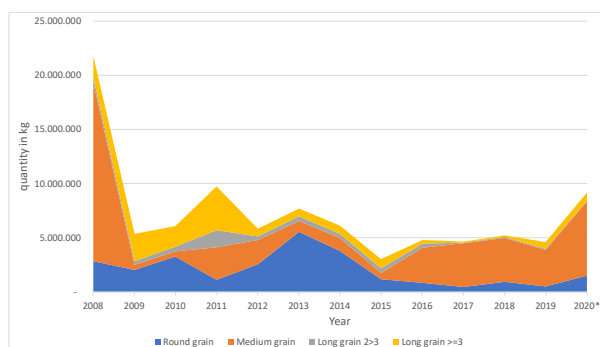
First of all, the import of rice to the Netherlands (raw and parboiled clustered together as it is not of further interest to this research) categorized on size. There are clear differences in import of different stages of processed rice and the categories based on size. The result showed that rice has by far been imported in the form of husked (least processed form of rice) and wholly milled (most processed form of rice). The total imports of husked rice increased from 161 million kg in 2008 to 162 million in 2019 and 178 million kg in 2020, and an average of 129 million kg in that same period as imports were less in the years in between (Figure 4B). The total import of wholly milled rice has increased from 100 million kg in 2008 to 135 million kg in 2020 and an average of 100 million as well over that same period (Figure 4D). It means that the majority of paddy rice was de-husked or wholly milled before importing into the Netherlands. Also, the category that mainly Basmati rice belongs to, long grain paddy with l/w

≥ 3.0 , dominate both stages of processing with an average of 122 million kg and 86 million kg respectively. The contrary was true for paddy rice that was dominated by medium grain and semi-milled rice that was distributed more. It also became apparent by the total imports (regardless of stage of processing) of rice into the Netherlands. It showed that the demand from the Netherlands is by far for long grain rice with a length/width ratio of ≥ 3.0 , which Basmati rice also belongs to. The other rice categories based on size only made up a relatively small part of the total imports. The total imports decreased from 240 million kg in 2008 in the years after and increased again to 259 million kg in 2019 and 285 million kg in 2020 (Figure 4E). As the imports in the years in between were decreased as well, the total average imports were 210 million kg between 2008 and 2020.

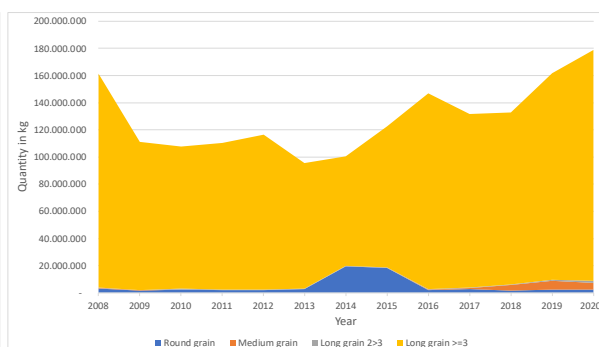
Next, the export of rice from the Netherlands categorized on size. Or rather, re-export as the Netherlands does not produce its own (Basmati) rice and it concerned initially imported rice. Re-export of Basmati rice is relevant to this research, as it stretches the potential of private downstream actors in the transition towards sustainable Basmati rice beyond the Dutch borders. The results showed that the rice was exported mostly as wholly milled from the Netherlands. The total exports increased from 110 million kg in 2008 to 136 million kg in 2020, with an average of 115 million kg in that same period. The exports also consisted mostly of long grain l/w ≥ 3.0 wholly milled rice. It increased from 95 million kg in 2008 to 127 million kg in 2020, with an average of 109 million in that same period. While rice was also imported a lot in the husked form as showed before, the data showed that relatively little of that same rice was exported. Particularly up to 2018. The export of husked rice from the Netherlands was relatively low between 2008 and 2017 with an average of 4.2 million kg until a sharp increase from 2018 to 2020 with an average of 36.8 million kg that showed its potential for future demand (Figure 5B). Just like with the import of husked rice, its export consisted mainly of the long grain l/w ≥ 3.0 variety, with only a considerably increase of the round grain husked rice to 2.4 million kg in 2018 of the round grain variety. The total export of rice from the Netherlands increased from 122 million kg in 2008 to 190 million kg in 2020, with an average for the same period of 137 million kg (Figure 5E). Just like with the imports, the long grain l/w ≥ 3.0 rice dominated the majority of exports, while the other categories only a relatively small amount of the increase.

Figure 4: Import of rice (raw and parboiled) to the Netherlands categorized on size (2008-2020)

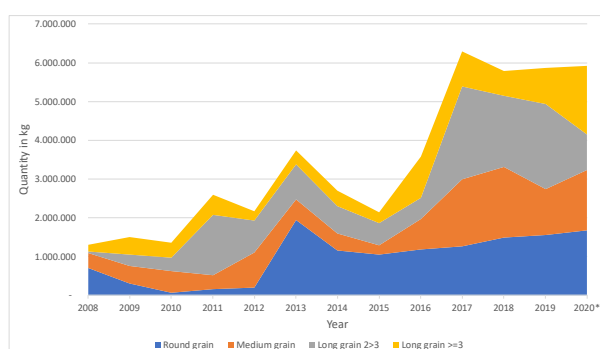
A: Paddy rice



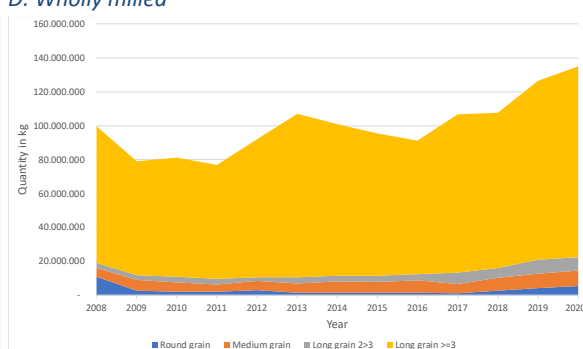
B: Husked rice



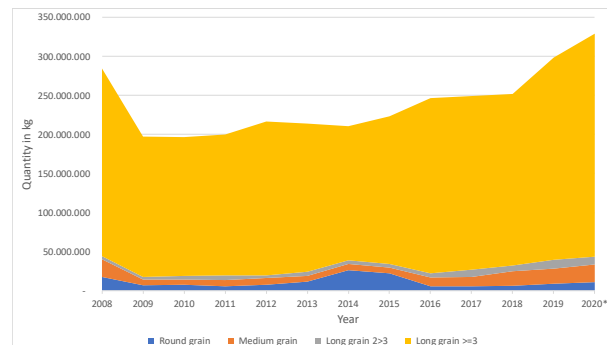
C: Semi-milled rice



D: Wholly milled



E: Total rice

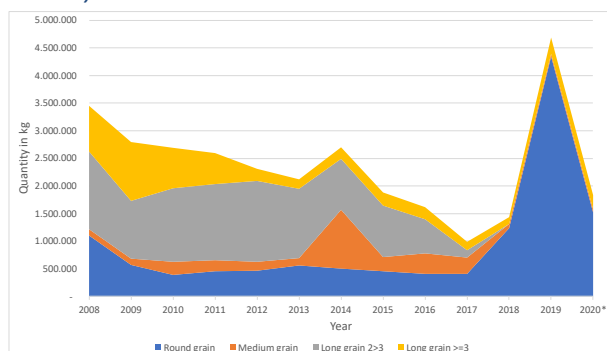


There are particularly two interesting things to the export statistics of rice from the Netherlands. First of all, that the long grain l/w ratio ≥ 3.0 dominated the export statistics as well. Second of all, that the export statistics showed that the Netherlands served as an imported hub where rice is further processed before exporting it again. The fact that rice in the previous stages of processing, paddy and husked rice, were further processed in the Netherlands before export was clearly shown by the average export of semi-milled rice (7.9 million kg) (Figure 5C) and wholly milled rice (109 million kg) (Figure 5D), which were both substantially higher than its imports of 3,5 million kg and 100 million kg respectively. It also immediately showed the difficulty of analysing the international trade of rice based on the data from CBS, due to further processing after importing in the Netherlands and exporting in a different form. Next to the latter, the import and export do not seem to follow the same trend, as both peaked in different periods in totals and in composition. Rice can be stored for some time due to a long shelf life, before exporting it again (in another form further in the processing) when prices and/or demand are more favourable.

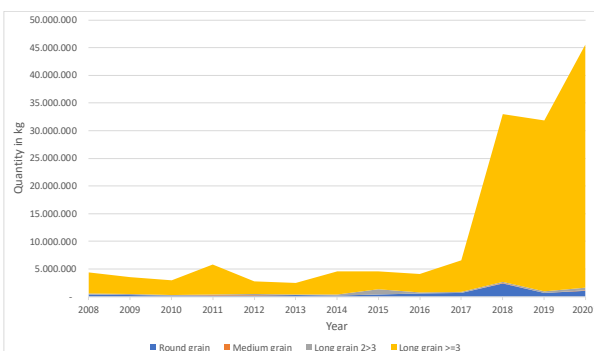
Both the total import to and export from the Netherlands showed that the market for long grain l/w ≥ 3.0 rice, although with fluctuations, increased in the period 2008-2020 and will likely increase even more in the future. An important role herein has been with a modern processing and packaging plant in Papendrecht owned by Van Sillevoldt Rijst, which is the European leader in private labels tailored for the food industry and retail trade (Euricom, n.d.). Next to that, LT Foods and their organic subsidiary Nature Bio Foods have had an important role herein as well. The private sector in the Netherlands not only profits from an increased demand in the Netherlands, the businesses are also responsible for positioning the Netherlands as the European hub through which large amounts of rice are imported and, with or without further processing, exported to the rest of Europe and other parts of the world. Though, the data was not specified to Basmati rice and therefore the next section will present the previous numbers based on place of origin to see what role India has herein.

Figure 5: Export of rice (raw and parboiled) from the Netherlands categorized on size (2008-2020)

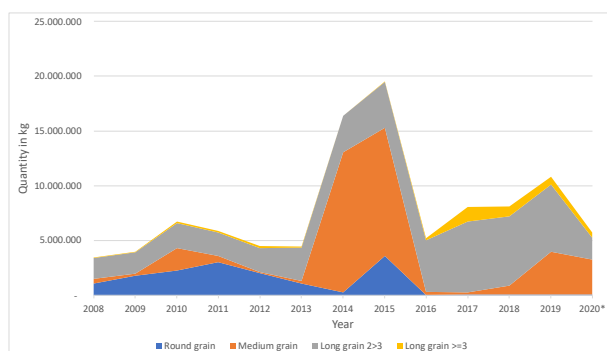
A: Paddy rice



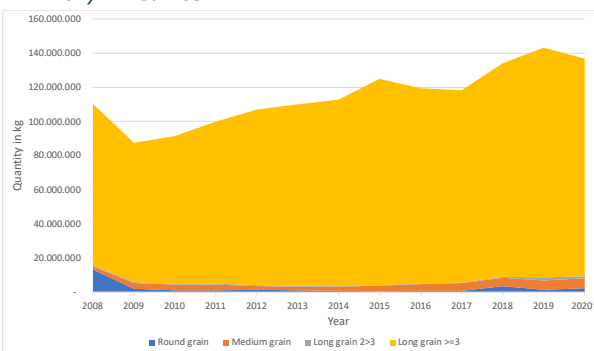
B: Husked rice



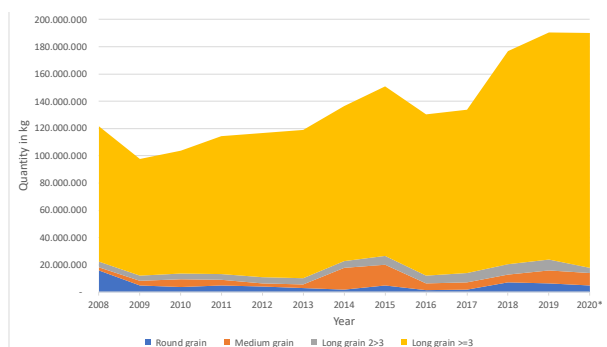
C: Semi-milled rice



D: Wholly milled rice



E: Total rice



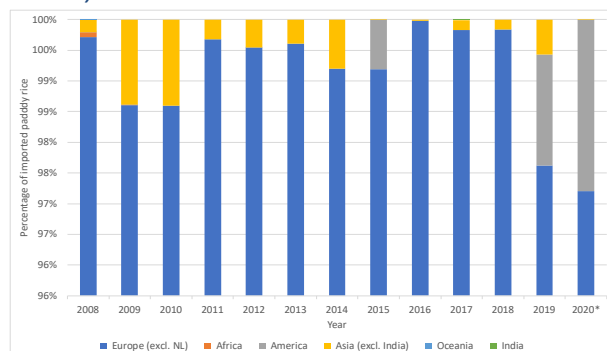
5.2.2 International trade of rice in the Netherlands from India

The previous section distinguished between the rice in the different stages of processing to present the differences in import and export of rice herein. Next to that, it distinguished based on the size categories to present the composition of and demand for the import to the Netherlands and its export destinations. The following section will build upon the previous section. Though, the following section does not distinguish based on size category. Rather, it presents the data from another perspective, namely the geographical place from which the shipment in the Netherlands came from to further specify it to rice from India. In this case, places were categorized by the different regions in the world, with India presented separately. The export destination is not of interest for this research. Therefore, this section will only limit itself to the import into the Netherlands.

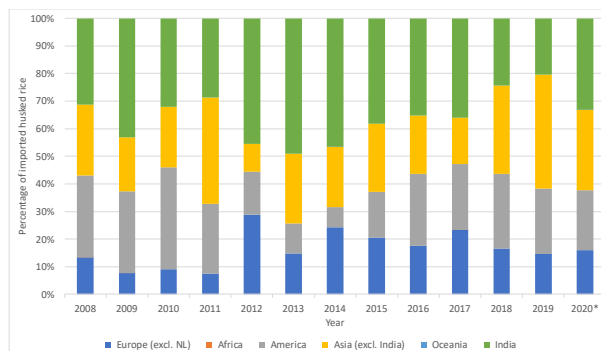
Figure 6 showed the composition of rice imported to the Netherlands based on the place. The imported rice from India particularly had a relatively big share in husked form. With an average of 44.8 million kg between 2008 and 2020 of husked rice from India, it represented 35.7% of the total husked rice imports in the Netherlands. As presented in Figure 6B, the husked rice represented the highest amounts of the total imported rice and further processed before exporting again as presented in Figure 5. It means that India was a relatively important supplier for the private sector in the Netherlands to thrive. India's share in the other stages of processing of the imported rice were relatively lower with averages for 2008-2020 of 0,0% for paddy rice (Figure 6A), 7,0% of semi-milled rice (Figure 6C) and 4,3% of wholly milled rice (Figure 6D). The latter is particularly interesting for multiple reasons. First of all, Figure 6D showed that contrary to the paddy, husked and semi-milled rice, Asia (excluding India) had the highest relative share of the imports in the Netherlands with an average of 47.5 million kg between 2008 and 2020 (46.0%). Second of all, India on the other hand supplied only a relatively small portion with an average of 6.1 million kg between 2008 and 2020 (4.3%). And third of all, India increased its share in the import of wholly milled rice into the Netherlands over the years from 1.4 million kg in 2008 to 25.7 million kg in 2020, opposed to Europe's share of the import that shrunk from 67.9 million kg in 2008 (68.0%) to 36.8 million kg in 2020 (27.2%).

