

HEALTHY HILLESLSUIS

The background of the entire page is a solid green color. Overlaid on this background are large, stylized, semi-transparent green illustrations of various vegetables. On the left, there is a tall, thin vegetable with three long, pointed leaves, resembling a green bean or pea. In the center and right, there are several round, bulbous shapes representing tomatoes or similar fruits. At the bottom, a large, elongated vegetable with several small, dark green spots, resembling a carrot, is shown horizontally.

Designing interventions for a healthier food
environment in a low SES neighbourhood

**MASTER THESIS BY MARISKA GRAAT
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PREFACE



For the past semester I have been working on my graduation project, in order to complete my journey at the Industrial Design Engineering faculty of TU Delft. Through the years I collected a lot of new knowledge, tools and friends which I will take with me in my life from here. During this final project, I wanted to challenge myself by working on a complex societal issue. Well, complex it was: I ended up designing for a healthier food environment in Hillesluis, in the south of Rotterdam. Especially in the beginning it was difficult to connect to, and relate with the stakeholders in the neighbourhood. Luckily I was able to get to know some people living there, by going into the field in between the ongoing Covid-19 lockdowns. I've started to care for the people and the neighbourhood, and hope my project will help them move forward. The past months have been an adventure with ups and downs in both the project as well as my personal life. I want to use this section to thank everyone who supported me along the way:

Sine, thank you for believing in my abilities from the start. Thanks for pushing me into the water sometimes and letting me swim there for a while, but always ensuring that I wouldn't drown.

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I want to thank all the residents, stakeholders and experts I spoke to during my days in the field. Your motivations to fight for your neighbourhood have inspired me to do the same.

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My roommates, thank you for listening to me when I needed to ventilate, cooking food for me during deadline weeks, and cheering with me at every milestone.

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Lastly, I want to thank all my other friends who supported me throughout the process by participating in my creative sessions, giving unsalted opinions, and taking my mind off the project every once in a while.

Enjoy the read,
Mariska

ABSTRACT

The current food system stimulates unhealthy food choices and is a major contributor to environmental pressures. To improve this situation, an integrated approach is necessary, where we take into account the different actors in the food environment and how each of these can contribute to a more healthy and sustainable society. Although change needs to happen on a world-wide scale, this project contributes by case studying a small piece of it: Hillesluis, a low SES neighbourhood in Rotterdam.

Rotterdam is one of the most unhealthy cities in the Netherlands, and low socioeconomic status (SES) neighbourhoods have the highest priority for change as these low-income groups are more often exposed to and vulnerable to the conditions that are associated with poorer dietary outcomes. With more than 55% of the adults, and more than one in three kids being overweight, we can also see this trend in Hillesluis.

The poor dietary intake of low-income groups can be presented as an outcome of a complex adaptive system that sustains a food environment that increases accessibility, availability, affordability and acceptability of unhealthy foods. In order to reshape system dynamics, simultaneous, diverse and innovative strategies are needed to facilitate improvement of availability, affordability, accessibility and acceptability of healthier food (Sawyer et al., 2021).

To determine a suitable strategy, I studied the local food system in Hillesluis and discovered opportunities and barriers for progress. I did this through literature as well as field research. In the field, I met residents, food retailers and other stakeholders who were eager to contribute to a healthier neighbourhood. The design goal I derived from analysing the gained insights is as follows: "Design an experience that introduces families in Hillesluis to healthier cooking".

To pursue this design goal, I designed a combination of two interventions that together contribute to a healthier food environment in Hillesluis. The core of the concept is 'De Familiekeuken', a workshop series where parents and their children learn to cook healthier meals in a social setting, guided by a specialised chef. The goal is that acquired knowledge and skills are eventually implemented in their daily life and their cooking activities at home, so that a healthier diet is established. Besides the workshops, I also propose to increase the amount of physical stimuli of healthy food in the neighbourhood. Through the application of street art, people passing by can get inspired to open up the conversation about healthy food or to make a healthier choice today. Together, these interventions touch upon the different layers of the food environment and in that way increase the availability, accessibility, affordability and acceptability of healthy food.

A first validation of the concept confirmed a positive intention towards implementation on the stakeholders' side as well as enthusiasm for participation on the residents' side. It is expected that this project and implementation of the concept will inspire actions towards a healthier food environment in Hillesluis. With the gained insights and solution I hope to inspire action in other low SES neighbourhoods as well.

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LIST OF DEFINITIONS

System: A system is a set of things interconnected in such a way that they produce their own behaviour over time. The system can be triggered, pressured, or driven by outside forces, but the system's response to these forces is a characteristic of itself (Meadows, 2008).

Food system: Food systems encompass the entire range of actors and their interlinked value-adding activities involved in the production, aggregation, processing, distribution, consumption and disposal of food products that originate from agriculture, forestry or fisheries, and parts of the broader economic, societal and natural environments in which they are embedded (FAO, 2018)

Food environment: The food environment is where consumers interact with the food system for the purpose of acquiring, preparing and eating food. The food environment includes physical, economical, political and socio-cultural contexts (EPHA, 2019).

Healthy diet: A healthy diet consists of 50% vegetables and fruits, supplemented with mostly whole grains, legumes and nuts. The diet is mostly plant-based and works with fresh ingredients. Especially red meat, saturated fats, sugar and salt are limited (Willett et al., 2019).

Socioeconomic status (SES): Socioeconomic status (SES) can be defined as the social standing or class of an individual or group, and is often measured as a combination of education, income and occupation. Examinations of socioeconomic status often reveal inequities in access to resources, plus issues related to privilege, power and control (APA, 2017).

Nudge: Any aspect of the choice architecture that alters people's behaviour in a predictal way without forbidding any options or significantly changing their economic incentives. To count as a nudge, the intervention must be easy and cheap to avoid (Thaler & Sunstein, 2021).

Multi-level perspective (MLP): The multi-level perspective is a framework for understanding transitions and provides an overall view of the multi-dimensional complexity of changes in socio-technical systems.

PEOPLE AND PLACES

Rotterdam: The city.

Feijenoord: District in Rotterdam.

Hillesluis: Neighbourhood in Feijenoord.

↓ **Beijerlandseleen:** 1.2km long street packed with eateries in Hillesluis.

Gemeente Rotterdam:
Municipality of Rotterdam

Lekker Fit!:
Most schools in Hillesluis are using the Lekker Fit! approach. Through Lekker Fit!, kids learn about healthy behaviour and why it is important to make healthy choices.

Alliantie Hand in Hand:
A collaboration where different parties work together towards a more vital local economy and an attractive living climate at the Beijerlandseleen and Groene Hilledijk for residents, entrepreneurs and visitors.

Humanitas:
Social service institution currently active in Hillesluis

Stichting SOL:
Social service institution that will take over from Humanitas in spring 2022.

Huis van de Wijk:
Community centres in neighbourhoods.

De Hillevliet:
Former school building that is turned into a place for different culture and society projects, among which a Huis van de Wijk and 'De Rotterdamse Stadskeuken'.

De Rotterdamse Stadskeuken:
A social kitchen where experienced catering employees share their knowledge with currently unemployed residents

MoveDis:
The nutrition and exercise centre in Hillesluis.

Stichting JOZ:
Stichting Jongeren op Zuid (youth of the south) focuses on talent development, safety, care and participation of youth up to 23 years and their environment.

Loulou's Healthy kitchen:
Local restaurant focused on healthy food and drinks.

Royal Roots Corner:
Local restaurant focused on vegan African food and lifestyle products.

OTB Movement:
Local gym, focused on breakdance.



1. INTRODUCTION

This first chapter introduces the relevance of this project by explaining the current state of the world's food system as well as Rotterdam's food system. From a high level perspective as well as from a more zoomed in perspective there are large challenges to deal with in order to achieve a more healthy and sustainable food system. After explaining the challenges we are facing, the ambitions of 'Gemeente Rotterdam' are also introduced.

1.1 A THREATENING FOOD SYSTEM

Eating food is one of the main priorities people have in life in order to survive. Foods provide nutrients that we need to stay healthy, to grow and to have enough energy to be active throughout the day. Besides, eating is for a lot of people also one of the main pleasures in life, especially when doing it with family and friends (FAO, n.d.). The current food system has supported a fast-growing population and fuelled economic development and urbanisation. However, these productivity gains have come at a cost, and are no longer fit to meet long term needs (Ellen MacArthur Foundation, 2019). The global population is likely to rise up until a point where the food demand is to be doubled by 2050. It is not possible to serve this need by simply extrapolating the trends of expansion and intensification as we currently do (Gladek, Fraser & Roemers et al., 2017). The current food system is threatening both people and the planet (EAT Lancet Commission, 2019).

How planet earth is threatened:

Global food production threatens climate stability and ecosystem resilience. It is the largest driver of environmental degradation and one of the main reasons that several planetary boundaries are exceeded (EAT Lancet Commission, 2019).

- Agriculture uses roughly half of the plant-habitable ground of the planet (Gladek, Fraser, Roemers et al., 2017).
- The global food system, from production to consumption and waste processing accounts for up to 30% of the total emission of greenhouse gases (IPCC, 2019).
- Animal agriculture accounts for up to 80% of this number (Earthday, n.d.). This makes animal agriculture a big contributor to deforestation, as all the livestock takes up more and more land.

- About 70% of the planet's accessible fresh water withdrawals are used for agricultural activities (Gladek, Fraser, Roemers et al., 2017).
- Through all its impacts, the food system is the largest contributor to the depletion of biodiversity (Gladek, Fraser, Roemers et al., 2017).

How public health is threatened:

Where others suffer from hunger, in our western world we are more likely to eat too much. There is extremely much food available, which is often highly processed, and focused on convenience. Also, the average portion size became a lot bigger. This leads to diets where people eat too much and unhealthy food containing too much salt, sugar and fat (Bal, Olsthoorn, de Jager et al., 2021).

In the Netherlands, dietary risks are one of the top three risk factors leading to non-communicable diseases such as stroke, heart disease, cancer, and diabetes.

It is estimated that the total cost related to dietary risks in the Netherlands was around 8.8 billion euros in 2017. 6 billion of this total were direct costs related to healthcare. The remaining share of 2.8 billion was related to indirect costs such as costs associated with loss of productivity due to absenteeism (de Lange, Shurieh & Muhaimin, 2020). These facts show that from a personal and social, as well as an economic perspective, there is a price to unhealthy eating.

Without action, the world risks failing to meet the UN Sustainable Development Goals (SDGs) and the Paris Agreement. In turn this will result in a planet that is seriously degraded and where more and more people will suffer from malnutrition and diseases that could have been prevented (EAT Lancet Commission, 2019).

A great food transformation

The EAT Lancet Commission presented an integrated global framework showing targets for healthy diets and sustainable food production. Global adoption of these healthy diets from sustainable food systems would safeguard our planet and improve the health of billions of people (EAT Lancet Commission, 2019). They propose a Great Food Transformation, and call for action across multiple levels and sectors. This proposal includes a global shift towards healthy dietary patterns, large reductions in food loss and waste and major improvements in food production practises.

However, it is not easy to change. The food system consists of many actors, institutions and routines that are deeply embedded in society. Vested interests, technical challenges and human and financial resource constraints all have to be overcome (HLPE, 2017). This makes it complex to get the system moving. The possible solution areas can only be reached through well-coordinated action-focused governance structures and dedication from all parts of the system, as all solutions are interconnected. No single solution is enough to solve the problem on its own (EAT Lancet Commission, 2019).

1.2 FOOD CHALLENGES IN ROTTERDAM

With its big harbour, food plays a big role in Rotterdam on multiple aspects. Some of these are positive, others are negative. On the one hand, the food sector is a big employer for the Rotterdam region. The harbour is the place where food of around 500 million people passes in order to find its way into Europe (Bal et al., 2021). Agrofood is a big share of the dutch economy as we are a big exporter.

On the other hand, Rotterdam is one of the most unhealthy cities in the Netherlands. According to Rotterdam's health monitor, half of the adults in Rotterdam are too heavy or suffer from obesity. Among children (4-11 years old) the percentage of overweight is almost twice as high as the Dutch average with almost one in four kids being too heavy (Mölenberg et al., 2019). It is expected that without taking measures, the amount of citizens in Rotterdam being too heavy will only rise further in the coming years.

What is remarkable is that there are big differences between the different parts of Rotterdam. Especially in the neighbourhoods where people with a low social-economic score (SES) live, the rates of overweight and obesity are high. The life expectancy between people from different neighbourhoods can differ by around 8 years! The municipality of Rotterdam aims to reduce this gap in the coming years and strives towards equal chances for everyone (Mölenberg et al., 2019). Figure 1 shows a map of Rotterdam and compares the weight statistics of people in Hilligersberg-Schiebroek (high SES area) and Feijenoord (low SES area). Especially when it comes to children, we can see that residents of Feijenoord are more likely to be overweight or obese.

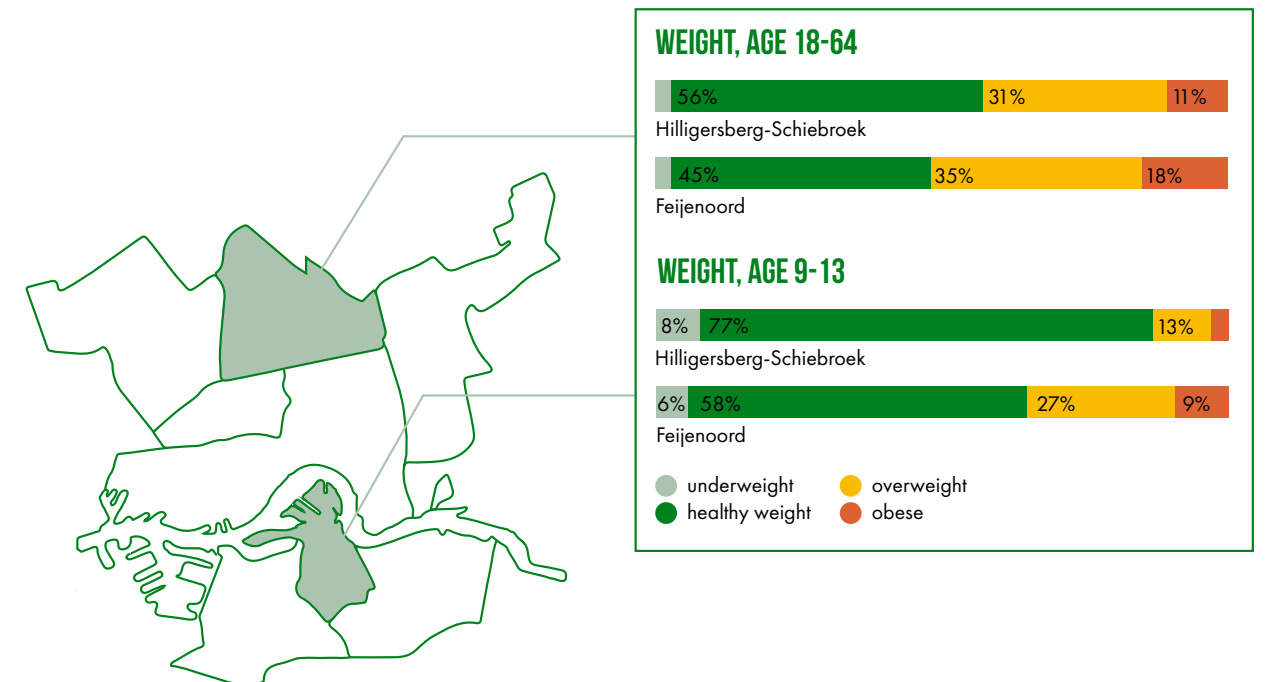


Figure 1: Comparison weight statistics for Hilligersberg-Schiebroek vs. Feijenoord

One issue that contributes to the high amount of overweights in Rotterdam is the food environment. The current food environment in Rotterdam can be called obesogenic. This means that it constantly seduces consumers to make unhealthy food choices through advertising, marketing and just what is offered in general (Mölenberg et al., 2019). The amount of healthy and unhealthy food available in the city is out of balance (Bal et al., 2021). Between 2004 and 2020, the total number of food providers has increased by more than 25%. Mainly the amount of fast food providers has increased (46%), while the amount of fresh providers dropped by 38% (Mölenberg, 2021). In line with the information of the previous paragraph, it is remarkable that especially in the low SES neighbourhoods the amount of (unhealthy) food providers skyrocketed.

It is clear that things need to change, with the low SES parts of the city as the highest priority. We can blame individuals for not eating healthy, but as long as the environment makes it difficult to make healthy food choices this does not seem feasible. Therefore an integrated approach is necessary where we take into account the different actors in the food environment and how each of these can contribute to a more healthy and sustainable society.