Figure 6: Import of rice (raw and parboiled) to the Netherlands based on place (2008-2020)

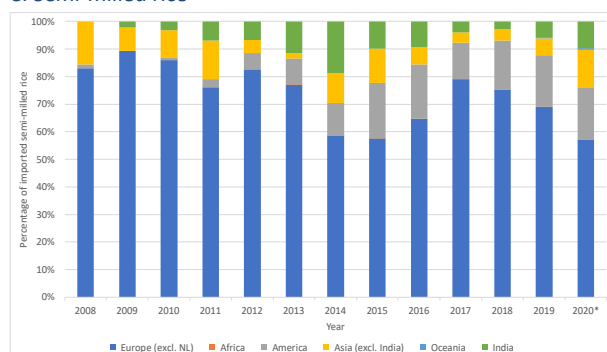
A: Paddy rice



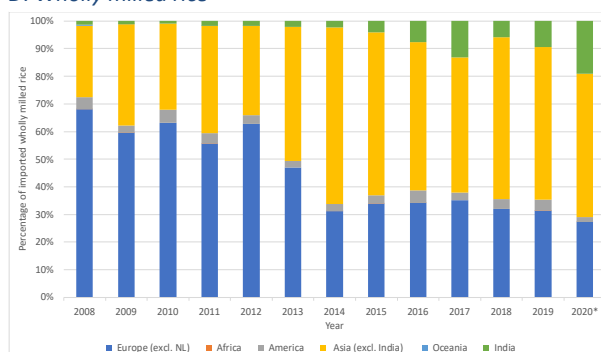
B: Husked rice



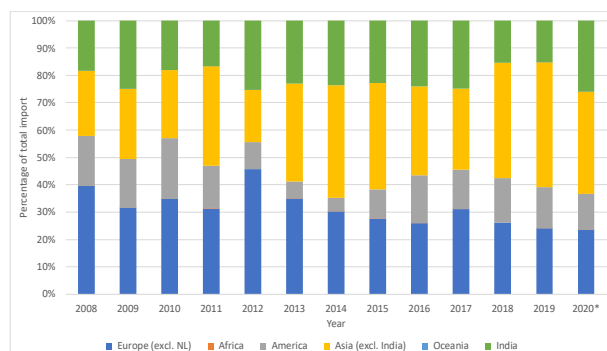
C: Semi-milled rice



D: Wholly milled rice



E: Total rice



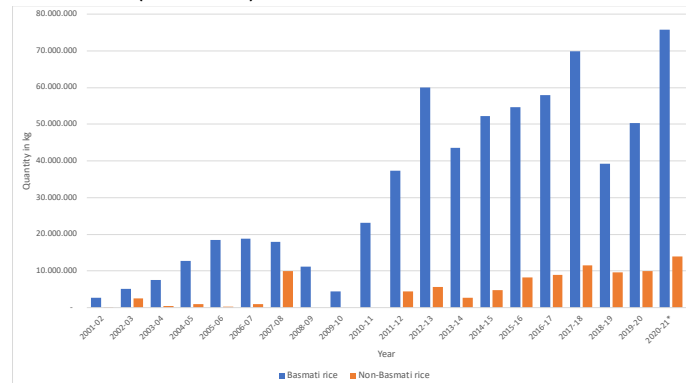
Lastly, all the stages of processing combined into a total showed both an increase in the total relative imported rice from India and at the same time its further potential. Figure 6E presented the composition of the total import of rice to the Netherlands based on the place. The total share of rice imported from India compared to total rice imported in the Netherlands increased from 51.8 million kg in 2008 (18.2%) to 85.4 million kg in 2020 (26.0%). While India's share increased by 7.8 percentage points, the rest of Asia had the biggest increase in its shares that increased from 23.8% to 37.4%. India decreased in its share in 2018 and 2019 where the share from India dropped to 38.8 million kg (15.4%) and 45.3 million kg (15.2%) respectively, while the total rice imported increased as presented in figure 6E. The primary reason was that the EU reduced the Maximum Residue Levels [MRL] of pesticides, to which India tightened the inspection norms for rice exports to the EU in 2020 (Suneja, 2020). The rest of Asia replaced India's share herein as it experienced its highest share of 42.1% in 2018 and 45.8% in 2019. As the requirements regarding the sustainability of production and imports of food are expected to increase in EU's Farm to Fork plan as part of the Green Deal, the statistics showed the potential for India of complying with the regulation. At the same time, it also showed the risks that will quickly results in lower imports. Yet, these statistics did not specify to type of rice and was from the Dutch perspective, while the next section is specified to (Non-)Basmati rice from the Indian perspective.

5.2.3 International export of Basmati from India to the Netherlands

As the data from CBS was used to give a more general overview of the total import and export, and its composition and place, the following data specified it to Basmati and non-Basmati from India. While the data from the CBS provided a look from the Dutch perspective, the following data was from the Indian perspective. In order for the data to be as accurate and representative as possible, the following data was used complementary to the data from the CBS. The data was retrieved from APEDA Agri Exchange; the trade portal of the Agricultural and Processed Food Products Export Development Authority [APEDA] as established by the Government of India in 1985 to monitor its exports. A comparison between the data showed similarities in the volumes and trends, which confirmed consistency and reliability of data from both sources (Appendix E).

Furthermore, the data from APEDA Agri Exchange differentiated between the Basmati rice and Non-Basmati export, which was particularly interesting due to the research's focus on Basmati rice from India. The exports of Basmati rice to the Netherlands were considerably higher than that of Non-Basmati rice in absolute numbers (Figure 7). Basmati rice increased from 2.8 million kg in 2001-02 to 75.8 million kg in 2020-21, with an average of 33.1 million kg in that same period. While the total export of Indian Non-Basmati to the world (50.4 million MT) exceeded that of Basmati rice (44.5 million MT) in 2019 and in the years prior to that (APEDA Agri Exchange, 2021), the opposite was true for the export of Indian rice to the Netherlands.

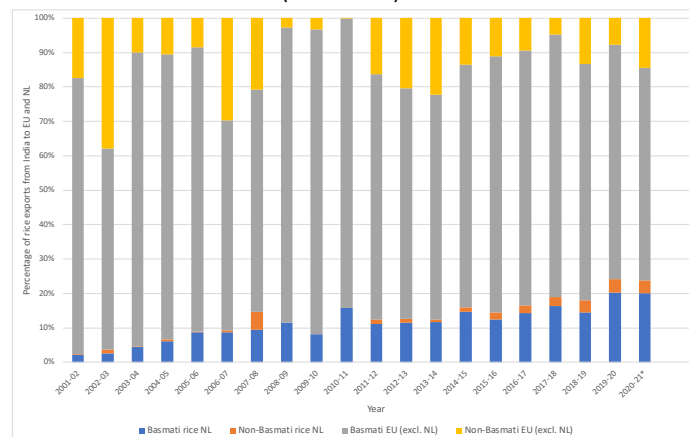
Figure 7: Export of Basmati and Non-Basmati rice from India to the Netherlands (2001-2021)



Source: APEDA Agri Exchange, 2021

As showed in previous subchapters, the international trade was not only into the Netherlands, but also further from the Netherlands. To put it in a bigger perspective, the export from India to the Netherlands was compared to the export from India to the rest of the EU (Figure 8). The export of Basmati rice to the EU (excluding the Netherlands) increased over three-fold from 100.8 million kg in 2001-02 to 310 million kg in 2020-21. Though, the relative importance of the Dutch market has increased much at the same time compared to the rest of the EU. While the export of Basmati rice to the Netherlands was 2,2% of the total rice export to the EU in 2001-02, it increased to 20.0% in 2020-21. Consequently, the total of Basmati from India to the Netherlands has increased in its total by its own and relatively compared to import to the rest of the EU. The fact that the Netherlands has been importing the most Basmati rice in the European Union (excluding United Kingdom) since 2007-08 (AIREA, n.d.) should not

Figure 8: Export of Basmati and Non-Basmati rice from India to the Netherlands and rest of EU (2001-2021)



Source: APEDA Agri Exchange, 2021

come as a huge surprise when you put it in the bigger perspective. Despite its relatively small geographical area compared to the rest of the world, it has been the second largest agricultural exporter in the world for some years now, only preceded by the United States (Jukema et al., 2021).

Though, its importance for India should not be exaggerated. The majority of the total Basmati rice from India (approximately 7 million tonnes) was produced in Haryana (43,5%), Punjab (28,4%) and Uttar Pradesh (24,0%). Export accounted for 59.3% of the total production and therefore the majority of the Basmati rice cultivation is undertaken for commercial purposes with a high demand from the international market. Particularly the first two states have a big share herein, with market surplus rates [MSR] of 99,4% and 98,6% respectively, which is the indicator for commercial production (NCML, 2019, Kumar, 2019). The Netherlands only accounted for an average of 1,2% of India's total Basmati rice export between 2001-2021 and the EU (excluding the Netherlands) for 9,2%. Though, the share of the Netherlands increased from 0.4% in 2001-02 to 1.8% in 2020-21, while the rest of the EU decreased from 14.7% to 5.6% respectively (APEDA Agri Exchange, 2021). In that sense, the data showed the increasing importance of the private downstream actors in the Netherlands for the European market and beyond, where the total demand for Basmati rice has only increased over time. It means that these actors specialized in processing rice further down to semi-milled and wholly milled Basmati rice and exporting it again for markets abroad. These actors have extended their focus beyond the Dutch market to the rest of Europe and other parts of the world that demand these types of rice, while at the same time serving the increased demand from the Dutch consumers.

This subchapter showed the relative importance of long grain $l/w \geq 3.0$ rice, to which the Basmati rice belongs to, and rice in general from India to the businesses in the Netherlands, despite whether eventually destined for the Dutch, European or other consumer after further processing. At the same time, while India's exports to the rest of the world consisted more of Non-Basmati rice, India's exports to the EU and the Netherlands consisted mainly of Basmati rice. It showed that the businesses in the Netherlands held an increasingly important role herein, with the reminder that it is still a minor part of India's total export and production of Basmati rice and production of rice in general. Yet, it remains unclear how much of the rice

imported to and exported from the Netherlands was sustainable, as there were no statistics available, which the next section will elaborate further on.

5.3 Sustainability regarding Basmati rice

The difficulty with tracking how much of the Basmati rice and other rice varieties in the Netherlands was sustainable lies partly with the definition of sustainable (Basmati rice) and sustainability in general. Therefore, there was no clarity on the market share of sustainable Basmati rice. Sustainability as defined by the Cambridge Dictionary means: ‘the quality of being able to continue over a period of time’ (n.d.). Sustainability is therefore an important concept when speaking about livelihoods or agricultural production, and therefore often associated with sustainable development as defined in the Brundtland Report (see p.17). Therefore, agricultural production of Basmati rice should in its essence meet the current needs and continue over a period of time, without compromising on the ability for future generations to meet their needs. Depleting and contaminated groundwater levels are therefore not sustainable from an environmental and social aspect.

The challenges with defining sustainable Basmati rice stretch beyond statistical purposes and become apparent when zooming in on a meso-level perspective and the standards associated with sustainability. The Standards Map developed a range of free tools to support actors in making their businesses more sustainable. It could serve as a roadmap to sustainable production, consumption and trade with in-depth information on over 300 *voluntary* sustainability standards. Accordingly, a total of 75 standards apply to ‘Rice’, of which 39 when filtering further on rice from India (International Trade Centre, 2021). The standards range from company specific standards like Unilever Sustainable Agriculture code, to country specific like China GAP and to international like EU Organic Farming, Fairtrade International and Sustainable Rice Platform. As sustainability is not a protected claim, there are various interpretations and therefore standards for its sustainability, which also became apparent in the interviews for this research. To start with, interview participant 7 [IP7] (Appendix B) promoted its Basmati rice as ‘very high-quality Basmati rice’ on its website. The Basmati rice is a popular brand among large consumers of Basmati rice in NL, namely those with Afghan and Iranian heritage. Their statement on sustainability was primarily based on a program they initiated and addressed in collaboration with local governments and partners on primarily

using river water rather than groundwater for irrigation. Complementary, they helped other initiatives on developing families and children by building schools and preventing child labour. According to IP7, the water is kind of considered as wastewater further down the river, which they then purify and re-use for basmati rice cultivation. Though, 5 years since addressing to tackle these problems, purified river water accounted 15-25% of their water usage. Also, using pesticides and fertilizers were not excluded, as with organic Basmati rice is the case.

Organic Basmati rice was also promoted, or at least associated with, sustainability but seemed to cover only certain aspects to sustainability. The company IP8 has been working with has been an established brand of organic Basmati rice in NL and the EU, with sustainability claims on website. Yet these claims were not specified for (Basmati) rice and entailed primarily buying organic Basmati rice, including side projects like solar panels on the roof and reducing plastics. Zooming in further to a micro perspective, the same seemed to be true for consumers while conducting the survey. During informal conversations with multiple respondents, they assumed for Basmati rice to be sustainable by consuming the organic variety. Though, the three businesses involved with organic Basmati rice that participated in the interviews did not discuss depleting groundwater levels, alternative cultivation techniques related to that or other important aspects related to sustainability. Neither was anything stated about this online by the other businesses involved with Basmati rice that did not participate in the interview.

The SRP has attempted to somewhat harmonise the rice industry by promoting resource efficiency and sustainability in the global rice sector. SRP pursues market transformation and public policy initiatives to drive change towards more sustainable standards, which will improve the lives of rice producers and minimize the environmental impact of rice production. The SRP Standards provide somewhat guidance herein, which serves as a normative framework by which claims to sustainability performance in rice supply chain can be based. A total of 41 requirements divided under eight themes together form the basis for the Standards. Based on the scores for each of the requirements, the minimum score should be 90 on a scale of 100 to claim to have sustainably cultivate rice. In order to help assess to what extent business comply with the Standards and decide on the permitted claims, an Assurance scheme has been set up with the support of GLOBALG.A.P. to build a viable auditing and

assurance program, that will also manage the verification bodies responsible for the assessment. Therefore, the SRP Standards served as framework to define sustainable Basmati rice, in which a minimum score and mandatory compliance levels must be achieved to meet the claim of sustainable Basmati rice.

Zooming out again and in lack of statistics on sustainable Basmati rice to and from the Netherlands, a recent survey by the SRP provided some overview herein. Although not specified for Basmati rice and the Netherlands, the survey well represented the current and future trends and interest in SRP and sustainable rice procurement of downstream actors in the Netherlands and Europe. Basmati rice (81%) turned out to be the most popular rice variety that the actors mostly worked with, followed by Jasmin rice (70%). The majority (70%) of the respondents considered sustainability in procurement as a priority and already worked with sustainable rice, and the majority (82%) considered sustainable sourcing as a priority in the near future. Though, the volumes and share of sustainable rice is still somewhat low. Only 7% of the respondents sourced 70% or more of their rice volumes sustainably, while the majority (56%) only sourced less than 15% of their volumes. In general, all the respondents expect to source higher volumes of sustainable rice by 2025, as most (33%) expected to 70% or more. Though, the survey stated sustainability as social and/or environmental rice in the survey and did not specify to its own standards for sustainable rice. Therefore, it remained a question how much of the rice in general and Basmati was currently and was expected to be truly sustainable, according to their standards.

The chapter showed how diffusion of specialization and vertical integration have simultaneously integrated in the long value chain (from developing countries to Europe) of the rice industry. Next to that, it showed how import and export of long grain $l/w \geq 3,0$, Indian rice and Basmati rice specifically have developed over the years. Also, how the private downstream actors in the Netherlands have supplied the demand in both the Netherlands and beyond, by positioning itself as an important hub through which rice is imported and/or further processed and exported again. While the interpretation of sustainability surrounding Basmati rice remained an issues on macro, mesa and micro scale, the SRP sought to provide harmonization and promote this in the industry. The following chapter will elaborate how they can be encouraged in the transition towards sustainable Basmati rice from India.

6. Responsible business in the transition to sustainable Basmati rice

The previous chapter presented the sustainability of Basmati rice from India in the Netherlands. This chapter will follow upon this by seeking an answer to sub research question: *How can businesses in the Netherlands be encouraged to take responsibility in the transition towards sustainable Basmati rice from India?* It will do so by first discussing the profile of the organizations interviewed directly and indirectly involved with Basmati rice the main factors encouraging responsible business. Then, it will elaborate on the challenges to responsible business and transitioning towards a sustainable Basmati rice, followed by how the challenges can be overcome by the opportunities.

6.1 Main factors to responsible business

As discussed in the literature framework, there are various frameworks on the relationship between businesses and society, of which CSR the most prominent and overarching used concept for responsible business. The literature review attempted to get a better understanding of CSR by mapping out the different fields of CSR and how it evolved over time. The interviews for this research provided an opportunity to dive deeper in this concept.

First of all, a short description of the type of organizations that the interviews were held with and as listed in Appendix B. The majority of the businesses had a direct link with Basmati rice and rice in general and consisted of an international trader, importer and processor, wholesaler, food brand to cover a variety of actors along the value chain. The first two held a big and important to the international import to and, perhaps even more due to its relative importance as discussed before, export from the Netherlands. The wholesaler was relatively less known due to its absence in the regular supermarket, however present in almost every ethnic shop that sells rice and popular among large consumers of Basmati rice. The food brand was an established brand, yet a relatively small actor herein that mostly focussed on positioning itself in the organic shops. Moreover, two interviews were held with support services with a direct link, of which one responsible for promoting certification and the other a multi-stakeholder alliance to promote sustainable rice. Furthermore, three interviews were held without a direct link to Basmati rice yet were relevant for other reasons, like experience in other food sectors like fruit, vegetables and coffee that are further ahead in the transition

towards a more environmentally and socially responsible food system, and a consultancy in developing sustainable food value chains between developing countries and Europe.

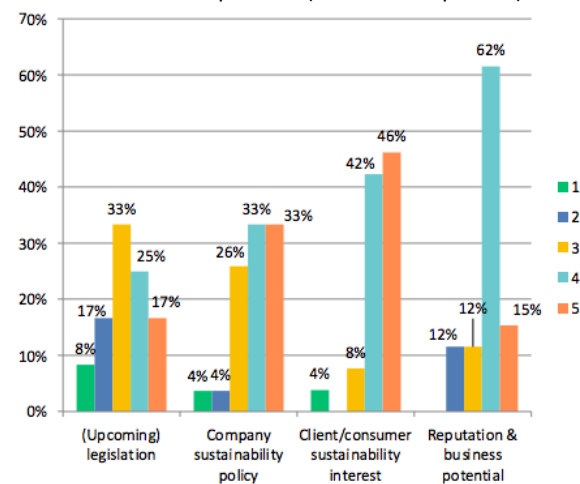
Two concepts on responsible came forward prominently in the interviews and share similarities with Porter and Kramer's (2006 & 2011) ideas on CSR in which businesses and society are interdependent and not in a zero-sum game and create shared value for both by connecting societal and economic progress. One of the two most prominent aspects that came forward was balance. Balance between demand and supply. Balance between preventing harm in the first place and compensating when no other option. Balance between social idealism and commercial realism. Balance between profit and purpose. Balance between present and the future. Businesses involved in Basmati rice and other food sectors seemed to be aware of its potential negative and positive impact, and therefore attempted to prevent, minimize, counter, address, strengthen or use those effects in line with the business mission and vision. In the end, it was a most of all a balance between people, planet and profit, which every business gave their own twist to. The second of the most prominent aspects that came forward was incorporating CSR at the core of the business, both to do good and to prevent from being outcompeted in competitive business environment. Though, it was up to each company how CSR was incorporated at the core of the business, which in turn was based on what doing good meant and one's focus of line of business. First, doing good was subjective and therefore being socially and environmentally responsible seemed to be a matter of one's understanding of this to build a better world, for example by building schools or stimulating development in the place of production by setting up sustainable business activities. In the latter case, businesses considered themselves as more than simple actors in the supply chain. They considered themselves as the chain director and as an important link in the supply chain, with the potential to bridge the power distribution gap between the primary producer and the retailers, with the potential to get the various actors in more complex supply chains on one line with one another, with the potential to set a transition of the system in motion. Also, businesses being socially and environmentally responsible seemed to be a matter of one's focus in businesses activities, for example in the organic business by helping farmers with the transition to organic in order to keep the improve the ground and keep it healthy, obtain certification that comply with the international standards to market the products on the international market, and tackle environmental challenges through initiatives like

regenerative agriculture. Others focussed more on the social aspect of food production by stimulating fairer prices throughout the supply chain.

Even though balance and CSR at the core of the business might seem obvious, there were many differences. With regard to balancing between people, planet and profit for example, the latter seemed to be of relatively more importance. As IP2 (food trader) stated 'We are not a public company, so yes, in the end we must have something left over, to earn something of course'. IP7 (food wholesaler) also stated that 'people first think about their profit, and only after reaching a certain point think about sustainability' and

struggled to incorporate sustainable rice procurement himself due to the low margins, high competition and less brand loyalty in the cheaper segment of Basmati rice. The survey by SRP to assess the current and future trends and interest of downstream actors showed similar outcomes. The majority of the respondents (88%) considered consumers sustainability interest as the highest-ranking motivation for sourcing sustainable rice. It was followed by reputation and business potential, which was the main motivation for 77%. Only hereafter, company sustainability policy (66%) and (upcoming) legislation (42%) followed. The main motivations tied back mostly to the instrumental and integrative fields of CSR as set out by Garriga and Melé (2004) in the literature review. Here, sourcing sustainable rice would serve particularly to meet demand from society and for corporate objectives, whether initiated from the consumers or for its potential benefit for the company. Also, it tied back to the interviews in which balance was considered as the of the two main factors for businesses to conduct responsible business, balance between meeting social demands and company objectives. Regarding the way CSR was incorporated in the business, IP6 said 'There are two [extremes] types of companies according to me. Those that are driven by a mission... and others... that are stuck in the old economy and... want to know which buttons to switch to keep up' (source). IP3 concluded CSR well with 'If you would ask ten people, you would get ten differences responses'. Regardless what and how aspects are balanced and how CSR is incorporated in

Figure 9: The main motivations to source sustainable rice, ranked in order of importance(5 as most important)



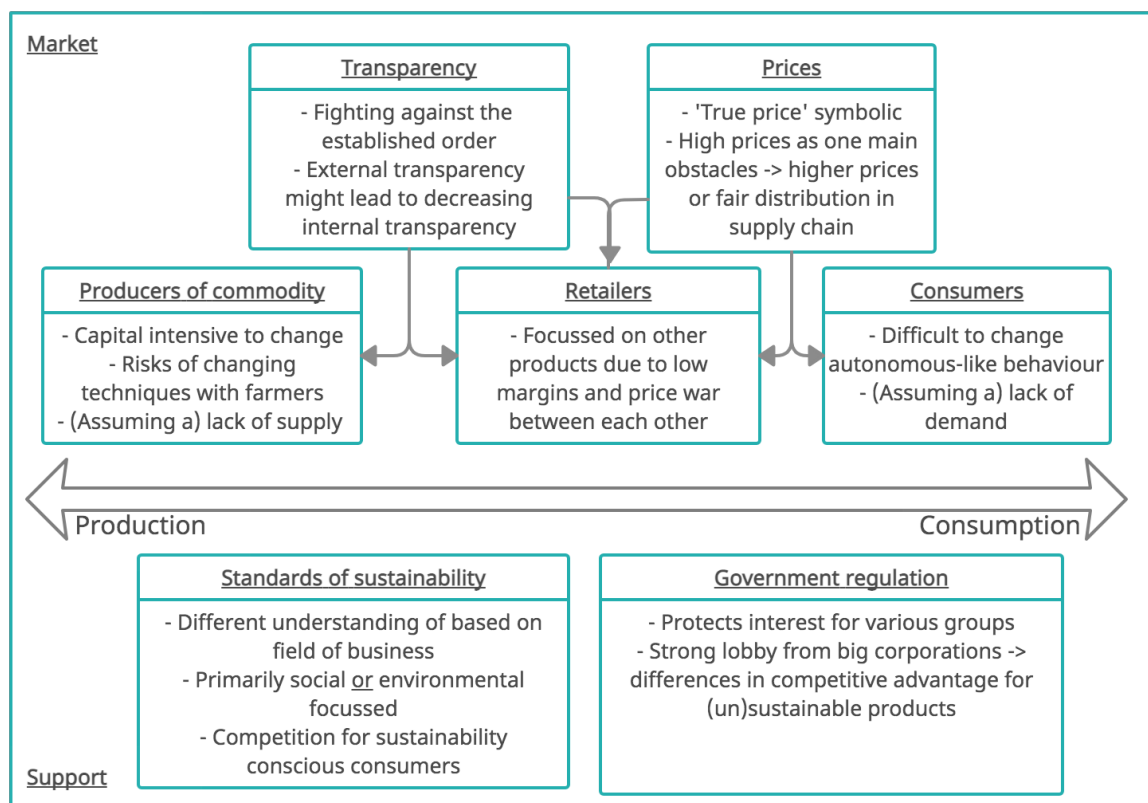
Source: SRP, 2021

businesses, businesses have an important role in the transition to an environmentally and socially responsible food system, to which are various challenges, as discussed next.

6.2 Challenges of transition

The challenges of the transition were visualized in Figure 10, divided by the challenges directly related to the market and the 'support services'.

Figure 10: Visualisation of challenges in the transition towards sustainable Basmati rice



Standards for sustainable Basmati rice

The first challenge in the transition the transition to a food system with sustainable Basmati rice that is more environmentally and socially responsible were the standards for Basmati rice and rice in general. The respondents had different understanding of sustainable Basmati rice, based on their field of business. The most apparent fields herein were organic and fair trade, both voluntary, protected claims in the European market with clear standards to comply with. Though, it seemed like social and environmental aspects were more often intertwined with each other. Examples are initiatives to charge 'true prices' through the chain that incorporate the social and environmental costs of production in the prices. Also, there seemed to be 'a tendency to look more and more at the environmental aspects [to address social aspects as

well]... Climate change also means a demand for a better position for farmers, also in terms of salary and income, to adapt to it' (IP4). Nevertheless, the standards for these fields were in essence still separated from each other. Paying attention to the other field seemed more like an addition to address and stimulate their own field of focus.

Moreover, even within the fields of businesses there were minor differences. Regarding organic for example, the EU organic label provided a minimum standard that all products in the EU with an organic claim had to comply with, to which extra requirements were added and translated into additional certification like EKO and DeMeter. Regarding fair trade, the standards were protected by one international organization, Fair Trade International, and promoted by over 20 organizations on a national scale. Yet, as Fair Trade applied a minimum price and a premium, competitive certifications have come forth that did not want to pay this. The different types of certification standards and their corresponding labels were not always considered positive, as it led to some competition between the certifications over the sustainability conscious consumer, rather than competing with the non-sustainable products. Next to the established standards like organic and fair trade, there was a mixed, yet still minimal, awareness for sustainable rice as verified by SRP, which aims to bring the environmental and social aspects of (Basmati) rice together (SRP, 2020). There were only two businesses directly involved with Basmati rice that were familiar with SRP, of which one whose parent company had been an SRP-member and the promoter of a certification label. The other three interviews with businesses directly involved with Basmati rice were not familiar with SRP, and neither were the other interview participants that were not involved in rice at all. As the on-pack SRP-verified label was launched in September 2020 and for the first time present on a product in the store from June 2021, the awareness for SRP will likely increase with time. The survey by SRP that was used throughout this thesis, was part of a current campaign for SRP-verified rice and showed that 44% of the respondents were already SRP-members, 30% had heard of SRP, 11% was even (in the process) of certification by SRP and only 22% was not familiar with SRP at all (SRP, 2021). As it might be considered a competitive certification, it will be a challenge for SRP to position itself in the market complementary to the established order, rather than as competitor. According to IP9, SRP 'was never really going to produce an on-pack label... it was in response to demand... because we are development focussed... and 90% of all rice produced is consumed within 50 km of its production' (Appendix B, SRP). Though,

SRP is also 'just' a voluntary initiative rather than government regulation that businesses have to comply with.

Government regulation

The next challenge in the transitioning to a food system with sustainable Basmati rice was therefore government regulation. The first challenge with government regulation is that the governments needs to protect the interest for various groups like the consumers, businesses and farmers simultaneously, to which regulation might be beneficial for one and detrimental for the other (IP3). National and international governmental institutions might for example assist in increasing transparency through regulation. An example was the current attempt by the EC in Europe and various political parties in NL to hold businesses accountable for harm of human rights and environment elsewhere in the supply chain (see chapter 4.3). Article 36 of the current EU Regulation 2018/848 on organic production and labelling set restriction on 'Groups of Operators' like cooperatives, farmer associations, processor/exporter managed groups to increase traceability that could guarantee no harm. Yet, it 'would have a substantial negative impact on millions of small-farmers all around the world. It will also create unnecessary costs to thousands of certified cooperatives and federations of cooperatives, and all group certification applicants in the EU.' (International Federation of Organic Agriculture Movements [IFOAM], 2019, p. 3). Next to that, support services that seek to lobby for the optimal conditions to enable future-proof entrepreneurship in an economy with attention to social and environmental aspects face difficulty against the established order. MVO Nederland as an example lobbied for lower VAT-rates for sustainable products, just like there are many other ways in which it can be stimulated. Yet it faced strong lobby from big corporations, who only slowly start to move in their sustainability concerns. Therefore, businesses involved with non-sustainable Basmati rice might continue to enjoy a competitive advantage at the expense of people and planet, as sustainable products might come off as expensive. In reality, sustainable products could also be not considered expensive, rather non-sustainable products could be considered as too cheap when taking into account the social and environmental impacts in the place of production (IP6). Therefore, price is presented as the next challenge.

Price of sustainable Basmati rice

True pricing is such a concept that attempts to incorporate the social and environmental costs on top of the retail price, by enabling consumers to see and voluntarily pay for the products they buy (True Price, 2021). While the concept has yet been used little in relation to (Basmati) rice, it has been with other food products like fruits, vegetables and coffee. IP6 has been involved in a project that aimed to charge the true price for coffee throughout the supply chain. However, in reality it turned out to be a time consuming and difficult execution in the coffee industry, and a little bit of an illusion that charging the true prices is possible for two reasons. One was that true prices would clearly result in higher prices at the demand side, and two, without guaranteeing who the premium will be allocated to and that it helps diminish the problems. Therefore, true price seems to allow itself rather a symbolic price that can be used as a communication tool towards the consumers to justify higher prices for brands that aim to tackle certain problems currently present in the world.

According to IP6, it seems inevitable that the costs of life will increase, as we are now collectively paying underneath the true prices of products that do not take the social and environmental impact into account. As discussed previously in the main factors to responsible business, price for businesses involved in (Basmati) rice seemed to be dominant over other factors, even for businesses with sustainable products, in a constant search for lowering costs and increasing profit (IP4). According to the SRP survey, a higher price was indeed the third main obstacle that prevented businesses to procure sustainable rice (SRP, 2021). In reality, we cannot prevent that a transition towards sustainable Basmati rice consumption and production will have an effect on the prices, either with an increase in consumer prices or through lower margins for the actors along the chain (IP3). For the latter, fairer prices would be necessary across the whole supply chain by decreasing the uneven profits and the uneven power distribution that come with it. Though, it is a challenge as the current system is as such that most power is considered to be with the downstream actors like retailers and least with upstream actors like the producers, which also justified for this research to focus on the private downstream actors, including the consumers.

Consumers

The literature review showed that for CSR to create shared value for both the business and society, more attention needs to be paid to the consumer side of the narrative. Though, according to IP3, change on consumer level is difficult as it is rather an autonomous process, even if the consumers have an accelerator effect on sustainable food production. Nevertheless, IP6 admitted that consumers were a bit of a neglected child in the sustainable food story, also within the organization that promotes responsible business towards an economy with attention to social and environmental aspects of entrepreneurship. Also, IP6 thought that consumers cannot be blamed and take full responsibility for sustainability issues in food production after decades of marketing on lowest prices and the price war between supermarkets to increase revenue. In the survey by SRP, a lack of sufficient consumer demand was also considered as the second main obstacle for businesses to procure sustainable rice. Lastly, even if when consumers exert pressure on the market for sustainable food production, large investments will be needed to change to assist producers in adapting to it.

Production system of a critical commodity

The production systems for products like Basmati rice have been set up over many years in such a way for it to be as efficient in agricultural inputs, labour and production as possible, which could mean that changing these systems will be capital intensive. According to IP3, the marginal costs for producers to change to a more a sustainable production method are relatively high and therefore difficult to implement without changing the whole system of production. Herein, one would also encounter challenges up to and including daily struggles like choice between agricultural input, financing, land property, and corruption on the ground from local authorities that profit from the current modes of production, just like in the cacao industry. Besides, it would also be a matter of natural resource management, like demand for ground and water, which historically lead conflict and should be prevented when possible.

Next to that, when one would attempt to change the production system will encounter difficulties with changing what people are used to and traditions, particularly as Basmati has such a unique aroma to it that risks of getting lost. Also, as farmers and the farmworkers depend on a successful harvest for their livelihoods, the risk of changing rice cultivation techniques practically endangers their livelihoods if it would lead to harvest failures, while

continuing to do it according to the same techniques to some extent provides them some form of security for a critical commodity with high demand from a farm and businesses perspective. Though, according to IP6, the prices for commodities like rice are set on the international market. Therefore, rice production has been price-driven and thus been primarily prone to efficiency strategies to increase the yield by producing more per hectare and to cost reduction of production, which makes it contra productive to sustainability. It is therefore not surprising that businesses think a lack of supply of sustainable Basmati rice of as the main obstacle to procuring sustainable rice in the SRP survey (SRP, 2021). Another challenge is particularly that in long value chains with rice as a commodity, businesses by their own tend to have a relatively small role within the whole supply chain, which decreases their urgency of taking responsibility for challenges elsewhere in the chain. As most of the power is believed to be with downstream actors, retailers have an important role herein.