1.3 FOOD AMBITIONS 'GEMEENTE ROTTERDAM'

Rotterdam is engaged with food in many ways. Currently, different parts of the municipality already work on tackling food-related problems. Gemeente Rotterdam wrote a manifesto to serve as a basis for an integrated food strategy for the municipality (Bal et al., 2021). By embracing this document, better and stronger collaboration between departments should be created.

There are three main ambitions that Gemeente Rotterdam wants to achieve before 2040:

- A healthy and diverse food environment in all neighbourhoods of the city.
- 'Rotterdams Kanen' as the best choice: healthier, affordable and more plant-based food.
- Food waste will be cut by 50% in 2030.

To be able to achieve the set ambitions, the municipality relies on and has to collaborate with many stakeholders in the city who together form the food system. To involve these stakeholders effectively, a fitting approach should be carefully decided upon.

City Deal: Healthy and sustainable food environment

In line with the food ambitions, Gemeente Rotterdam also supports the 'City Deal healthy and sustainable food environment'. The goal of this agreement is to accelerate the transition towards a more healthy and sustainable food system. This means: a society where everyone has a more plant-based diet, in line with the 'Schijf van Vijf' of Voedingscentrum Nederland. By 2040 the current balance should be turned around, meaning that 60% of the proteins consumed should be plant-based.

One of the experiments involved in this City Deal revolves around the Beijerlandse laan. This is a 1.2km long street full of shops and eateries in the south of Rotterdam (neighbourhood Feijenoord, Hillesluis). The amount and type of food offered contributes to the environment being obesogenic. The health score of people living in this area is one of the lowest in Rotterdam, making this place interesting for testing interventions.

CITY DEALS

City Deals are collaborations where municipalities, the state, private parties, knowledge institutes and other organisations work together, focused on a specific theme. The collaboration seeks innovative solutions for complex urban challenges. Parties involved commit to a task-oriented approach where they experiment and learn. Through these experiments, a knowledge network is created that leads to more concrete challenges for which more concrete solutions can be formulated. Insights are shared and scaled up to form important input for new national as well as municipal policy (Agenda Stad, 2021).

CONCLUSION

The current food system stimulates unhealthy food choices and is a major contributor to environmental pressures. To improve this situation, an integrated approach is necessary, where we take into account the different actors in the food environment and how each of these can contribute to a more healthy and sustainable society. Whereas the EAT Lancet commission strives to reach this on a world-wide scale, this project studies a low SES neighbourhood in Rotterdam. To determine a suitable strategy, the local food system is studied in order to discover opportunities and barriers for progress.



2. ASSIGNMENT & APPROACH

2.1 ASSIGNMENT

This project explores the current food system with a focus on the Hillesluis area in Rotterdam. The goal is to identify barriers and opportunities for realising a healthy food transition. The outcome of the project is a neighbourhood intervention that contributes to a healthier food environment in Hillesluis.

Research question

The main research question is as follows:

“How can the municipality of Rotterdam **facilitate and design** for a healthier food environment that results in **structural improvement of the public health** in Hillesluis?”

This question refers to the municipality as facilitator and designer because the municipality is seen as problem owner of the health situation, rather than an important stakeholder. The municipality has the responsibility to take care of the public health in Rotterdam, however the citizens are the ones who need to change towards a more healthy way of living. The municipality can only facilitate this transition.

Project scope

Rotterdam, Beijerlandseleen

The main focus area in this project is the ‘Beijerlandseleen’ in Rotterdam Hillesluis. This 1.2km long street packed with eateries in the south of Rotterdam is a whole system on its own. The project can be seen as a case study to explore how neighbourhoods and their behaviour regarding food can change. Gemeente Rotterdam chose the Beijerlandseleen as an interesting area to explore because of the amount and type of food provided in the neighbourhood and because of its poor health statistics. This thesis is there to inspire the project of Gemeente Rotterdam and therefore is scoped in the same area. A wider view on the whole dutch food system is taken on to create a more general understanding on food systems and measure broader impact.

Health perspective

The way in which food systems work impacts the world in several ways: It influences dietary outcomes, which in turn impact nutrition and health outcomes. Besides this, the food system has environmental impact, economic impact and social impact (GAIN & Johns Hopkins University, 2020). This project is mainly looking at the food system from a health perspective. Statistics show that many residents of Rotterdam are too heavy or suffer from obesity. As a result of unhealthy diets, they are also at risk for other dietary-related diseases. These insights make the health perspective a relevant one to take. However, the other mentioned impacts are not lost out of sight, as they are closely connected.

Food environment

This thesis focuses on the impact of the food environment on buying, cooking and consumption behaviours of the residents in Hillesluis. The food environment is where consumers interact with the food system for the purpose of acquiring and eating food. The food environment includes physical places, like stores or markets where people buy food. Next to physical contexts it also includes economical, political and socio-cultural contexts (EPHA, 2019). These characteristics of the food environment affect diets by influencing the way people access foods.

Retail and consumption

Production, processing, distribution, retail, consumption and disposal of food together make up the food supply chain. As the project revolves around the food environment consumers live in, the most important part of this chain is between retail and consumption. This is where the food choices are made and thus where this thesis is focused. From a consumer perspective we can also call this part of the scope: buying, cooking and eating.

Research participants:

Parents of young children (<12 years old)

As research in this project will be qualitative, it is important to define some requirements by which participants are selected to make the outcomes comparable. The consumer group identified as most interesting consists of adults who are parents to a young child with a maximum age of 12 years old. This group was chosen for two main reasons:

- This group is responsible not only for their own nutrition, but also decides a large share of what their child eats. Because of this, it is extra beneficial and important for them to make healthy choices regarding food.
- People aged between 25 and 45 cover the largest share of the population in Hillesluis. People in this age group are also the most likely to have a child aged below 12 years old. Because there are a lot of them, this group is a good representation of the neighbourhood. Also, this makes them easier to reach.

To still reflect the diversity of the neighbourhood in the data, other variables like the cultural origin, social economic status (SES) and gender should be varied.

Timeframe

Parties participating in 'City deal gezonde en duurzame voedingsomgeving' use the coming 4 years to experiment with multiple pilots (Gemeente Rotterdam, 2021). As this project is built around the pilot area Beijerlandse laan, the solution must be implementable in a time scope between now and these four years. The strategy behind the solution can reach much further, as the ambitions regarding the healthy and sustainable food environment should be met before the year 2040.

2.2 APPROACH

As the food system consists of so many actors and their interlinked activities; has several subsystems within itself, and on top of that also interacts with other key systems: we can surely call it a complex system. Making a transition to healthier nutrition in the system can therefore be called a complex challenge. To cope with this complexity, I needed some structure along the way. To structure this process, I used the well known double diamond as designed by Design Council (2004). This model divides the process into four phases: discover, define, develop and deliver. The different methods I used are plotted inside the diamonds (see figure 2). This report is structured in a chronological order to make clear how I came to the different design decisions.

CONCLUSION

The main research question for this graduation thesis is as follows: "How can the municipality of Rotterdam facilitate and design for a healthier food environment that results in structural improvement of the public health in Hillesluis?" The complexity of this challenge demands a holistic approach where I study the multiple stakeholders and dynamics in the system. To structure the process I applied the double diamond model.

Discover: The initial stage of the project was about exploring. Through desk research and literature reading I learned about systems, the food system, trends and consumer behaviour.

To learn about the people in Hillesluis and their values, needs and habits around food I went into the field and I interviewed residents as well as retailers and the neighbourhood's dietician.

Define: All the data collected during the discovery phase was used to get an image of the current food system in Hillesluis. While structuring insights, I found opportunities as well as barriers towards a healthier food environment in Hillesluis. In consultation with the client, the define phase was concluded with a design brief that entailed the design mission, goal and criteria.

Develop: With a clear design challenge in mind, it was time to ideate. Through two creative sessions multiple ideas were generated. The ideation sessions resulted in three concept directions, which were eventually combined into one direction to detail further.

Deliver: The chosen direction was further detailed into a concrete concept that is illustrated through a user story, service blueprint and visualisation of the value exchanged. The design was validated with potential users, stakeholders and experts.