Retailers

The retailers are the last actors in the supply chain before reaching the final stage of consumers and therefore important to take into account when looking at how private downstream actors can take responsibility in contributing to the transition towards sustainable Basmati rice. Though, according to IP4 retailers are less focused on transitioning towards sustainable rice due the low margins that come in the long supply chain of one the biggest agricultural commodities in the world. The retailers are focused on other products like coffee, cacao and bananas, which also translate further to actors further up the supply chain, even support services like certification organizations. As a result, sustainable (Basmati) rice has been a small segment in the product assortment of organizations like Fairtrade, which again shows how the effect of (a lack of) awareness and demand from downstream actors. Therefore, according to IP6 retailers actively choose to either take or not take an active role in transitioning to sustainable Basmati rice. Decades of price war between retailers have created a type of consumers that is price sensitive and suddenly increasing the prices would risk them losing market share to competitors that care less about sustainability or are less keen to increase transparency on their role in the supply chain, which is the next challenge.

Transparency

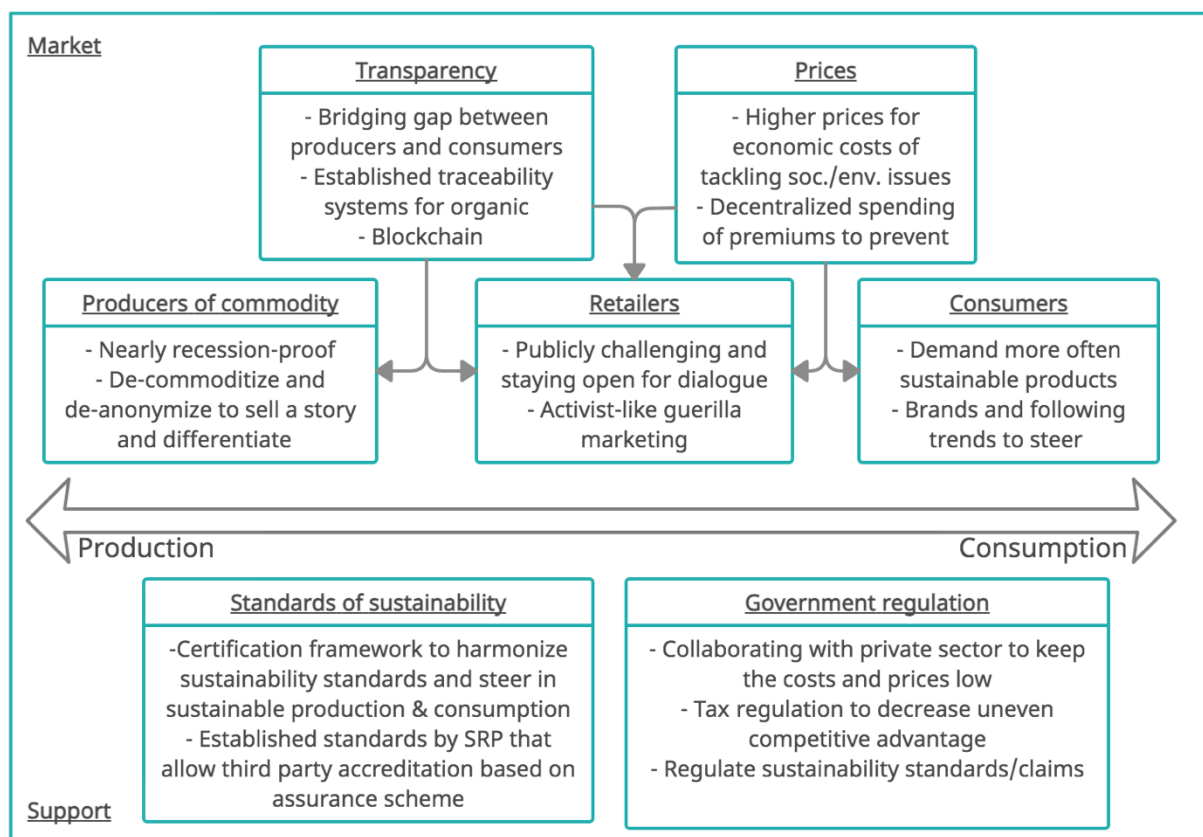
Transparency would be covering various aspects and challenges of a transition towards sustainable Basmati rice. Transparency is for example important to charge true prices or distribute the current prices fairly across the supply chain. Though, increasing transparency difficult as it is fighting against the established order. Furthermore, external transparency to the outer world might decrease internal transparency within the supply chain, which leads to a trade-off and concessions that would have to be made.

Overall, in order to encourage businesses in taking responsibility for contributing to the transition towards sustainable Basmati rice from India, various challenges will be faced. The following section will focus on the opportunities herein to overcome the challenges.

6.3 Opportunities for the transition

The opportunities of the transition were visualized in Figure 11, divided by the opportunities directly related to the market and the ‘support services’.

Figure 11: Visualisation of opportunities in the transition towards sustainable Basmati rice



Transparency

Whereas the last section finished on the challenges with regards to transparency, this section will start with the opportunities of transparency. According to IP1, transparency has been important for both marketing purposes to bridge the gap between the consumers and producers and to put the humans at the core of long-term relationships with partners/actors along the value chain to collaborate in changing the production system. In their case for example, they experimented with putting a sticker with a picture of and information on the grower on the packages of mangos, which led to backpackers visiting those places and co-creating awareness for their development. An important part to transparency is traceability, which would also allow businesses to guarantee standards. Traceability systems have already been set up to track the origin of the goods on a national level and used for certain sustainability standards like organic and fair trade on regional/local scales (IP2). To set up a traceability system on a regional/local scale in the complex supply chain of sustainable Basmati rice, businesses could require traceability from upstream actors and check compliance by third party accreditation (IP1). Tony Chocolonely was used multiple as an example for the cacao industry herein. New technology like blockchain could help producers to measures to assists with irrigation and help traceability along the value chain, particularly when used with groups of producers that could keep the costs of traceability relatively low. Lastly, transparency could help reveal how the costs and the profit margins are distributed in the supply chain both for a fairer distribution of the costs and profit, which will require collaborating with the retailers (IP3).

Retailers

Retailers were considered to be less keen for transparency yet seemed to follow innovators and early adopters in sustainability standards, just like when Marqt opened up as the first supermarket completely focussed on sustainable products. Since, other retailers followed to increase their share of sustainability products, which required certain standards regarding transparency by themselves. According to IP1, unsustainable practices by regular retailers should therefore be challenged enough publicly and at the same time staying open for dialogue as soon as they are ready to talk about increasing transparency. When retailers would still retain themselves from opening up for dialogue, one could also think of using guerrilla marketing to communicate with consumers without notifying retailers about this. IP1 for

example put small flyers in their packages with information about the production methods, sustainability of the product segment and producers, which retailers would also find out about months after. In other cases, retailers might take an active, activist-like role to promote transparency and sustainable products. As an example, a retailer in Sweden was used that for fun put unsustainable grapes next to drain unblock products to draw attention to the unhealthy aspects of pesticides and fertilizers used. Though, one cannot and should not expect similar actions from other retailers and should therefore decrease its dependence on one of just a few retailers as middleman for oneself and the producers (IP1). Therefore, collaboration with the retailers will depend on their willingness to adapt and promote sustainable products over the unsustainable ones, to which the commodity characteristics might have some advantages as well.

Production system of a critical commodity

According to IP5, rice has been considered a critical commodity in the international food trade, which brings with it both challenges and advantages, of which the latter is that the businesses is nearly recession-proof due to its commodity characteristic. Rice has indeed been in the top three staple crops produced in 2019 in the world, among maize and wheat (FAO, 2020a). IP 2, who has been working for the global front runner in the international trade of organic ingredients, confirms that statement as demand for their rice had particularly increased in the beginning of the international recession due to COVID-19.

Though, others believed that in order for businesses and consumers to take responsibility in contributing to transitioning the system to sustainable Basmati rice, the Basmati rice and rice in general should be de-commoditized and de-anonymized. It would help overcome the unsustainability and anonymity of the international trade market where true prices and premium are difficult to implement. It would mean moving Basmati rice away from only a staple product to differentiating it from other varieties of rice and products. Just like with single origin or single estate coffee, Basmati rice producers could take full advantage of the aromatic characteristics and geographical protection, gain competitive advantage and gradually change the system from within (IP2, IP3 and IP6). Product innovators could take a leading role herein to tackle issues of unsustainable production by connecting the production and consumption and finding a market for the product.

Market the Basmati rice

For businesses to be able to market the Sustainable Basmati rice in the Netherlands and abroad, various other opportunities will have to be in line with the transition. Businesses can for example connect the consumers and producers by aligning the goal to contribute to international development and decrease dependency by promoting producers to capitalize on their own ecosystems to keep the soil fertile. Therefore, selling more than just the product, but its potential benefit (IP1). Providing information to the buyers about producers and international trade might assist in strengthening (public) support for the sustainable products. Also, businesses could connect consumers and producers of sustainable rice by de-commoditizing and de-anonymizing, which allows to sell rice 'with a face' and to tell a story about its sustainability of the product up to a single region, single estate or even single farmer, like has become popular with coffee (IP1, IP3 and IP6). Another way in which businesses can market the product in the place of destination is by focussing on the aspects of Basmati rice. The health benefits could for example also help differentiating it from other products. The health requirements on the other hand might assist in ensuring future supply to destinations like Europe that could fairly easily source from alternative countries as was the case in 2018 and 2019 due to the stricter requirements on pesticide residues and high levels of international competition in the market (IP2 and IP4).

Consumers

On a positive note, consumers were considered to have a key role in the transition. According to IP4, consumers demand more often information about the origin and sustainability of products and are therefore increasingly aware of the sustainability issues. It forces retailers to become more transparent on these aspects, who therefore also more often insist to get the demanded information. IP2 even believed that the corona pandemic stimulated purchasing of sustainable food and that consumers have the last word herein, which businesses will need to adapt to. According to IP2, the transition of the system is even dependent on the consumers side, that can be steered by businesses to some extent. Businesses as facilitators of sustainable concepts can take the lead and inspire other brands to adapt sustainability when consumers are willing to adapt it as well. It mostly allows businesses to brand themselves and respond to trends by translating demand for

sustainability concept to the production, which will likely adapt to consumers demand or willingness to go along with the change, also in the price of sustainability.

Price of sustainable Basmati rice

The opportunity if consumers are willing to pay for a higher price would be to pass on the economic costs of businesses to tackle the problem in the consumer price (IP6). The price premium would benefit not only the profits, but also the people and the planet. The higher prices would include premium on top of the products to tackle specific problems, except would not be as high as true prices that incorporate all the social and environmental costs. According to IP4, decentralized spending of the premium with certified products allowed producers and its workers to spend in on what they considered to be best to set in motion a certain type of development. The premium share for producers is mostly spend such as to improve productivity, quality and infrastructure, while the premium share for farmworkers mostly benefit community projects such as education and health care. If they would also set environmental requirements for the same premium, the risk would be that the share meant for workers would go to the farm holders. Next to that, a price premium to prevent damage would in the end be cheaper than repairing the damage, as would be with true pricing that goes beyond certification and incorporates all hidden costs (IP1 and IP4). At the same time, by mapping out these hidden costs, the supply chain actors could collaborate in decreasing these costs. It could lead to decreasing prices for sustainable Basmati rice and contribute in stimulating its purchases (IP2).

Government regulation

The government in the Netherlands could take up an important role herein by collaborating with the private sector to keep the costs and prices of products as low enough so that consumers would still be able to pay for it. One such example of government regulation could be to review the tax system to tax the polluter rather than letting them get away with a competitive advantage. Next to the price, the government could take a leading role in preventing continuing social and environmental damages due to uneven power distribution between the retailers and producers. For example, by regulation that enforces human rights due diligence and assessment of environmental impact elsewhere in the supply chain, as has been proposed recently by the EC in EU and several political parties in NL. Lastly, just as the

standards with regard to organic Basmati rice, government could regulate the standards with regards to sustainable Basmati rice based on for example standards as set up by SRP.

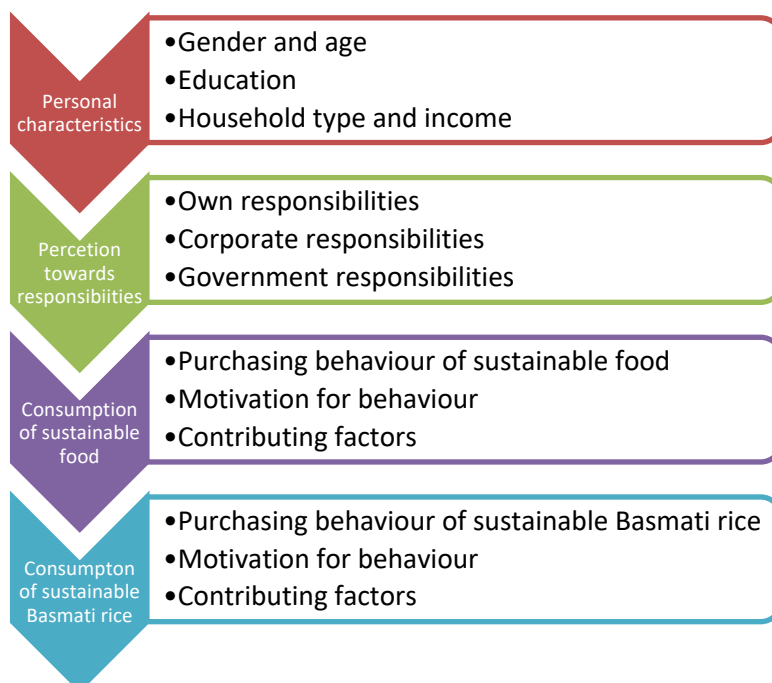
Standards for sustainable Basmati rice

A valuable way to ensure the standards with regards to sustainable Basmati rice could be protecting the certification behind the standards and steer in the sustainable food production. Certification provides a framework through which the standards of sustainability can be aligned and disciplined in the sector and guaranteed by specialization and vertical integration of the businesses. Particularly as it was said there currently to be just a few major importers of sustainable rice in the Netherlands and Europa regarding to organic and fair trade (IP4 and IP5). Just like with the current standards of SRP, independent, third party accreditation can help ensure the standards and prevent greenwashing through a lack of them, by assisting in measuring and managing sustainability. It could assist both small and large businesses in measuring and managing sustainability of Basmati rice, particularly as IP6 considered multinationals often unsustainable in their core businesses and favoured polishing the edges. Next to that, harmonization of the various standards could help decrease the competition for sustainable consumers, but rather collaborate to compete with unsustainable products and segments. Just like SRP launched in 2020, the standards can then be translated into an on-pack label, which could serve as a tool to inform consumers on the products' sustainability but keeping in mind too much information and overlap between the standards. Standards and on-pack label with information that stretch further than only Basmati rice or rice in general could prevent this. Lastly, the certifications are demand steered based on the demand on a company scale or national and regional scale, which then again depend on the demand from the consumers, as will be discussed in the next chapter.

7. Responsible consumption in the transition to sustainable Basmati rice

Whereas the last chapters primarily focussed on sustainable Basmati rice on a macro and meso scale, the following chapter will zoom in on a micro scale. In doing so, this section aims to answer to sub research question: *What role do consumers have in taking the responsibility to contributing to the transition towards sustainable Basmati rice and be encouraged herein?* As the problem statement pointed out, the upstream efforts along the supply chain still were facing difficulty in setting the transition in motion, therefore this chapter will focus on the most downstream actors in the supply chain: the consumers. This chapter will first elaborate on the profile of the consumers that already consciously consume sustainable food, followed by how they perceive the responsibilities of themselves, the businesses and the government. Lastly, the chapter will elaborate on what drives consumers to purchase sustainable food and Basmati and which factors could contribute to encouraging it further. Figure 12 summarized it well and was based on the Muncy and Vitell (1992) take on consumer ethics in which moral principles and standards guide sustainable purchasing behaviour. Moral principles and standards have been translated to the perception of own and other's responsibility and assume that each of the sections have an effect on the next one.

Figure 12: Visualization of responsible consumption behaviour as set out in survey



7.1 Personal characteristics

The goal for the survey was to collect primary data about Dutch consumers who are consciously buying purchasing sustainable food. To minimise socially desirable answers and in attempt to overcome the 'attitude-behavioural intention gap', the research focussed on people who already considered themselves as sustainably conscious consumers of food, who were people doing groceries at organic shops, without going in the debate yet whether organic is the same as sustainable. Some personal characteristics like age or type of household define human beings at that moment in life, while other characteristics are constant in most cases like gender. They allow the research to get a better understanding of who the current *sustainability conscious consumer* is as introduced by Balderjahn et al. (2013), to analyse how that affects their attitudes towards ethics of consumption, business and regulation, and how that in turn affects their food purchasing behaviour in general and purchasing behaviour of Basmati rice.

After eliminating incomplete responses, the survey had a total of 73 participants, who were guided through different routes of the survey based on their previous answers, with randomization of answers and forced responses, except for the personal characteristics. As presented in Appendix F, the majority of the sustainability conscious consumers that participated in the survey were female (66,7%), with a minority of males (29,2%) and other (4,2%). While conducting the surveys, the majority of the consumers in the organic shops were indeed female, despite different days and times of conducting the survey. Next to that, the majority of the consumers were between 31 and 45 years old (39,7%), followed by the slightly older 46-60 years (27,4%) and the young adults 16-30 years old (26,0%). There were relatively few consumers older than 60 years old, namely only 5 between 61 and 75 years old (6,7%) and none elder than 75. With regards to education, respondents were asked whether they were currently enrolled in or had completed in the past a study at an institution of higher education, without further distinguishing between which education exactly. The majority of the respondents (81,9%) were indeed currently enrolled in or had completed higher education in the past compared to not (18,1%). The surveys were conducted at various locations in Utrecht, which according to national statistics was with 59% by far the municipality in the Netherlands with the highest share of highly educated people in 2020. Next to that, the young women up to 45 years old in the Netherlands have caught up in recent decades and have

enjoyed higher education at least 6 percentage points more than men (Government of the Netherlands, 2021). Next to that, in former research on support for sustainable consumption among the ones responsible for the daily grocery shopping in the Netherlands, the respondents were 70% female. Also, the younger the consumer and the higher educated, the higher the chance that they chose for sustainable products compared to regular (PBL, 2013). As the research focussed on sustainability conscious consumers by conducting the survey at organic shops, it was interesting, yet not completely surprising, that the majority of the respondents were female, young and highly educated. Moreover, the majority of the respondents had a multi-person household without child(ren) (40,3%), followed by single household (31,9%), multi-person household with child(ren) (25,0%) and other like a single household with children and a student house (2,8%). Lastly, most of the respondents had household with a net income of €3.000-€4.499 (28,2%), followed by €4.500-€5.999 (26,8%), €1.500-€2.999 (21,1%), less than €1.500 (14,1%) and €6.000 or higher (9,9%). The type of household and household net income were also positively correlated. Though, only the personal characteristics were not enough for a good understanding of the sustainability conscious consumer, as their perception towards the roles of different actors to sustainable food are as well.

7.2 Perception on responsibility of actors with sustainable food

The perception towards the responsibility of actors was divided by three into consumers' own, government and businesses. The consumers' perception was measured by multiple statements, using a 5-point response scale and an additional option with I don't know/No opinion. The statements were supposed to be unidimensional and together represent each particular type of perception towards responsibility.

Unfortunately, the internal consistency was not reliable enough in any of the three perceptions of responsibility to calculate a Likert scale (Table 2), even when deleting various statements to have the highest

Table 2: Cronbach's Alpha test on the reliability of the internal consistency on each type of responsibility.

Responsibility	Cronbach's Alpha (all statements)	Cronbach's Alpha (highest)	Reliability coefficient (George & Mallery, 2003)
Consumer's own	0,645	0,681	Questionable
Government	0,332	0,515	Poor
Businesses	0,409	0,576	Poor

possible Cronbach's Alpha for each particular perception or reversing the direction for all of them to be in the same direction. Therefore, only a separate Likert score was calculated for analyses. The last option, I don't know/No opinion, was left out for calculating the score.

Consumers' own responsibility

The first perception of responsibility in sustainable food consumption was consumer's own. Table 3 showed that the respondents agreed to have an important role in the consumption of sustainable food, which was not surprising as the survey intended to reach already sustainability conscious consumers. The standardized Likert score for 'I think it is important for food to be sustainable' was the highest (0,93 on a scale of 0-1), as the respondents on average strongly agreed. The respondents also strongly agreed with 'Consumers are partly responsible for the problems caused by the food they buy' (0,83), with 'I make sure that the food I buy is sustainable' (0,82) and 'Consumers must actively choose sustainable alternatives' (0,80). Though, there seemed to be less strong agreement on whether 'Buying sustainable food with a label is better than without a

Table 3: Descriptive statistics with Likert score of consumer's perspectives on their own responsibility

Statement	n	Min	Max	Mean	St. deviation	Likertscore (=Mean/5)
Consumers are partly responsible for the problems caused by the food they buy	73	1	5	4,16	0,112	0,83
I think it is important that food is sustainable	72	1	5	4,67	0,091	0,93
Consumers must actively choose sustainable alternatives	73	1	5	4,00	0,114	0,80
I make sure that the food I buy is sustainable	72	1	5	4,10	0,091	0,82
Conventional food is sustainable enough	73	1	5	1,66	0,109	0,33
Environmental damage has nothing to do with the food I buy	73	1	4	1,53	0,085	0,31
Buying sustainable food with a label is better than without a label	62	1	5	3,31	0,135	0,66

Note: 1 = Completely disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Completely agree. Excluding 6 = I don't know/No opinion

label' (0,66). What was also remarkable about the latter statement was that more people chose I don't know/No opinion as only n=62 responses were recorded for as valid for the descriptive statistics, while the rest was almost answered by all respondents. Lastly, the respondents disagreed that 'Conventional food is sustainable enough' (0,33) and 'Environmental damage has nothing to do with the food they buy' (0,31). Furthermore, the responses were on average concentrated pretty much around the mean as the standard deviations were between 0,085 and 0,135.

Government's responsibility

The second perception of consumers to sustainable food consumption was that of the government. The respondents in general agreed the government to have an important role herein as well. The standardized Likert scores for 'The government must set a good example' (0,91 on a scale of 0-1) and 'The government must provide good information about sustainable food' (0,91) were the highest and therefore what the respondents on average most strongly agreed upon (Table 4). Furthermore, the respondents also agreed strongly upon 'Extra

requirements must be imposed' (0,87) and 'The government must make these products cheaper' (0,86). The respondents were more balanced in their opinion whether 'The government must set fewer rules' (0,51). The latter statement also had the least amounts of valid responses (n=58) due to respondents that did not know or

had no opinion. Next to that, none of the respondents completely disagreed on the extra requirements (Min=2) nor did they (completely) disagree on the provision of good information by the government. Furthermore, the responses were on average concentrated pretty much around the mean as the standard deviations were between 0,071 and 0,135.

Businesses' responsibility

The third and last perception of consumers to the consumption of sustainable food was that of the businesses, which are also at the core of this research. The standardized Likert score for 'Give preference to offering local and seasonal products' (0,94) and 'Companies must take responsibility for issues in the value chain and consumers must be able to rely on this' (0,94), were the highest and what the respondents on average most strongly agreed upon (Table 5). The latter might also explain their less strong agreement on own responsibility and active role herein as presented in Table 3. Furthermore, the respondents strongly agreed that 'Companies must better inform consumers about the sustainability of the product' (0,88) and agreed that 'Companies must make sustainable products cheaper', though which the least respondents gave a valid response to (n=68). The range of the responses on the responsibility of businesses

Table 4: Descriptive statistics with Likert score of consumer's perspectives on government responsibility

Statement	n	Min	Max	Mean	St. deviation	Likertscore (=Mean/5)
Extra requirements must be imposed, food production must meet strict requirements	67	2	5	4,33	0,107	0,87
The government must set fewer rules, because rules are counterproductive for sustainable food production	58	1	5	2,55	0,135	0,51
The government must set a good example, for example by purchasing these products itself	72	1	5	4,53	0,101	0,91
The government must make these products cheaper, for example through tax breaks or subsidies	69	1	5	4,3	0,104	0,86
The government must provide good information about sustainable food	72	3	5	4,57	0,071	0,91

Note: 1 = Completely disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Completely agree. Excluding 6 = I don't know/No opinion

Table 5: Descriptive statistics with Likert score of consumer's perspectives on businesses' responsibility

Statement	n	Min	Max	Mean	St. deviation	Likertscore (=Mean/5)
Companies must take responsibility for issues in the value chain and consumers must be able to rely on this	72	2	5	4,69	0,070	0,94
Give preference to offering local and seasonal products	73	3	5	4,71	0,057	0,94
Companies must make sustainable products cheaper	68	2	5	3,99	0,130	0,80
Companies must better inform consumers about the sustainability of the product (e.g. on the packaging)	72	3	5	4,39	0,080	0,88

Note: 1 = Completely disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Completely agree. Excluding 6 = I don't know/No opinion

were notable, as nobody strongly disagreed (Min=2) with any of the statements and for half of the statements did not even disagree (Min=3). Furthermore, the responses were on average concentrated even more than before the mean as the standard deviations were between 0,057 and 0,130, which was also reflected in the range.

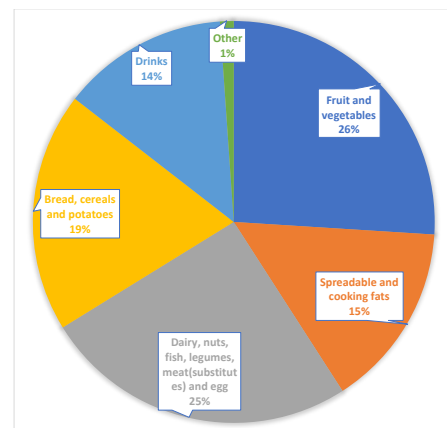
Overall, the sustainability conscious consumer agreed that they themselves, the government and the businesses had an important role in choosing to consume sustainable food. Cronbach's Alpha showed that the internal consistencies of the statements were not reliable enough to represent the different perception of responsibility. Though, with a little caution, it seemed that the respondents agreed most strongly on the business responsibility herein, followed by the government and lastly themselves. Relying on the businesses to do everything right by themselves, give preference to local foods and government setting the good example would only allow the consumers to have a passive role herein. For consumers to have an active role as well, demand for better information from both businesses and government were desired. The next section discussed their actual sustainable purchasing behaviour, their main reasons and how they thought it could be promoted.

7.3 Consciously consuming sustainable food

The perception of consumers was in turn of importance for the effect on the patterns of sustainable food consumption in general. The survey first wanted to check whether the respondents indeed considered themselves as conscious consumers of sustainable food.

Therefore, the first question of the survey introduced the definition of sustainable consumption as set out by the Governments of the Netherlands and asked whether they had ever consciously consumed sustainably accordingly, to which 100% of the respondents answered with Yes. Then, the survey showed that most of the respondents purchase these products *mainly* in organic shops (57,5%), followed by supermarkets (30,1%), the market (6,8%), restaurant (1,4%) and other places like online (4,1%). Furthermore, the survey

Figure 13: Multiple response distribution of categories of sustainable food.



showed that in a multiple response question, based on the categories from the Wheel of Five

by the Netherlands Nutrition Centre, most of the sustainable food belonged to 'Fruit and vegetables' (26,0%) and 'Dairy, nuts, fish, legumes, meat(substitutes) and egg' (25,3%) (Figure 13). Only then it was followed by 'Bread, cereals and potatoes' (19,3%), to which the Basmati rice belongs to as well. 'Spreadable and cooking fats' (14,9%), Drinks (13,4%) and Other (1,1%) were considerably less.

Next, the survey focussed on the main reasons of buying sustainable food (Table 6), in which respondents considered 'It is better for the environment, nature and the landscape' (34,2%) as the most important reason, when given a limit of three multiple answers. It was followed by 'It's better for my health (and my family's)' (20,1%) and 'It's more animal-friendly' (18,5%). Furthermore, less respondents considered the farmers receiving a fair price as their main reason for buying sustainable food (14,7%), followed by whether it tastes better (10,9%), and for the product to be good, as labels guarantees quality (1,1%). One respondent also considered herself to set an example and support the shops by buying sustainable products.

Moreover, the survey asked what the respondents considered as the main factors that could contribute to promoting purchasing of sustainable food (Table 7). With a limit of three multiple answers, the respondents thought that making products harmful to humans, animals and the environment more expensive (29,1%) as the best way to achieve that. Together with better communication of the benefits of sustainable products (20,9%) and increased availability in more neighborhoods and supermarkets (19,8%), the respondents considered these the three main

Table 6: Multiple response (limited by three) distribution table of main reasons for buying sustainable food

Main reason	Percentage
It is better for the environment, nature and the landscape	34,2
It's better for my health (and my family's)	20,1
It tastes better	10,9
It's more animal-friendly	18,5
The product is good, because a labels (e.g. organic) guarantees quality	1,1
It gives farmers a fair price	14,7
Other	0,5
Total	100

Table 7: Multiple response (limited to three) distribution table of main factors that could contribute to promoting sustainable food

Main reason	Percentage
The prices of these products must be reduced	19,2
These products should be available in more neighbourhoods and supermarkets	19,8
These products need get more publicity	5,8
The benefits for humans, animals and the environment must be better communicated	20,9
The quality or taste of these products must improve	0,6
Products that are less good for humans, animals and the environment must become more expensive	29,1
Other	4,7
Total	100

factors. Followed slightly behind was to reduce the price of sustainable products (19,2%), and further behind to increase these product's publicity (5,8%) and by improving their quality or taste (0,6%). Other reasons (4,7%) were that sustainable should become the standard, that there should be more transparency about the sales price to overcome the idea that bio is more expensive, and that the environmental impact should be passed on all products to balance out the prices. The next section will present to what extent the same reasons and factors (could be) applied for sustainable Basmati rice.

7.4 Consciously consuming sustainable Basmati rice

The popularity of Basmati rice was confirmed by the survey in which the majority of the respondents said to have ever bought Basmati rice (94,5%), compared to not (2,7%) and who didn't know (2,7%). Though, the awareness and behaviour whether the respondents (n=69) consciously bought *sustainable* Basmati rice was less apparent as more respondents didn't know (20,3%) and not (20,3%). Still the majority of the respondents thought to have ever consciously bought sustainable Basmati rice (59,4%). Nevertheless, there were only minor differences in the reasons that made or would make people ever consciously buy sustainable Basmati rice (Table 8). In both cases and with a limit of three answers, the main reason for respondents to consciously buy sustainable Basmati rice was 'It is better for the environment, nature and the landscape', of which 35,5% of responses from respondents that already do so (n=41) and even 38,9% from those who do not or do not know (n=28). The two other main reasons were in both cases for that 'It gives farmers a fair price' (24,7% and 24,1% respectively) and 'It's better for my health (and my family's)' (22,6% and 20,4%). The other reasons were considerably lower for sustainable Basmati rice, with even 1,9% of the respondents from latter category that stated they would not buy sustainable Basmati rice.

Table 8: Multiple response (limited to three) distribution table of reasons that (would) made people consciously buy sustainable Basmati rice

Main reason	% of Yes	% of No/I don't know
It is better for the environment, nature and the landscape	35,5	38,9
It's better for my health (and my family's)	22,6	20,4
It tastes better	9,7	11,1
It's more animal-friendly	3,2	0,0
The product is good, because a labels (e.g. organic) guarantees quality	2,2	1,9
It gives farmers a fair price	24,7	24,1
I wouldn't buy sustainable Basmati rice	N/A	1,9
Other	2,2	1,9
Total	100,0	100,0

Next to that, the respondents that have ever bought Basmati rice (n=69) thought 'The benefits for humans, animals and the environment must be better communicated' (27,6%) as the main factor that could contribute to promoting sustainable Basmati rice (Table 9). Also, the two other main reasons were 'Products that are less good for humans, animals and the environment must become more expensive' (21,8%) and 'These products need to get more publicity' (19,9%), followed by better availability (16,7%), reduction in price of sustainable Basmati rice (10,9%) and improvement of its quality or taste (0,6%). Other reasons (2,8%) were better communication about the effects and consequences of non-sustainable Basmati rice, better informing people about what comes with rice production and that the sustainable Basmati rice should become the standard.