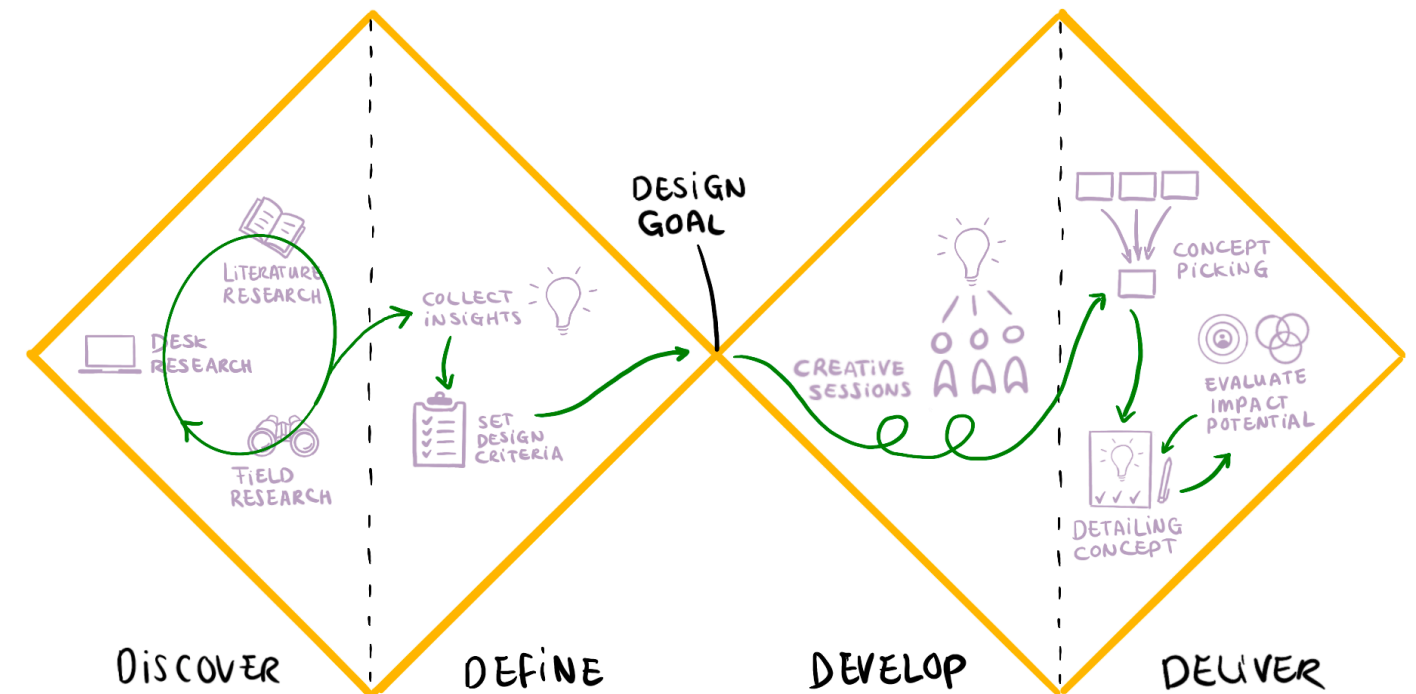


Figure 2: Process overview



3. GEMEENTE ROTTERDAM

This chapter provides some background information about Gemeente Rotterdam that is relevant to this project. First, the (lack of) instruments of the municipality regarding regulating a healthy food environment are discussed. Then, examples of interventions and programs around the topic of healthy food that already run are introduced and discussed regarding their relevance for this project.

3.1 MUNICIPAL INSTRUMENTS

Various (inter)national laws and regulations are relevant when setting up a healthy food environment. Based on international, European and national fundamental rights, such as the International Convention on Economic, Social and Cultural Rights (ICESCR), governments have a responsibility to ensure a healthy food environment. On the basis of the Law Public Health and the Youthlaw, municipalities are responsible for formulating measures that reduce overweight and obesity (Verhoeff et. al., 2021).

To keep this section short and to avoid going into very technical details about the exact legislations that determine the power of the municipality over the physical food environment I will just share the outcome of these regulations. Bottom line is that the municipality does not have any influence on what type of food is allowed to be sold by a retailer. With current legislation, there is no health criterium to be met when granting a permit. The current legislation only provides possibilities for regulation based on spatial relevant arguments such as nuisance from traffic, waste or smell. These are disturbances that have a direct impact on the public space. Health problems caused by unhealthy food only show on the long term and do not cause any problems at the moment the food is sold. For this kind of problem, there are no instruments.

The regulations currently in place are used to do the following things in order to improve the food environment:

- Regulation of the food environment through the 'bestemmingsplan' (branching) is only possible on the basis of spatial arguments, for example expected nuisance from traffic, waste or smell. For each location, it can only be determined whether it will have a food or non-food destination. No distinction can be made between types of food offered. An example of what is possible here is to determine a minimum distance between schools and food retailers.

- Grants: Grants are a way to seduce entrepreneurs towards the desired offer. Also, for existing grants it is possible to establish certain conditions about food in the contract. This is for example done for event permits and 'Huizen van de Wijk'.
- Purchasing policies: the municipal purchasing policy for own employees and other users of services like daycare and social shelter for homeless people.

As you can see, these regulations are quite cumbersome if you want to influence the type of food offered by a retailer. Therefore, Amsterdam, Den Haag, Ede, Rotterdam and Utrecht together wrote a letter to the Ministry of Public health, Wellbeing and Sports to ask for a change in legislation: By adding the food environment as a protected interest in the Commodities Act, an oversupply of certain foods can be regulated. This process is still in progress.

3.2 CURRENT PROGRAMS AND INTERVENTIONS

Luckily there are things the municipality already does or contributes to. In this section a few examples are discussed in relation to this thesis project.



Alliantie Hand in Hand

What makes it extra interesting and fruitful to run test interventions of the City Deal on the Beijerlandsewaan, is that the neighbourhood is already transforming on other aspects as well. Alliantie Hand in Hand fights for a more vital local economy and an attractive living climate at the Beijerlandsewaan and Groene Hilledijk for residents, entrepreneurs and visitors. The alliance is focused on tackling subversive crimes, changes in physical environment (real estate and public space), branching and making the housing offer better and more diverse. By taking on a positive communication style, they work on improving the reputation of the area as well (Alliantie Hand in Hand, 2021). Collaboration between the alliance and the interventions from the City Deal can have an overall enforcing effect on the neighbourhood.



Lekker Fit! Schools

Gemeente Rotterdam started the Lekker Fit! - approach in 2005. It is an approach consisting of different elements that complement each other: food, movement and relaxation. Through Lekker Fit!, kids learn about healthy behaviour and why it is important to make healthy choices. In this way, the program wants to make 'healthy lifestyles' a habit (Lekker Fit!, n.d.). Most schools in Hillesluis are using the Lekker Fit! Approach. As their focus is in line with this project, they are potentially interesting stakeholders to work with.



Gezond 010: Satelliet Gezond Verkoopt

Gemeente Rotterdam is initiator of Gezond010. This is a network that brings together different initiatives that all contribute to a healthier city. One part of the platform is 'Satelliet Gezond Verkoopt' (healthy sells). Within this 'satellite', caterers, restaurants and organisations where food is not the core business (like hospitals, Huizen van de Wijk and sport accommodations) learn from each other and from experts. The goal is to seduce consumers to make healthy and responsible choices.

CONCLUSION

Even though the municipality doesn't have many instruments to influence the public space, they are putting in a lot of effort to support healthy initiatives and to intervene where they can. During this project, the regulations around the 'Warenwet' have not changed yet, which is why I will ensure that my intervention won't rely on this. This project builds on what is already there.



4. DEFINING HEALTHY FOOD

To be able to improve the food environment of Hillesluis in a way that the residents will take on a more healthy diet, it is first necessary to define what a healthy diet actually is. This chapter defines a benchmark for a healthy diet based on plans of the EAT Lancet Commission and guidelines of the World Health Organisation.

Definitions of what constitutes a healthy diet is continually evolving as we learn about the roles different foods and essential nutrients play in health and disease (Cena & Calder, 2020). Also, there are many diverse nutritional needs between individuals. This is caused by differences in for example age, sex, disease status and physical activity levels (Willett et. al., 2019). A healthy diet should optimise health, which WHO defines as a state of complete physical, mental, and social wellbeing, and not just absence of disease.

To be able to define a benchmark for a healthy diet, I studied the plans of the EAT Lancet Commission. This, because they focus not only on human health, but also the health of the planet. Next to this, I looked at the guidelines of the World Health Organisation as they are the leader of global efforts to expand universal health coverage. The EAT Lancet Commission integrated the scientific targets for healthy diets and sustainable food systems into a common framework, so that win-win diets (healthy and environmentally sustainable) can be identified. They propose that this framework is universal for all food cultures and production systems in the world, with a high potential of local adaptation and scalability (Willett et. al., 2019).

The Commission and WHO state that dietary patterns with the following characteristics promote low risk of major chronic disease and stimulate overall wellbeing (Willett et. al., 2019 & WHO, 2020):

- Main foods: fruit, vegetables, legumes (i.e. lentils, beans), nuts and whole grains
- At least five servings (400g) of fruits and vegetables per day, not including potatoes or other starchy roots.
- Proteins primarily achieved from plants, including soy foods, other legumes, and nuts, fish or other sources of omega-3 fatty acids. Proteins from poultry and eggs are optional, and red meat intake should be limited.
- Less than 10% of total energy intake from free sugars. Free sugars are all sugars added to foods or drinks by the manufacturer, cook or consumer, as well as sugars naturally present in honey, syrups, fruit juices and fruit juice concentrates
- Less than 30% of total energy intake from fats. Unsaturated fats (found in fish, avocado and nuts, and in sunflower, soybean, canola and olive oils) are preferable to saturated fats (found in fatty meat, butter, palm and coconut oil, cream, cheese, ghee and lard)

The characteristics mentioned in the above list allow great flexibility and are compatible with a wide variety of foods, agricultural systems, cultural traditions, and individual dietary preferences. As the people I work with during this project come from all sorts of cultural backgrounds and I want to respect their traditions, these guidelines for a healthy diet seem suitable to use as a benchmark.

Figure 5 visualises the health and environmental impacts of various foods. The food types marked green should make up the largest part of a healthy diet. The yellow products are optional to still be eaten every once in a while. The consumption of red foods should be limited as they have a rather negative impact on both humans and the planet. To show the variation possible within the boundaries of the above mentioned diet, figure 4 shows a diversity of meals that are all created following the guidelines.

To conclude I want to establish a definition of a healthy diet that I can easily use during conversations with stakeholders or friends: "A healthy diet consists of 50% vegetables and fruits, supplemented with mostly whole grains, legumes and nuts. The diet is mostly plant-based and works with fresh ingredients. Especially red meat, saturated fats, sugar and salt are limited.

CONCLUSION

A healthy diet consists of 50% vegetables and fruits, supplemented with mostly whole grains, legumes and nuts. The diet is mostly plant-based and works with fresh ingredients. Especially red meat, saturated fats, sugar and salt are limited. This proposed build-up of a healthy diet allows great flexibility and is compatible with a wide variety of foods, agricultural systems, cultural traditions, and individual dietary preferences. As the people I work with during this project come from all sorts of cultural backgrounds and I want to respect their culinary traditions, these guidelines for a healthy diet seem suitable to use as a benchmark.

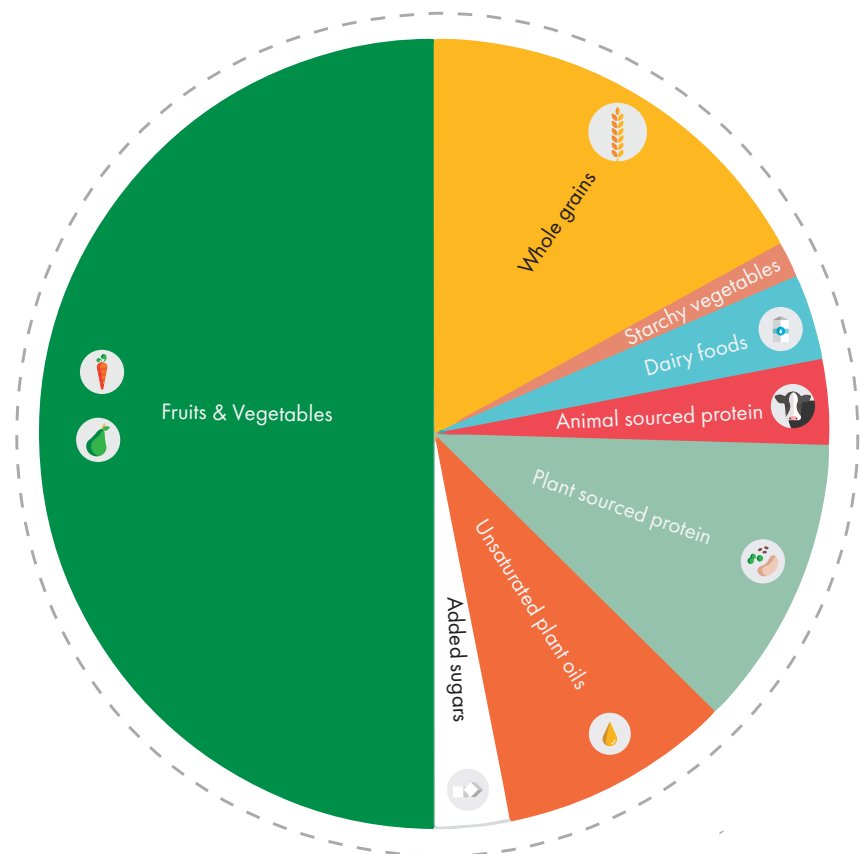


Figure 3: Food intake as proposed by Planetary Health Diet, adapted from Willett et al. (2019).