Table 9: Multiple response (limited to three) distribution table of main factors that could contribute to promoting sustainable Basmati rice

Main reason	Percentage
The prices of these products must be reduced	10,9
These products should be available in more neighbourhoods and supermarkets	16,7
These products need get more publicity	19,9
The benefits for humans, animals and the environment must be better communicated	27,6
The quality or taste of these products must improve	0,6
Products that are less good for humans, animals and the environment must become more expensive	21,8
Other	2,8
Total	100,0

8. Discussion

Basmati rice cultivation in India to meet the national and particularly international demand has taken its toll on society and environment, of which mostly on the states Haryana and Punjab at the foot of the Himalayas. Yet, whereas much of the attention herein has been with the sustainability aspects of the production side, little attention has been paid to the consumption side of the narrative and has been the foundation upon which this research has been based. The results showed a variety in the potential of private downstream actors to take responsibility in contributing to the transition towards sustainable Basmati rice; increasing as well as difficult to forecast; challenging and with full of opportunities; and willing to take responsibility yet not by oneself.

First of all, with regards to an increasing as well as difficult potential to forecast. The problem statement in the study confirmed that innovations in transitioning towards a food system with sustainable Basmati rice has focussed on the production side of the narrative (Blok et al., 2015). Furthermore, the results showed how The Netherlands has taken an increasingly important role in the international trade of Basmati rice from India, both based on internal demand from the Dutch consumers and the international demand from abroad for (further processed) Basmati rice. However, it was difficult to forecast the potential due to the various stages the rice goes through and a variety of understanding of *sustainable* Basmati rice. Despite efforts from SRP to harmonize and promote its sustainability standards for rice in general. A few major traders, importers and processors have taken an active role to meet this demand. Though, whereas products like coffee, cacao, fruit and vegetables have enjoyed lots of attention on sustainability, Basmati rice and rice in general have had little. According to Michaelis, 'corporation are most of the time simply playing by the rules and culture of the market' (2012). However, the study showed how both are intertwined with each other, rather than separate from each other, just like discussed by Porter and Kramer on responsible business behaviour (2011). In that sense, businesses do not play by the rules and culture of the market but decide the rules and culture of the market as well. Businesses deliberately choose whether or not to address sustainability issues of certain products, although based on the demand from further down the supply chain. As an example, a trader and importer of Basmati rice stated to meet the demand based on preference for specific stage of processing and sustainability certifications that differ by country and by actors further down the supply

chain. At the same time, a food brand company further down the supply chain stated to only meet preference for specific sustainability certifications from the consumers. Consumers on the other hand, either did not know about the sustainability issues or assumed that by buying Basmati rice with specific sustainability standards, organic for example, to contribute to its sustainability, without full knowledge of the meaning and extent of its sustainability. In that sense, even when consumers are consciously willing to pay for sustainable Basmati rice, information asymmetry among consumers might lead to unsustainable variants not only crowding out sustainable variants as indicated by Akerlof (1970) but preventing from sustainable Basmati rice from entering the market in first place. Consequently, a lack of clarity on truly sustainable Basmati rice has had an effect on a macro, meso and micro scale in different ways. Therefore, even if individual downstream actors would take the initiative to import or consume sustainable Basmati rice, a lack of the structural determinants, would prevent them from truly reaching its potential (Spaargaren, 2011). Whether based on the current standards as set out by SRP or other standards of full sustainability rather than partly, independent, third party accreditation can help ensure the standards and prevent greenwashing by measuring and managing it.

Second of all, with regards to the challenges and opportunities for businesses to take responsibility contributing to the transition. The relationship between businesses and society has come a long way from the Marxist perspective of businesses primarily in pursue of profit and capital accumulation (Peet & Hartwick, 2015). The businesses that participated in this research seemed to believe to positively contribute to the society or environment in some way or another. The results showed how the businesses considered balance and incorporating doing good at the core to responsible business behaviour, which could help in the transition towards sustainable Basmati rice. Though, every business had different understandings of what to balance in and what doing good meant. Whereas Garriga and Melé identified four fields of CSR (2004), the downstream organizations involved with Basmati rice did not clearly fit one of these in particular, yet primarily showed similarities with the instrumental and integrative field of CSR. Herein, sourcing sustainable Basmati rice served particularly to meet demand from society and for corporate objectives, whether initiated from the consumers or for its potential benefit for the company as the main motivations to procure sustainably, as came forth from the survey by SRP (2021). Various challenges have been identified in the transition:

the standards for sustainability, government regulation, pricing, consumer demand, production systems of a critical commodity, willingness of retailers and transparency. Yet, the businesses seemed to remain responsive in their willingness and choice to tackle these challenges as they tended to justify their businesses practices on the actors further down in the supply chain, with consumers as the ones with the final decision and power herein. By taking such an approach to responsible business behaviour, the downstream would fail to set the transition in motion. Depending too much on individual agency to set the transition in motion would only have a marginal effect, as Vittersø and Tangeland (2015) showed in the Swedish context. While taking a strategic approach to responsible business would provide them with a competitive advantage to use the opportunities of the transition for the benefit of both the society and the business, as put forward by Porter and Kramer's ideas to create shared value (2011). To some extent, this was also reflected by the second sub-research question on *encouraging* businesses to take the responsibility. What better encouragement than a win-win situation that benefits people, planet and profit?

Third of all, the consumers seemed to be willing to take responsibility in contributing to the transition. Though, like Reisch et al. (2017) stated (un)sustainable food systems were attributable to a combination of policy making, prevalent business practices and consumers values and habits. Thus, the consumers could not and did not feel like taking primary and solely responsibility herein. The results showed how sustainability conscious consumers perceived the responsibility of consumers, government and businesses, and their behaviour regarding consumption of sustainable food and (sustainable) Basmati rice. Consumers believed that the responsibilities were shared yet slightly thought that the most responsibility herein lied with the business, the key actors between them and the producers. The businesses have the opportunity to overcome information asymmetry with consumers by further connecting the production and consumption, and helping overcome factors that would otherwise lead to hindering factor such as rebound effects (Blok et al., 2015). Next to that, the survey was conducted with consumers that were already considered as sustainability conscious and did not represent the willingness to pay for sustainability for all Basmati consumers that could be price sensitive, less brand loyal and who considered sustainability as subordinate to other factors. Yet the consumers were a key driver for change, just as in the Vietnamese context (Barcella et al., 2018). Also, with regards to information asymmetry about

the sustainability of Basmati rice, the consumers found it important that the government and businesses provided them with information about the sustainability of food. Yet, it was remarkable that one of the main means through which consumers received information about some type of (sustainability) standards, the labels, were less agreed upon to be better than the products without a label. The results fit well with Hudson et al. that labels could both alleviate and exacerbate information asymmetry, depending on the actions of the ones in power in the industry and the governing it is subject to (2013).

Reflection on biases/omissions

By focussing on responsible business and consumption as one the of the key concepts in the research, it involved to some extent also a study on more fundamental questions about doing good. However, the interviews and informal conversations with survey respondents showed how fundamental beliefs like this are both personal and therefore different for everyone. Nonetheless, there was still this believe while conducting data collection that in the end, one and perfect form of responsible business and consumption behaviour would come out. None of the people deliberately wanted to do harm to society or environment in favour of personal gain. Yet, reality is that the current food systems, just like with basically everything in life, are complex and therefore might results in people doing unintentionally, unknowingly harm. Particularly when the structural factors have not yet been set up to provide a good enough framework that assist herein. Thus, perhaps instead of focussing on responsible business and consumption behaviour in the transition towards sustainable Basmati rice, perhaps the research should have chosen a more practical approach, which the research has now only encompassed partly. At the same time, taking this approach was also confronting in different ways. It was easy to think that businesses should not only care about profit and take people and planet in account as well. Yet, while holding a bachelor's degree in 'international business', the researcher had no real-life experience and idea what it was like to hold a business and the risks and responsibilities that come with it. Also, it was easy to think that consumers should taking responsibility in paying more attention to sustainability standards and should be willing to pay for (more expensive) products that take this more into account. Yet, in the end the researcher did not pay much attention to it before neither and did not, and still does not always, purchase sustainable food due to price differences and the effort to constantly be aware of this.

International Development studies

The thesis introduced the problem statement first of all from the Indian perspective, before elaborating on how that ties to the focus of this research on private downstream actors in the Netherlands. The research showed the importance of human geography by emphasizing how activities in one place have an effect on another. Even if unintended, involuntary or unconscious. The corona pandemic's implication to conduct the research from the Netherlands showed once again that international development is difficult to comprehend and measure (e.g. by the Human Development Index) without taking into account its context. International development could be countered, diminished or increased depending on the (un)sustainable consumption and (ir)responsible business behaviour. Fair business practices and fair distribution of welfare along the supply chain offer the potential for developing countries to maintain themselves in social welfare and decrease the gap in international development, rather than becoming dependent on uneven power distribution, agricultural input and demand from the developed countries. The social and environmental aspects of international development due to Basmati rice and other food products are more often intertwined, although there seemed to be a tendency to put environmental aspects forward to highlight social aspects. A simple example was how farmer in developing countries were mostly the victims of climate change that endangered their livelihoods, although contributing least to climate change. Therefore, businesses should more often think in terms of international development by focussing how their own business practices for example have the potential in helping smallholder farmers with a sustainable future.

9. Conclusion

The research aimed to explore the potential for private downstream actors in the Netherlands in taking responsibility for contributing to the transition towards sustainable Basmati rice from India. Based on quantitative and qualitative analysis of their role in the supply chain and responsible businesses and consumption, it can be concluded that there is much potential for businesses and consumers by actively taking responsibility together herein. The following three points answers the sub-research questions and provide argumentation for the aforementioned conclusion:

1. The private downstream actors in the Netherlands have an increasingly important role in the supply chain of Basmati rice, both to the Dutch market and beyond. However, the results were based on import and export statistics from the Netherlands and India and did not differentiate to what extent this Basmati rice was sustainable, neither based on established standards like organic and fair trade, nor by relatively new standards for sustainable rice as set up the Sustainable Rice Platform. The latter has only been set up a couple of years ago and now, as of writing this thesis, actively aims to increase awareness and market penetration of SRP-Verified rice and make it available to consumers. The new question that arises here is to what extent the actors in the Netherlands will be willing to go along, whether from a responsible business perspective and/or to meet the demand for responsible consumption behaviour. Not only with regards to Basmati rice, but just as well for other rice varieties and other food products.
2. The businesses in the Netherlands can be encouraged to take responsibility in contributing to the transition towards sustainable Basmati rice from India by tackling the challenges and utilizing the opportunities. These have been identified through interviews with business that have various roles in the supply chain. The research addressed the extent to which the businesses are willing to take the responsibility from a corporate social responsibility perspective, which turned out to be different for every business. Business based this on their role in the supply chain, their view on balancing between profit on one side and social and environmental aspect on the other side, and what was considered as doing good. This showed how a lack of (knowledge about) sustainability standards in the food industry and from consumers leaves room for own

interpretation that might have the best intentions (e.g. preventing fertilizers and pesticides or building schools) yet are not sustainable in their core. An active, strategic approach herein could result in a first-mover competitive advantage that benefits profit *and* people and planet, by bridge the gap between production and consumption.

3. The consumers in the Netherlands have an important role in taking the responsibility to contributing to the transition towards sustainable Basmati rice. Consumers currently purchase (what they consider as) sustainable Basmati rice as for environmental, social and personal health reasons. The main factors that could encourage consumers herein are better communication about the benefits of sustainable Basmati rice, increasing the publicity and availability of sustainable Basmati rice and by making *unsustainable* Basmati rice more expensive. Though, the research focussed on consumers that were already considered as sustainability conscious consumers and went to organic, more expensive shops for grocery. The consumers of Basmati rice that have relatively less to spend were neglected herein. Thus, in order to encourage consumers to take responsibility, further research need to focus on encouraging people with relatively less to spend in purchasing sustainable Basmati rice and food. Sustainable food, whether better in terms of personal health as well, should not be exclusively for people who have relatively more to spend.

The study also showed the importance and potential of integrating social and environmental responsibilities to a further extend in Western food consumption in general and the accumulative power of demand on upstream supply channels. Also, the research implicitly showed how further research should address transitions to sustainable food systems through an interdisciplinary, multi-scale and multi-actor approach. Though, the research also had its limitations herein. To start with, the research referred to private downstream actors in the Netherlands as the businesses and consumers, only minimally taking into account the heterogeneity of both groups with different interests, capacities, goals and therefore feeling of responsibility. The interviews showed how for example traders, importers, processors, wholesalers and food brands had a different take on their responsibility and potential in the transition towards sustainable Basmati rice. Next to that, the research did not include any interviews with the retailers, which are the primary and last connection for the Basmati rice to reach the final destination: the consumers. Though, the research did intend to include

retailers as well, but was not able to convince them in participating herein. Lastly, by focussing on *sustainability conscious consumers* with the survey, the research overlooked consumers that were not and only got a broad understanding on their perception of responsibility and reasons to consume sustainable food. Additional interviews with the consumers could have led to a more in-depth understanding herein. Also, the survey was conducted at various locations in one the major cities in the Netherlands, while conducting the survey in other, smaller and/or less urbanized areas might give other results.

What came forth from the urgency to save millions of Indians and others from starvation, now risks backfiring. If not addressed urgently, the consequences of the Green Revolution might jeopardise the sustainability of farmers' livelihoods and return the initial problems it was meant to tackle. Waiting for actors in the upstream in the supply chain to take the responsibility herein and merely responding to demand from further down the supply chain is not good enough. Transitioning to a food system with sustainable Basmati rice is a rather untapped potential waiting for the first ones to act upon it.

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Appendices

Appendix A – Interview guide in English and Dutch

English guide

Welcome and thank you for participating in my research. The interview is part of my master's thesis on sustainable business in and consumption of Basmati rice in the Netherlands.

[Only if not familiar with the challenges] Basmati rice is one of the most popular rice varieties in the world and is mainly produced in India and Pakistan, which presents some challenges. In short, rice cultivation is water-intensive and in this area mainly groundwater is pumped for it, which has caused it to decline further over the past decades and become less and less available. In addition, the groundwater has been polluted by the intensive use of fertilizers and pesticides since the 1960s. That while fertilizers and pesticides were actually intended to guarantee and promote production. Basmati rice of organic origin counteracts these problems somewhat.

With my research, I hope to gain insight into what consumers find important when purchasing sustainable rice/products, what the role of European and Dutch companies is herein and what the success factors are that can contribute to further integrating the responsibilities and costs that come with rice cultivation. My name is Karim, [personal introduction],

Opening

Could you tell me something about yourself and the organization?

Probe: What role within chain?

What does CSR mean to you(r organization)?

Probe: How reflected in what the organization does?

Key questions

• *In-depth organization*

How do you ensure that your company's standards concerning [specify with text from a website or 'ecological and social responsibilities'] are met?

Probe: What challenges?

• *Businesses*

What do you believe the business' responsibilities are herein?

Probe: Why?

How important is traceability herein?

Probe: How is traceability guaranteed?

Probe: How to integrate it within other food chains?

How is true cost accounting related to this transition?

How can supermarkets contribute/collaborate in this transition towards a more ecologically and socially responsible food system?

- *Consumers*

What do you believe the consumers' role is herein?

Probe: Why?

How to find a balance between paying the true price for food and preventing healthy food only to become available for wealthier people?

- *Government*

[A recent initiative by both GL, CU, PvdA and SP and the European Parliament to hold businesses accountable for harm to human rights and the environment along the value chain.]

What do you believe the government's role is herein?

Probe: Why?

Probe: How realistic?

- *Corona*

How can the corona pandemic assist in the transition?

Probe: What challenges or opportunities?

Closing questions

What advice would you give other businesses to incorporate organic and sustainable foods into the value chain?

Probe: And to people regarding sustainable consumption?

If anything at all, what advice would you give me to incorporate further in my research?

Dutch guide

Welkom en bedankt voor uw deelname aan mijn onderzoek. Het interview maakt deel uit van mijn masterscriptie over biologische en duurzame consumptiepatronen in Nederland met een bijzondere focus op Basmati rijst.

[Alleen wanneer niet bekend met de uitdagingen] Basmati rijst is één van de meest populaire rijstsoorten ter wereld en wordt voornamelijk in India en Pakistan geproduceerd, wat de nodige uitdagingen met zich meebrengt. Om te beginnen is rijstteelt ontzettend water intensief en wordt er in dit gebied voornamelijk grondwater voor opgepompt, waardoor het grondwater over afgelopen decennia steeds verder is gaan zakken. Het risico is dat over enkele decennia er niks over is, zowel niet voor landbouw als niet voor drinkwater, terwijl er al ernstige drinkwater tekorten heersen in India. Daarnaast is het grondwater dat er nog is, in sommige gebieden zwaar vervuild door jarenlang intensief gebruik van kunstmest en pesticiden, wat de nodige gezondheidsrisico's voor de bevolking met zich meebrengt.

Met mijn onderzoek hoop ik inzicht te krijgen in wat consumenten belangrijk vinden bij het inkopen van duurzame rijst/producten, wat de rol van Europese en Nederlandse bedrijven hierin is en wat de succesfactoren zijn die kunnen bijdragen aan het verder integreren van de verantwoordelijkheden en kosten die bij rijstteelt komen kijken. Mijn naam is Karim, [persoonlijke introductie],

Opening

Kunt u mij iets vertellen over uzelf en de organisatie?

Probe: welke rol binnen de keten?

Wat betekent MVO voor u(w organisatie)?

Probe: hoe in wat de organisatie doet?

Sleutelvragen

• *Diepgang organisatie*

Hoe zorgt u ervoor dat er aan de standaarden van uw bedrijf met betrekking tot [specificeer met tekst website of 'ecologisch en sociaal verantwoord voedselsysteem'] wordt voldaan?

Probe: Welke uitdagingen?

• *Ondernemingen*

Wat zijn volgens u de verantwoordelijkheden van de bedrijven hierin?

Probe: Waarom?

Hoe belangrijk is traceerbaarheid hierin?

Probe: Hoe de traceerbaarheid gegarandeerd?

Probe: Hoe te integreren in andere voedselketens?

Hoe is de true cost berekening gerelateerd aan deze transitie?

Hoe kunnen supermarkten bijdragen aan/samenwerken in deze transitie naar een meer ecologisch en sociaal verantwoord voedselsysteem?

- *Consumenten*

Wat is volgens u de rol van de consument hierin?

Probe: Waarom?

Hoe vind je een balans tussen het doorberekenen van de true cost voor voedsel en voorkomen dat gezond voedsel alleen beschikbaar wordt voor rijkere mensen?

- *Overheid*

[Een initiatief van zowel GL, CU, PvdA en SP als het Europees Parlement om bedrijven aansprakelijk te stellen voor schade aan mensenrechten en het milieu elders in de waardeketen.]

Wat is volgens u de rol van de overheid hierin?

Probe: Waarom?

Probe: Hoe realistisch?

- *Corona*

Hoe kan de coronapandemie helpen bij deze overgang?

Probe: Welke uitdagingen of kansen?

Afsluitende vragen

Welk advies zou u andere bedrijven geven om biologisch en duurzaam voedsel in de waardeketen op te nemen?

Probe: En aan mensen met betrekking tot duurzame consumptie?

Welk advies zou u mij geven om verder in mijn onderzoek op te nemen?

Appendix B – List of interviewees

Interview participant	Type of organization	(Basmati) rice	Relevance
IP1	Food brand	No	<ul style="list-style-type: none"> - Activist-like business and frontrunner in organic F&V - Traceability system - True pricing advocates
IP2	Trader	Yes	<ul style="list-style-type: none"> - Frontrunner organic ingredients, incl. Basmati - Certified products - Integrated sustainability strategy
IP3	Consultancy in development	No	<ul style="list-style-type: none"> - Expertise developing sustainable value chains - Sustainable sourcing and barriers - Stimulating responsible business
IP4	Support service	Yes	<ul style="list-style-type: none"> - Initiator of certification label regarding fair trade - Ensuring standards regarding the label are met - Rice part of portfolio
IP5	Food importer and processor	Yes	<ul style="list-style-type: none"> - Pioneer organic food India and rising in Europe/World - Subsidiary of one of the leading rice companies in India and the world - Serves European market from NL
IP6	Support service	No	<ul style="list-style-type: none"> - Promoting Corporate Social Responsibility in NL - Futureproof Coffee Collective for true pricing
IP7	Food wholesaler	Yes	<ul style="list-style-type: none"> - Popular among large consumers of Basmati rice in NL, namely with Afghan and Iranian heritage - Promotes its Basmati rice as sustainable - Claims to have only EFSA-certified rice in Europe
IP8	Food brand	Yes	<ul style="list-style-type: none"> - Established brand of organic Basmati rice in NL & EU - Sustainability claims on website, not specified for rice
IP9	Support service	Yes	<ul style="list-style-type: none"> - Int'l multi-stakeholder alliance for sustainable rice - Established SRP Standard and Assurance scheme - On-pack label launch 2020 with first product 06/2021

Appendix C – Survey on purchasing behaviour and perception of sustainable food

Start of Block: Intro

Introduction

Thank you in advance for your participation!

As part of my master's thesis, the aim of this survey is to gain insight into consciously sustainable purchasing behaviour of food and/or drinks among Dutch consumers and with extra attention for Basmati rice. Through my research I want to contribute to the food transition to a new food system with more attention for people, animals and planet. The research is independent and without any commercial interest.

Your data will be treated anonymously and confidentially and will only be used for this research. By completing the survey, you automatically agree to this. Filling out the survey takes 5-10 minutes. If you have any questions, please contact me at m.k.ramaki@students.uu.nl or my supervisor, Mr Van Westen, at a.c.m.vanwesten@uu.nl.



= randomized

End of Block: Intro

Start of Block: Block 1

Intro 1

'Sustainable consumption' is defined by the national government as: 'that you consume without harming people and the environment'.

Sustainable consumption can be achieved by, among other things, separating waste, saving energy, traveling in an environmentally conscious manner and, at **the core of this research: buying sustainable products (with or without labels like organic, fair trade, etc.)**.

In the survey, the term 'food' refers to both food and drinks.

Q1 Have you ever **consciously** bought sustainable food (with or without labels like organic, fair trade, etc.)?

☐ Yes

☐ No

Skip To: Q6 If Heeft u wel eens bewust duurzame voeding (met of zonder keurmerk) gekocht? = Nee



Q2 Where did you *mainly* buy these products?

☐ Organic shop

☐ Supermarket

☐ Market

☐ Farm

☐ Restaurant

☐ Other, please specify: _____

Q3 Which categories did these products mainly belong to? (categories from the Netherlands Nutrition Centre)

Multiple answers possible.

☐

Fruit and vegetables

☐

Spreadable and cooking fats

☐

Dairy, nuts, fish, legumes, meat(substitutes) and egg

☐

Bread, cereals and potatoes

☐

Drinks

☐

Other, please specify: _____



Q4 What is your *main reason* for buying sustainable food? *If necessary, multiple answers possible.*

☐

It is better for the environment, nature and the landscape

☐

It's better for my health (and my family's)

☐

It tastes better

☐

It's more animal-friendly

☐

The product is good, because a label (e.g. organic) guarantees quality

☐

It gives farmers a fair price

☐

Other, please specify: _____



Q5 Which factors can contribute to promote the purchase of sustainable products? *If necessary, multiple answers possible.*

☐

The prices of these products must be reduced

☐

These products should be available in more neighbourhoods and supermarkets

☐

These products need get more publicity

☐

Benefits for humans, animals and environment must be better communicated

☐

The quality or taste of these products must improve

☐

Products that are less good for humans, animals and the environment must become more expensive

☐

Other, please specify: _____



Q6 To what extent do you agree/disagree with the following statements:

Select one option per statement

	Completely disagree	Disagree	Neutral	Agree	Completely agree	I don't know/No opinion
Consumers are partly responsible for the problems caused by the food they buy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I think it is important that food is sustainable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Consumers must actively choose sustainable alternatives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I make sure that the food I buy is sustainable	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Conventional food is sustainable enough	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Environmental damage has nothing to do with the food I buy	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Buying sustainable food with a label is better than without a label	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Q7

To what extent do you agree/disagree with the following statements on the *government's* role:

	Select one option per statement					
	Completely disagree	Disagree	Neutral	Agree	Completely agree	I don't know/No opinion
Extra requirements must be imposed, food production must meet strict requirements	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The government must set fewer rules, because rules are counterproductive for sustainable food production	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The government must set a good example, for example by purchasing these products itself	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The government must make these products cheaper, for example through tax breaks or subsidies	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The government must provide good information about sustainable food	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Q8

What should businesses in particular do to promote sustainable consumption?

If necessary, multiple answers possible.

	Select one option per statement					
	Completely disagree	Disagree	Neutral	Agree	Completely agree	I don't know/No opinion
Companies must take responsibility for issues in the value chain and consumers must be able to rely on this	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Give preference to offering local and seasonal products	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Companies must make sustainable products cheaper	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Companies must better inform consumers about the sustainability of the product (e.g. on the packaging)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

End of Block: Block 1

Start of Block: Block 2

Intro 2

Survey progress: 70%

The following questions are related to Basmati rice.

Q1 Have you ever bought Basmati rice?

- ☐ Yes
- ☐ No
- ☐ I don't know

Skip To: End of Block If Heeft u ooit Basmati rijst gekocht? = Nee

Skip To: Intro 2.1 If Heeft u ooit Basmati rijst gekocht? = Weet ik niet

Q2 Have you ever **consciously** bought sustainable Basmati rice?

- ☐ Yes
- ☐ No
- ☐ I don't know

Skip To: Q2.2 If Heeft u wel eens bewust duurzame Basmati rijst gekocht? = Nee

Skip To: Q2.2 If Heeft u wel eens bewust duurzame Basmati rijst gekocht? = Weet ik niet



Q2.1 Which factors made you **consciously** buy sustainable Basmati rice?

If necessary, multiple answers possible.

- ☐ It is better for the environment, nature and the landscape
- ☐ It's better for my health (and my family's)
- ☐ It tastes beter
- ☐ It's more animal-friendly
- ☐ The product is good, because a label (e.g. organic) guarantees quality
- ☐ It gives farmers a fair price
- ☐ Other, please specify: _____

Skip To: Intro 2.1 If Condition: Selected Count Is Not Equal to 0. Skip To: Basmati rijst is één van de meest pop....



Q2.2 If you don't know or did not buy, what factors would make you buy sustainable Basmati rice?
If necessary, multiple answers possible.

- ☐ It is better for the environment, nature and the landscape
- ☐ It's better for my health (and my family's)
- ☐ It tastes better
- ☐ It's more animal-friendly
- ☐ The product is good, because a label (e.g. organic) guarantees quality
- ☐ It gives farmers a fair price
- ☐ I would not buy sustainable Basmati rice
- ☐ Other, please specify: _____

Intro 2.1

Basmati rice is one of the most popular rice varieties in the world and is mainly produced in India and Pakistan, which presents some challenges. In short, rice cultivation is water-intensive and in this area mainly groundwater is pumped for it, which has caused it to decline further over the past decades and become less and less available. In addition, the groundwater has been polluted by the intensive use of fertilizers and pesticides since the 1960s. That while fertilizers and pesticides were actually intended to guarantee and promote production. Basmati rice of organic origin counteracts these problems somewhat.

Important to mention: In 2016, the Dutch Food and Consumer Product Safety Authority tested a total of 63 samples of Basmati rice and none of the tests found an excessive number of fertilizers and pesticides. Before it reaches the stores, producers themselves test whether there are any residues on the granules.



Q5

Which factors can mainly contribute to promoting the purchase of sustainable Basmati rice?

If necessary, multiple answers possible.

- ☐ The prices of these products must be reduced
- ☐ These products should be available in more neighbourhoods and supermarkets
- ☐ These products need to get more publicity
- ☐ Benefits for humans, animals and environment must be better communicated
- ☐ The quality or taste of these products must improve
- ☐ Products that are less good for humans, animals and the environment must become more expensive
- ☐ Other, please specify: _____

End of Block: Block 2

Start of Block: Block 3

Intro 3

Survey progress: 90%

Finally, I would like to ask you some personal questions. If you do not want to answer a question, you can leave it empty. I would like to emphasize that your data will be treated anonymously and confidentially and will only be used for this research.

Q1 What is your gender?

- ☐ Male
- ☐ Female
- ☐ Other

Q2 What is your age?

- ☐ 16-30
- ☐ 31-45
- ☐ 46-60
- ☐ 61-75
- ☐ 76 or older
-

Q3 Are you currently following a study or have you completed a study at an institution of higher education (e.g. college or university)?

- ☐ Yes
- ☐ No
-

Q4 What is the composition of your household?

- ☐ Single household
- ☐ Multi-person household with children
- ☐ Multi-person household without children
- ☐ Other, please specify: _____
-

Q5 What is your household's monthly net income?

- ☐ Less than €1.500
- ☐ €1.500 - €2.999
- ☐ €3.000 - €4.499
- ☐ €4.500 - €5.999
- ☐ €6.000 or more

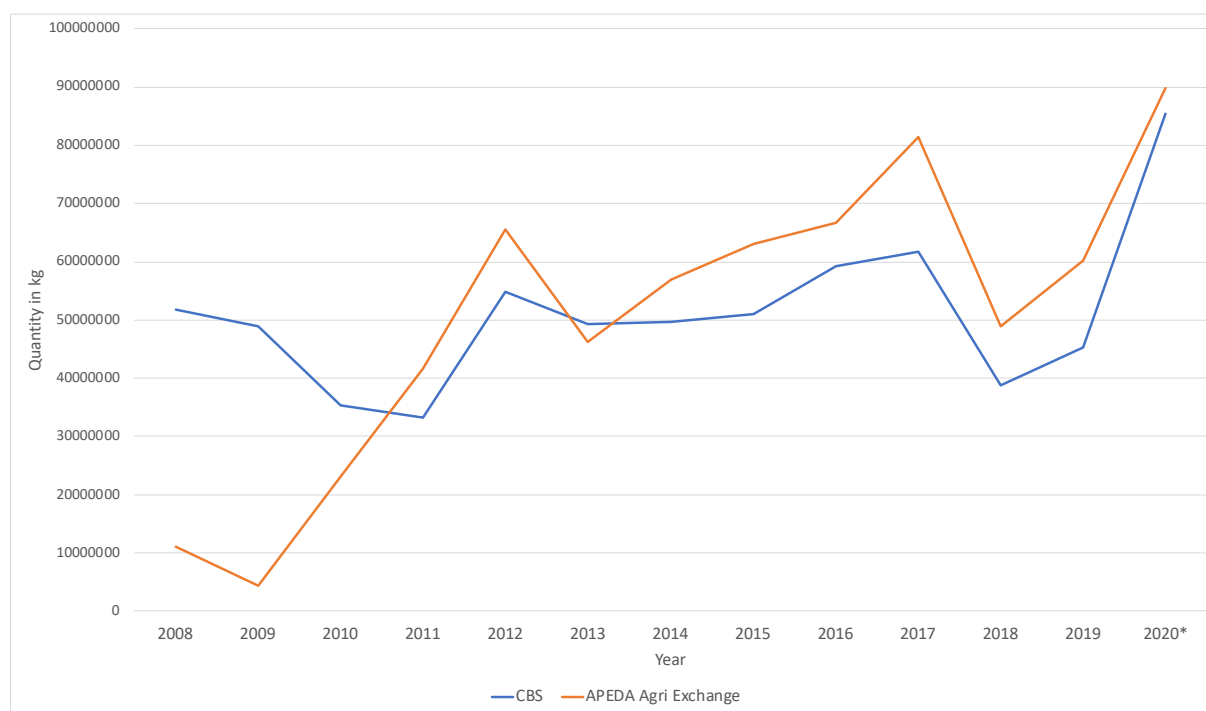
End of Block: Block 3

Appendix D – Table with assessment of potential locations for surveys

	Name	Size/sort	Basmati rice	Notes
Centre				
1.1	Ekoplaza A'damsestr.	Big organic grocer	Ekoplaza (O) De nieuwe band (O)	Busy, big space
1.2	Rio de Bio	Small organic grocer	De nieuwe band (O)	Small space
1.3	Dream of Utrecht	Small grocer, mostly herbs and spices	/	Organic shoppers
1.4	Erica (CS)?	Small grocer	/	Organic shoppers
1.5	De Groene Winkel?	/	/	No shop
East				
2.1	Ekoplaza Nachtegaal	Big organic grocer	Ekoplaza (O) Your organic Nature (O)	Construction, moderate space
2.2	Odin Biltstraat	Medium organic grocer	De nieuwe band (O)	Moderate busy, big space
2.3	Natuurwinkel	/	/	Shop is closed and integrated in the Ekoplaza
South				
3.1	Ekovers Lunetten	Moderate organic grocer	Your organic nature (O) Terrasana (O)	Moderate busy, big space

Source: The table has been set up for this research, based on available information of organic shops on the internet and real-life observations in Utrecht.