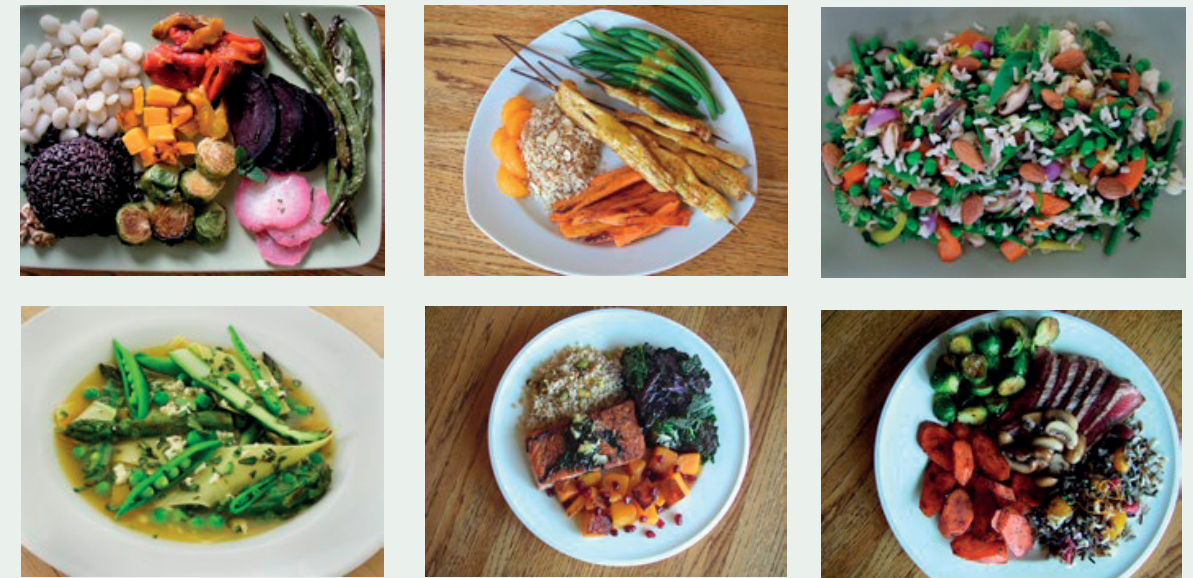


Figure 4: Diversity of meals following the Planetary Health Diet

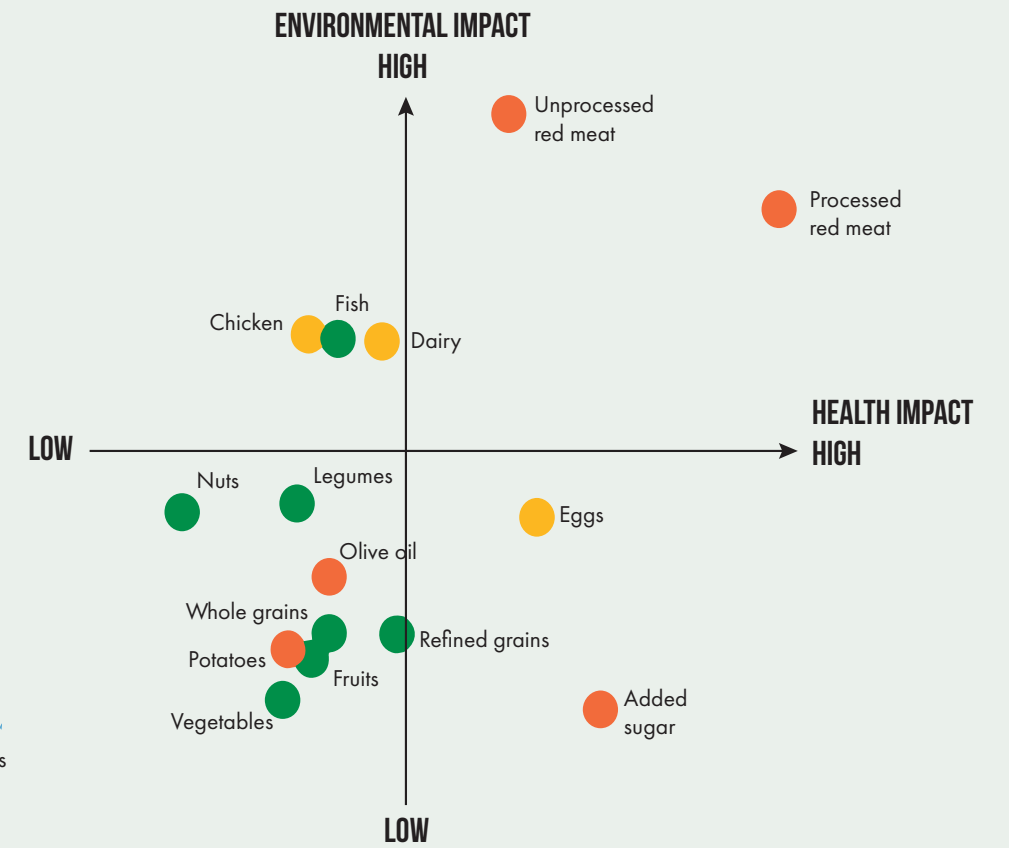


Figure 5: Health and environmental impacts of various foods, derived from Clark et al. (2019).

5. SYSTEMS AND HOW THEY CAN BE CHANGED

As mentioned earlier, Beijerlandselaan is a whole food system on its own. This project aims to contribute to a transition that shifts the system towards one with a healthier food environment, where healthy is the easiest and most obvious choice. To be able to change the food system in a favourable way, it is first important to understand how a system is built up and how it can be influenced. This chapter looks at systems through the lense of transition theory in order to see how change happens. Then, the acquired theory is connected to the situation specifically in Hillesluis to understand the current food system and identify potential leverage points for change.

5.1 WHAT IS A SYSTEM?

So first of all, what is a system? A system is a set of things interconnected in such a way that they produce their own behaviour over time. The system can be triggered, pressured, or driven by outside forces, but the system's response to these forces is a characteristic of itself (Meadows, 2008). There is a whole system around most needs we have in life; for example food, shelter and transportation. A system cannot be divided into independent parts because the behaviour of each element has an effect on the system as a whole. A system is the product of the interactions happening inside the system (Ackoff, 1994). As the food system in this project is made up of people and how they use technology for activities in society, we are talking about a societal system. People's behaviour in society is influenced by social norms and technical structures (United diversity, 2019). Elements of a societal system are markets, user preferences, industry, science, policy, culture and technology factors that all influence the shape of the system in their own way (Geels & Schot, 2007). The societal system is constantly in motion due to changes and interactions between elements on different levels:

Landscape (macro-level)

The landscape forms the exogenous context. Changes in the context are usually slow, like climate change and ideology. Sometimes changes in the landscape can be very sudden and intense, like a shock. The covid-19 pandemic is an example of this. Landscape developments may put pressure on the existing regime.

Regime (meso-level)

The regime is the 'established order', the currently mainstream structure. It is dynamically stable, meaning that there are ongoing processes on different dimensions. Most of these are incremental. One of these incremental changes is the rise of meat replacements in the supermarket or the increase of online grocery shopping rather than going to the supermarket.

Niche (micro-level)

The niche is where the more radically new ideas are allowed to grow until they have an opportunity to challenge the existing regime. Niche-innovations are carried and developed by small networks of dedicated actors, often outsiders or fringe actors. It can be hard for niche ideas to enter the regime due to economical, social, organisational or political barriers in the existing regime. Examples here are the introduction of lab-grown meat or eating insects.

Currently there are several transitions taking place in the food system. When structural changes take place in the societal system, this can be called a transition (Geels, 2020). It is a change from one situation or state to another. An example of a transition is, the protein transition, which is the shift away from the consumption of animal proteins towards vegetable and new protein sources (WUR, n.d.). The 'great food transformation' proposed by the EAT Lancet Commission (2019) can also be regarded as such a transition as it strives for structural change and requires multiple social and technological innovations.

Systemic design has been criticised for focusing only on analysing and modelling systems, while lacking practical approaches to innovate on problems within those systems (Ackoff, 2004). Integrating the analytical power of this technique with the action-oriented strengths of design has led to the field of systemic design. Design enables us to develop interventions at multiple levels of a system. The power lies in the synthesising effect that these designs together can have (van der Bijl & Malcolm, 2020).

An emergent discipline within design is 'Transition Design'. This refers to design-led societal transitions towards more sustainable futures and changes in entire lifestyles. It is based upon understanding the interconnectedness and interdependence of systems, and focuses on the need for 'cosmopolitan localism'. This is a place-based lifestyle in which solutions to global problems are designed to be appropriate for local social and environmental conditions (Irwin, 2015). During this

project I try to contribute to the improvement of the global food system, by designing for the local conditions in Hillesluis. Hence, this project could be considered a Transition Design initiative.

Multi-level perspectives framework

The landscape, regime and niche level together form the basis of the multi-level perspective framework (MLP) as shown in figure 6. The multi-level perspective is a framework for understanding transitions and provides an overall view of the multi-dimensional complexity of changes in socio-technical systems. The MLP proposes that transitions come about through interacting processes within and between the different levels (Geels, 2010).

Figure 7 applies the framework specifically to the food system of Beijerlandsewaan. The trends shown in the framework are a combination of macro trends that are broad and concern the whole of the Netherlands or even the world. There are also trends and factors involved that are specific for de Beijerlandsewaan. I reflected the breadth of the food system by giving several examples of developments on the different levels.

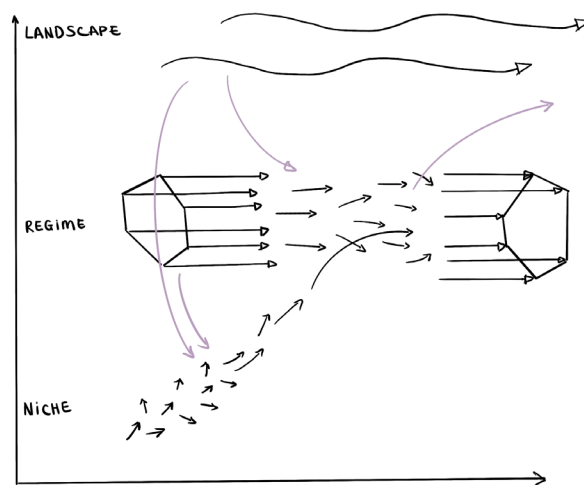


Figure 6: Multi Level Perspective

At the landscape level we see big topics like climate change, loss of biodiversity and growing rates of obesity. These are factors that push on the regime and trigger counter trends like environmental- and (animal) welfare concerns. In the context of this project, we can see that these landscape factors have led to the ambitions of Gemeente Rotterdam to limit climate impact and reduce overweight and obesity in the city. In response to these landscape factors, we see niches like 'Rotterdam de Boer op', 'de Rotterdamse Stadskeuken', and 'Loulou's healthy kitchen' climb towards the regime level. All these initiatives, focused on more healthy and sustainable food, try to shake up the current regime where consumption of highly processed foods and meat-focused meals are still very common. Some health initiatives, such as MoveDis and Lekker Fit!, have already claimed their position in the regime and social institutions like 'Huizen van de Wijk' are making incremental changes like replacing lemonade with water.

In general we can see that the current regime of Beijerlandsewaan contains many unhealthy elements, but that several more healthy niche initiatives are slowly climbing towards the regime. The development of these niches is stimulated by forces on the landscape level. However, the transitions do not come about as easily as it sounds.

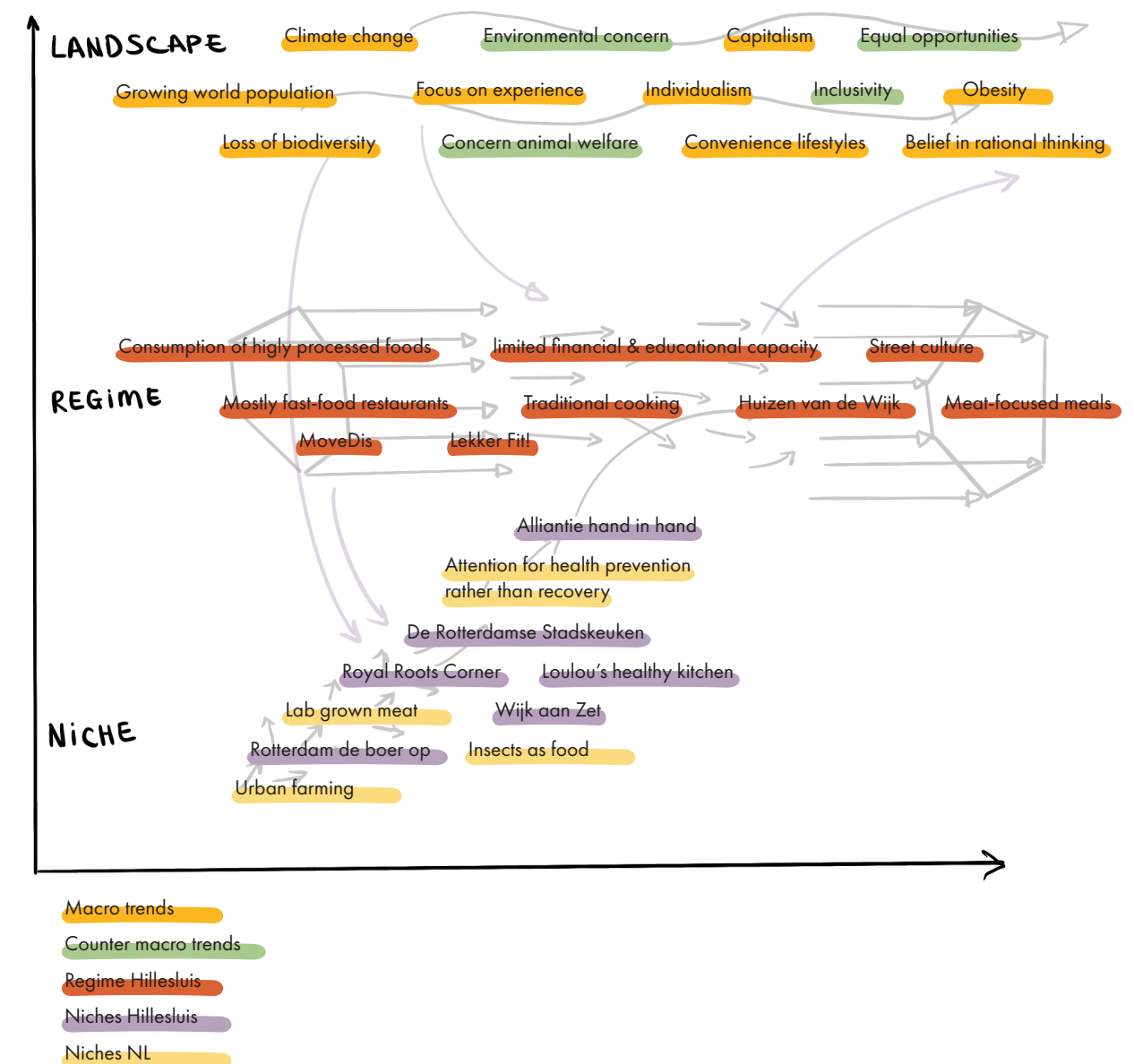


Figure 7: Multi Level Perspective Beijerlandsewaan

5.2 HOW SYSTEMS CAN BE CHANGED

Where the previous section mostly rests on the analytical strengths of systems thinking and is mostly observational, this section uses the theory of systems thinking to identify current barriers and opportunities for change in the system and proposes possible leverage points for change. A leverage point is a strategic place to intervene within a complex system where a small shift in one area can produce significant changes across the whole system (Meadows, 2008). It is important to explore these leverage points in order to find out the most strategic points for intervention in Hillesluis.

Resistance to change

Transitions do not come about easily. Existing regimes are characterised by lock-in and path dependence, and oriented towards incremental innovation along predictable trajectories.

This resistance to change is caused by the structural elements of the existing system that keep the regime 'dynamically stable' and is built up of markets, user preferences, industry, science, policy, culture and technology (Geels & Schot, 2007).

Lock-in: A lock-in is created through the adoption of a dominant design. The system has co-evolved with this design and is optimised for this dominant design. Due to this, the regime can become stuck in a structure that has become sub-optimal (landcare research, 2012). For example, driving fossil fueled cars has been the standard for a long time. Reorganising the system to implement the use of electrical vehicles was long hindered by the organisation of the regime.

Beijerlandseleen is overflowing with unhealthy fast food retailers, and it keeps growing because it is known to make good money for the retailers and fits the convenience lifestyle of residents in the neighbourhood. The large assortment of unhealthy options makes it almost impossible for residents to choose healthy. A vicious circle has arisen, where supply and demand enforce each other towards

more unhealthy food availability. Even though changing the offer of a retailer might not be the hardest thing to do, there seems to be a mental lock-in that resists a change towards healthier food.

Path dependence: Path dependency explains the continued use of a product or practice based on historical preference or use. Actors in a system may persist in the use of a product or practice even if newer, more efficient alternatives are available. This happens because it is often easier, more cost-effective or less riskful to continue along a path that is already set than to create an entirely new path.

Similar to the observation about lock-in, we see path dependence of retailers who find it more cost-effective and less riskful to stick to their unhealthy offer. Even though in many cases there are healthier or vegetarian replacements, they stick to what they know will sell.

Conditions for change

Several drivers for transitional development of a societal system can be identified: tension, stress and pressure (Frantzeskaki & de Haan, 2009).

Tension: These are mismatches between the regime and landscape. It means that the context of the world has moved forward, while the regime still acts in an outdated way. By putting pressure on the existing regime, the landscape creates windows of opportunity for niche innovations to enter the regime.

Stress: These are mismatches within the existing regime. Also here, a window of opportunity can open for niche innovations to mitigate the stress.

Pressure: Pressure increases when a competitive alternative comes up to replace the current regime's functioning. The alternative provides benefits compared to the old configuration and in this way challenges the status quo.

As visible in figure 7, there is a mismatch between bigger themes like 'environmental concern', which floats in the landscape level of the MLP and the current regime in Hillesluis, which causes a tension. What is remarkable is that this tension mostly seems to be visible to people outside this regime: for example Gemeente Rotterdam. The exogenous context is changing, but a trend towards a healthier food environment has not reached residents and most retailers in Hillesluis yet. Accelerating forces might be able to change this.

Accelerating Forces

Being in the right condition for change, still does not mean that change will happen. Frantzeskaki & de Haan (2009) identified three forces to accelerate transitional change.

Formation forces: Are related to the potential for social innovation and include

- presence of a niche
- presence of a new demand
- presence or appearance of a new functioning

A formation force I could identify is the presence of niches. As discussed in the previous section, there are several progressive entrepreneurs who try to bring a more diverse and healthy food offer to Beijerlandseleen. As these different entrepreneurs find each other and support each other, they can gain awareness in the neighbourhood and together be big enough to enter the regime.

Support forces: Strengthen or weaken present transitional trends

- standardisation of practises and routines
- provision of resources
- exercise of power over the regime or novelty by external or internal centres of power

A supporting force I see is the attention for a healthy lifestyle among younger children. The installation of the Lekker Fit! - approach educates the children from a young age and is in that way working on raising a healthier next generation.

Triggering forces: Shock the system

- crises
- systemic failures
- exogenous events

One triggering force that seems to accelerate a positive transition in the neighbourhood is the solidarity towards each other that has grown after the 'Avondklokrellen' that took place during the Covid-19 crisis (Klappe, 2022). While the riot caused a lot of material damage in the neighbourhood, it is inspiring to see how people gathered to clean up and repair their neighbourhood. According to people I spoke to, the atmosphere has changed and social cohesion has improved. The positive spirits that come with this might accelerate the willingness to further develop the neighbourhood in general, which can include the improvement of the food environment.

CONCLUSION

To conclude, a system is not easily changed. And once it does, it is likely that changes turn out differently than expected because of all the interconnections adding their weight to the transition. This complexity emphasises the need for a holistic approach that takes developments in all different system elements (markets, user preferences, industry, science, policy, culture and technology) into account.

With the insights I gathered so far, it seems like both a mental shift as well as a physical shift has to take place in the food environment of Hillesluis. This should be achieved by approaching the different parties across levels of the societal system and learning about their motivations and preferences. From there, we can determine how to help the niche initiatives into the regime, and how to achieve a mental shift in the minds of stakeholders in the current regime.