Appendix E – Comparison sources on import in NL and export from India of rice



Source: CBS, 2021; APEDA Agri Exchange, 2021. *Note: The data from APEDA Agri Exchange does not follow the same year frame as CBS. The years from APEDA Agri Exchange are based on India's fiscal years that run from April 1st to March 31st. It means that 2008 in the graph represents April 2008 to March 2009, etc.*

Appendix F – Descriptive statistics of survey

D.1 Descriptive statistics personal characteristics

Table 1: Frequency distribution according to gender

Gender	Frequency	Percentage
Male	21	29,2
Female	48	66,7
Other	3	4,2
Total	72	100,0

Table 2: Frequency distribution according to age

Age	Frequency	Percentage
16-30	19	26,0
31-45	29	39,7
46-60	20	27,4
61-75	5	6,8
76+	0	0
Total	73	100,0

Table 3: Frequency distribution whether currently enrolled in or finished higher education

Higher education	Frequency	Percentage
Yes	59	81,9
No	13	18,1
Total	72	100,0

Table 4: Frequency distribution according to type of household

Type of household	Frequency	Percentage
Single household	23	31,9
Multi-person household with child(ren)	18	25,0

Multi-person household without child(ren)	29	40,3
Other	2	2,8
Total	72	100,0

Table 5: Frequency distribution according to net income household

Net income household	Frequency	Percentage
Less than €1.500	10	14,1
€1.500 - €2.999	15	21,1
€3.000 – 4.499	20	28,2
€4.500 - €5.999	19	26,8
€6.000 or higher	7	9,9
Total	71	100,0

*D.2 Descriptive statistics sustainable food consumption**Table 1: Frequency distribution on place of consciously consuming sustainable food*

Place of consumption	Frequency	Percentage
Organic shop	42	57,5
Supermarket	22	30,1
Market	5	6,8
Restaurant	1	1,4
Other	3	4,1
Total	73	100,0

Table 2: Multiple response frequency distribution on categories of sustainable food (categories based on 'Schijf van Vijf' by the Netherlands Nutrition Centre)

Category	Frequency	Percentage	% of cases
Fruit and vegetables	70	26,0	95,9
Spreadable and cooking fats	40	14,9	54,8
Dairy, nuts, fish, legumes, meat(substitutes) and egg	68	25,3	93,2
Bread, cereals and potatoes	52	19,3	71,2
Drinks	36	13,4	49,3
Other	3	1,1	4,1
Total	269	100,0	368,5

Table 3: Multiple response frequency distribution on main reasons buying sustainable food

Main reason	Frequency	Percentage	% of cases
It is better for the environment, nature and the landscape	63	34,2	86,3
It's better for my health (and my family's)	37	20,1	50,7
It tastes better	20	10,9	27,4
It's more animal-friendly	34	18,5	46,6

The product is good, because a labels (e.g. organic) guarantees quality	2	1,1	2,7
It gives farmers a fair price	27	14,7	37,0
Other	1	0,5	1,4
Total	184	100	252,1

Table 4: Multiple response frequency distribution on factors that could contribute to promote purchasing of sustainable products

Main reason	Frequency	Percentage	% of cases
The prices of these products must be reduced	33	19,2	45,8
These products should be available in more neighbourhoods and supermarkets	34	19,8	47,2
These products need get more publicity	10	5,8	13,9
The benefits for humans, animals and the environment must be better communicated	36	20,9	50,0
The quality or taste of these products must improve	1	0,6	1,4
Products that are less good for humans, animals and the environment must become more expensive	50	29,1	69,4
Other	8	4,7	11,1
Total	172	100	238,9

*D.2 Descriptive statistics sustainable Basmati rice consumption**Table 1: Frequency distribution whether ever bought Basmati rice*

Basmati rice consumption	Frequency	Percentage
Yes	69	94,5
No	2	2,7
I don't know	2	2,7
Total	73	100,0

Table 2: Frequency distribution whether ever consciously bought sustainable Basmati rice

Basmati rice consumption	Frequency	Percentage
Yes	41	59,4
No	14	20,3
I don't know	14	20,3
Total	69	100,0

Table 3: Multiple response frequency distribution on main reasons buying sustainable Basmati rice (if consciously sustainable Basmati rice = Yes)

Main reason	Frequency	Percentage	% of cases
It is better for the environment, nature and the landscape	33	35,5	80,5
It's better for my health (and my family's)	21	22,6	51,2
It tastes better	9	9,7	22,0
It's more animal-friendly	3	3,2	7,3
The product is good, because a labels (e.g. organic) guarantees quality	2	2,2	4,9
It gives farmers a fair price	23	24,7	56,1
Other	2	2,2	4,9

Total	93	100	212,8
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*Table 4: Multiple response frequency distribution on main reasons *would* buy sustainable Basmati rice (if consciously sustainable Basmati rice = No or I don't know)*

Main reason	Frequency	Percentage	% of cases
It is better for the environment, nature and the landscape	21	38,9	75,0
It's better for my health (and my family's)	11	20,4	39,3
It tastes better	6	11,1	21,4
It's more animal-friendly	0	0,0	0,0
The product is good, because a labels (e.g. organic) guarantees quality	1	1,9	3,6
It gives farmers a fair price	13	24,1	46,4
I wouldn't buy sustainable Basmati rice	1	1,9	3,6
Other	1	1,9	3,6
Total	54	100	192,9

Table 5: Multiple response frequency distribution on factors that could contribute to promote purchasing of Basmati rice

Main reason	Frequency	Percentage	% of cases
The prices of these products must be reduced	17	10,9	24,6
These products should be available in more neighbourhoods and supermarkets	26	16,7	37,7
These products need get more publicity	31	19,9	44,9

The benefits for humans, animals and the environment must be better communicated	43	27,6	62,3
The quality or taste of these products must improve	1	0,6	1,4
Products that are less good for humans, animals and the environment must become more expensive	34	21,8	49,3
Other	4	2,8	5,8
Total	156	100	226,1

Appendix G – Coding tree for qualitative analysis

Name	Description	Files	References
Certification		0	0
Challenges		0	0
certification uniformity on an international scale		1	2
competitive certification as the market doesn't want to pay minimum and premium price		1	1
competitive certification for Fairtrade		1	1
competitive certification not seen as positive		1	2
difficulty with certification of rice		2	2
minor differences in certifications		1	2
Opportunities		0	0
certification as tool to inform consumers while staying alert of too much overlap and information		2	2
certification provides framework and discipline to align with sustainability standards		1	1
certifications to steer in sustainable food production		1	1

Name	Description	Files	References
cooperatives make it easier to ensure standards of certifications		1	1
Demand steered		0	0
certification and its standards based on demand on company scale		1	1
certification and its standards based on demand on national and regional scale		2	2
ensuring standards by independent certification and third party accredited assessors		2	3
harmonizing standards and certification to decrease competition on sustainability		1	1
standards translated into a label on the packaging		1	1
trend of beyond certification, which are mostly minimal standards		1	1
Challenges of transition		0	0
adapting production to health standards in country of destination		1	2
bio not expensive, regular too cheap at the expense of people and planet		1	1

Name	Description	Files	References
disadvantage of rice is uneven distribution of profit and therefore power, that is mainly with the retailers		1	2
importance of traditions in country of production		1	1
increasing costs of life are inevitable, rather a matter of rethinking the way we currently (over)consume		1	1
issues to tackle in unsustainable production system		1	5
marginal costs relatively high to produce in a more sustainable way		1	1
Natural resource scarcity		0	0
economic solutions for conflict		1	1
historically demand for natural resources lead to conflict		1	2
preventing a conflict over natural resources		2	2
price dominant over other factors like sustainability, even with certified products		1	1
Rice as commodity		0	0
advantage of rice it is nearly recession-proof		1	1

Name	Description	Files	References
demand for rice as dry staple crop increases in times of crises		1	1
rice part of grains at dry desk and unique process with milling in the Netherlands		1	1
sustainable rice small segment within product category		1	2
Collaboration with retail		0	0
challenging retailers enough, but staying open for dialogue		1	2
communicating with the consumers despite retail preference for less transparency		1	2
daring willingness retail to promote organic and sustainable food		1	1
focus retail less on rice due to focus on other products and price margins with rice		1	1
retail chooses not to take an active rol in sustainability due to decades of competition over prices		1	1
retailer open for true cost accountnig, at least after public accusation		1	1
Factors contributing to transition		0	0

Name	Description	Files	References
Additional benefits of transition		0	0
open pollinated breeds to control future disease outbreaks		1	1
young people in organic farming to counteract aging in rural areas		1	1
advice to businesses with regards to CSR		1	1
Collaborating within value chain		0	0
chain director spanning several roles and linking producer and retailer		1	1
cooperatives to collaborate in change and improve logistics proces		2	2
CSR by alligning and linking the actors in supply chain to change the system over multiple years		1	1
CSR by co-investing in changing the system		1	2
CSR Dutch businesses to help achieving sustainability goals abroad		1	1
double role, helping members in achieving		1	1

Name	Description	Files	References
CSR goals and bringing attention to sust issues in industries			
initiative for CSR project both from NL and abroad		1	1
partnerships with producers and support services		2	2
promoting CSR by making connections, setting up projects and communicating about sustainability issues		1	3
Prevent greenwashing		0	0
compensation as a form of CSR is not the solution, rather prevent something to compensate for		1	2
CSR as greenwashing is easy		1	2
passive and active stimulating CSR within industries, for example by bringing something to the attention of industry and FOMO		1	1
peer-pressure from industry to prevent CSR as greenwashing		1	1

Name	Description	Files	References
standards regarding CSR controlled to some extent to make sure promises are kept		1	1
translating CSR to practice by measuring, managing, market and monetising		1	1
managing current to desired conditions		1	1
market a premium in benefit on people and planet as part of profit		1	1
measuring the impact		1	1
monetising the costs to repair the damages		1	2
Businesses setting in motion transition		0	0
decreasing price organic or sustainable food could contribute in stimulating its purchases		1	1
Dutch brand part of large int'l conglomerate		1	2
few major importers of fairtrade rice in NL and Europe		1	1
few major importers of organic rice in NL and Europe		1	1
gradually changing the system from within like		2	2

Name	Description	Files	References
with other products like herbal tea and chocolate			
guarantee standards by vertical integration in supply chain		2	2
measuring and managing sustainability		1	1
multinational often unsustainable in their core businesses, polishing the edges		1	1
product innovators to tackle issues in unsustainable production		1	1
Dependency		0	0
decreasing the dependency on big retailers as middleman for oneself and the farmers		1	1
Differentiating		0	0
decommoditise, deanonymize and collaborate to change the system		1	1
decommoditization of rice to overcome unsustainable and anonymity of int'l trade market		1	1
moving Basmati rice away from only staple product and role of		1	2

Name	Description	Files	References
consumers like with coffee			
true and premium prices difficult in anonymous trade market, rather with existing chain partnerships		1	1
differentiating from other rice varieties and geography		2	2
further differentiating from other businesses for competitive reasons		1	1
importance of finance in sustainable development activities to differentiate products like Basmati rice		1	1
Health aspect of rice		0	0
healthy food for personal and social benefit		1	1
importance of traditions from a health perspective		1	1
market by emphasizing the health benefits		1	1
premium to differentiate on other aspects like environmental, int'l market competition		1	1
sourcing from Pakistan and little bit from India		1	1

Name	Description	Files	References
due to prices, ethlene oxide and demand			
International development		0	0
fair business for countries to maintain own social welfare and decrease gap in development		1	1
feed the world through fair distribution of welfare rather increasing dependency		1	1
international influence on development projects		1	1
potential of rice from smallholder farmers		1	1
taking responsibility here in helping the smallholder farmers with a sustainable future		1	1
voluntary change for CSR innovation and pro-active attitude towards development, open for certification and audit		1	1
Market the product		0	0
connecting organic producers to consumers to decrease the dependency		1	1
leadership by setting a trend based on by		1	2

Name	Description	Files	References
following on pressure points			
market by connecting sellers and buyers		1	2
market by connecting sellers and buyers through certification		1	1
market by creating awareness through provision of information		1	1
market by selling more than just the product, but impact		1	1
market by selling rice with a face rather than anonymous		2	2
materialising what is relevant for the product		1	1
Social and environmental intertwined		0	0
highlight environmental issues of rice to draw attention to social aspects as well.		1	4
merging sustainability concerns into one model and alligning with SDG G.A.P. BSCI		1	1
rice little highlighted, possibility to increase from human rights due diligene		1	1

Name	Description	Files	References
social and environmental aspects more often intertwined		1	2
Price premiums and true pricing		0	0
Challenges		0	0
fairer price for producer either by higher prices for consumers or lower margins for actors in between		1	1
fairer prices for food production necessary across the whole supply chainr		1	1
premium for social aspects of workers not preferred for the environmental aspects by the farmers		1	1
true price difficult and time consuming, rather symbolic price		1	1
true price important as symbolic communication tools towards consumers, but rather to justify higher prices		1	1
true price increases prices at demand side, but no guarantee that the increase will diminish the problems		1	1

Name	Description	Files	References
Opportunities		0	0
benefits of price premium to people and planet		2	3
CO2 footprint in true price		1	1
decentralized spending of premiums by producers		1	1
decreasing hidden costs with chain partners		1	1
instead of true price, rather pass on the economic costs of businesses to tackle the problem		1	1
price premium to prevent is cheaper than repairing the damage		1	1
true prices goes beyond certification		1	1
Role of consumers		0	0
Challenges		0	0
accelerator effect of consumers on sustainable food production autonomous proces, rather responding to trends		1	1
changing on consumer level is difficult		1	1
consumers cannot be blamed and take full responsibility after		1	2

Name	Description	Files	References
decades of marketing about lowest prices			
consumers might pressure from demand side, yet large investments needed		1	1
consumers overlooked at MVO Netherlands		1	1
Opportunities		0	0
awareness for sustainability issues increasing on consumer side		1	1
consumer demand for sustainable food faster than system able to deliver		1	1
consumers has the last word and businesses will need to adapt to that		1	1
corona pademic stimulates sustainable purchasing behaviour that influences business		1	1
demand for information from consumers		1	2
production will only adapt if the consumers is demanding or willing go along with the change		1	1
steer for changing consumption patterns as		1	1

Name	Description	Files	References
a facilitator of sustainable concepts			
steer for changing consumption patterns through retail		1	1
transition of system dependent on the consumer side		1	1
Role of government		0	0
Challenges		0	0
advocating for regulation concerns, but lobby from large corporations is very strong		1	1
role of politics both to protect consumers and farmers, whereby traceability might have an adverse effect		1	1
Opportunities		0	0
government should take a leading role in preventing environmental and human damages due to uneven power dynamic businesses and producers		1	1
lobby to promote and achieve CSR target		1	1
regulation helpful in tackling social and environmental challenges		1	1

Name	Description	Files	References
elsewhere in the supply chain			
regulation on certification for organic		1	1
regulation on human right due dilligence and environmental impact		1	1
regulation on traceability for food safety concerns		1	1
reviewing tax system to tax pollutions rather than labour		1	1
role government and collaborating with private sector to derease prices of sustainabel food		1	1
Traceability and transparency		0	0
Challenges		0	0
increasing transparency is fighting against the established order		1	1
trade-off in external transparency to increase internal transparency		1	1
Opportunities		0	0
importance of traceability and transparency, both for marketing purposes and creating awareness to co-create		1	1
Importance of transparency to put the		1	1

Name	Description	Files	References
human at the core for long term relationships			
traceability documentation system to guarantee standards		1	1
traceability guaranteed by certificate of origin of goods		1	1
traceability in complex supply chain comparison to Tony and organic rice		1	1
traceability through blockchain to decrease costs with smallholder farmers		1	1
transparency on the costs within supply chain to make it fairer		1	1
Understanding of CSR		0	0
Balance		0	0
'where ecology meets economy' social idealism and commercial realism		1	1
balancing profit for the company and profit for people and planet		1	1
CSR as an addition		0	0
additional and support activities to guarantee organic integrity		1	2

Name	Description	Files	References
additional services like sourcing on demand and certification		1	1
regenerative agriculture to tackle environmental challenges with CSR		1	1
different threefold core values depending on perspective		2	2
'dance' by co-creating together and defining profit		1	2
'delivering' products with a triple profit principle		1	1
'differentiate' between main and side issue what connects us as human, part of 'dream'		1	1
'dreaming' through a human perspective and accountability from the heart		1	1
no uniform understanding of CSR		1	1
CSR either at the core of a business and to prevent from being outcompeted		1	1
food production even better when improving the planet		1	1
food production should in essence not affect planet		1	1

Name	Description	Files	References
spriritual look at pioneering position		1	1
two extremes of how CSR is positioned within the company		1	2