6. TARGET AUDIENCE

The physical context during this project is Hillesluis, with a focus on Beijerlandse laan. According to Wijkprofiel Rotterdam (2020), Hillesluis has almost 12.000 residents. The average educational- and income level of this neighbourhood is low when you compare it to other parts of Rotterdam. The neighbourhood is culturally diverse and full of young children. This chapter analyses the characteristics of people with a low socioeconomic status (SES) and zooms in on different cultural values around food. It is important to learn about these themes in order to empathise with the target audience and learn about their values in relation to food. The outcome of this chapter is input for the next chapter where we analyse how eating behaviour comes about.

6.1 LOW SOCIOECONOMIC STATUS (SES)

Hillesluis can be identified as a low SES neighbourhood (Wijkprofiel Rotterdam, 2020). SES can be defined as the social standing or class of an individual or group, and is often measured as a combination of education, income and occupation. Examinations of socioeconomic status often reveal inequities in access to resources, plus issues related to privilege, power and control (APA, 2017). Figure 8 compares the average income in Hillesluis to Rotterdam's average and shows the distribution of education level in the neighbourhood. Obesity is a risk factor for Non-communicable diseases (NCDs) and in Europe, individuals of a lower socioeconomic status carry the highest burden of obesity-related NCDs (Sawyer et al., 2021). These low-income groups are more often exposed to and vulnerable to the conditions that are associated with poorer dietary outcomes. With more than 55% of the adults, and more than one in three kids being overweight, we can also see this trend in Hillesluis.

What makes this group more often exposed to unhealthy food has to do with several things. The neighbourhoods they live in have the highest density of fast food locations and lunchrooms. Also, schools in low SES areas are more likely to have unhealthy food locations within walking distance (Mölenberg et al., 2019). The higher visibility and shorter distance to these food locations increase the likelihood of consumption. Another reason for extra exposure is that low SES people often look at discounted products. Still, most advertised products are unhealthy (Verhoeff et al., 2021). Also in general, unhealthy food has become cheaper over the past years, while healthy food has become more expensive.

Research found that poverty also affects the way people think and make choices. People who don't have enough money to make ends feel out of control when it comes to crucial things in life. It makes them think more short term and decreases their power to execute their original plans. They often experience stress and have to make difficult choices, which decreases their mental bandwidth. Also, stress and sleepless nights feed the need for unhealthy food. In short, the urgency of a healthy lifestyle is put to the background as other matters are more important. Their situation makes them more vulnerable to unhealthy food.

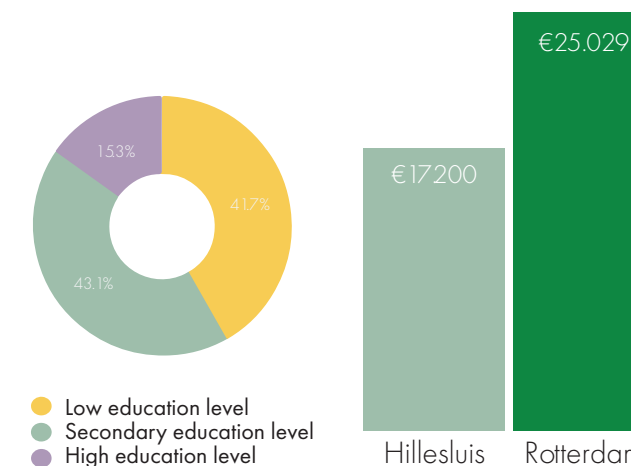


Figure 8: Statistics regarding socioeconomic status Hillesluis. On the left, the distribution of educational level and on the right the average income in Hillesluis measured against the average income in Rotterdam.

A research by motivaction (2015) investigated the sustainability and health of eating patterns of different social groups in the Netherlands. From an analysis conducted specifically focused on Rotterdam it was concluded that most of the people living in Hillesluis can be categorised in the social group 'convenience oriented' (Visscher, 2016). This group typically consists mostly of people of low SES and its characteristics can provide us with some extra insight on our target group. This social group is impulsive and strives for a worry-free, comfortable life. They are focused on the here and now and don't think long term. They are not very ambitious and not easily interested but have a desire for recognition and appreciation. They eat relatively unhealthy: a lot of snacks, sodas and processed foods with a lot of added sugar and salt. This makes their eating behaviour unsustainable and they have little ambition for changing this. Looking at statistics of 'Gezondheid in kaart' (2020), we can indeed see that only 68% of the residents in Feijenoord (Hillesluis is part of this area) eat vegetables at least five days of the week. For fruits this is even lower, with only 47%. Especially when looking at kids below 12 years old, we also see a high amount of sweetened drinks: 60% of the kids drink at least two sweetened drinks per day. With 74% of the residents eating a self-made hot meal for at least five days per week, Feijenoord has the lowest score in Rotterdam.

Even though the food they eat might not be sustainable, people with low SES do pay extra attention to avoiding food waste. They are more likely to keep food in the fridge to eat it the next day and throw out food less often. This makes sense, as from an economical perspective it is also beneficial to avoid food waste.

These theories about low socioeconomic status teach me that a possible intervention should be as effortless as possible for residents to join. It should have a low threshold, so that it doesn't cost residents a lot of bandwidth or extra stress. One reason for making unhealthy choices seems to be related to the convenience that comes with it, so this increases the relevance for an effortless intervention. Regarding the unhealthy food environment, I cannot force retailers to change their offer, however an intervention could inspire or inform them in a way that they see the relevance and benefits of offering healthier food. When doing this successfully, they can change their offer voluntarily.

6.2 FOOD & CULTURE

Food is more than just a source of nutrition. In all human societies it plays important roles and is deeply embedded in the social, religious and economic aspects of daily life (Helman, 2007). Within these societies, it also carries a range of symbolic meanings, both expressing and creating the relationships between people, their beliefs and the natural environment. There are implicit rules about who is supposed to prepare and serve the food and to whom, which individuals or groups eat together, where and on what occasions the food is served, and the actual manner of eating the food. Because of the central role of food in daily life, especially in social relationships, dietary beliefs and practices are notoriously difficult to change, even if they interfere with adequate nutrition (Helman, 2007). Before beliefs and practices can be modified or improved, it is important to understand the way each culture views its food.

With only 17% of Hillesluis being autochthonous Dutch, it is a very diverse neighbourhood in terms of culture and thus dietary habits and food culture. Since I eventually want to influence the dietary habits of people in Hillesluis, I first need to understand their current habits and the way they view food. As it is impossible for me to experience and understand all these cultures to the fullest on such short notice, I focused on the two largest cultural groups in Hillesluis: The Turkish and Moroccan (see figure 9). Online, I consulted websites of dieticians with a specific expertise for the different food cultures to learn about what these people eat, and what their 'pitfalls' are in terms of what is healthy and what is not. I also reviewed the food diaries from my own consumer research (chapter 8).

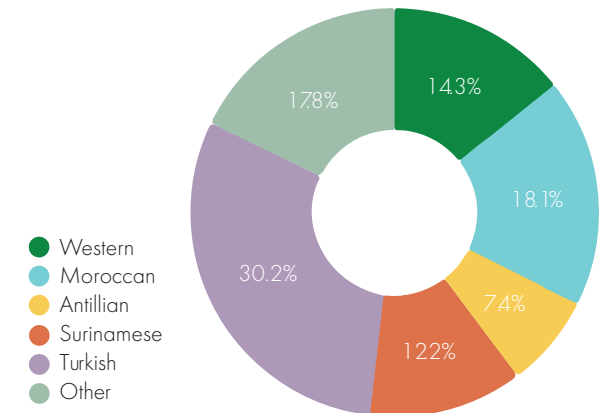


Figure 9: Distribution of migration backgrounds in Hillesluis

Turkish & Moroccan cuisine

Using insights from Voedingscentrum (n.d.) and my own consumer research I listed some parts of the eating culture that can impact the physical health of these people and especially their kids. There seem to be many similarities between the Turkish and Moroccan habits, which is why I combined the insights in one list.

- What is eaten is often related to belief. For example, only eating halal meat as muslim. (RIVM)
- A lot of potatoes, bread, fats and oils
- Drinking more juices and sodas. Drinking water is seen as 'something for the poor' (neighbourhood support, Humanitas, 2022).
- Food is strongly related to social gatherings. This creates a kind of pressure to eat during these social gatherings. Not joining to eat something is seen as impolite.
- Preparing traditional dishes takes a long time and is hard to prepare in small amounts. This is why large quantities are prepared at once and then saved for multiple days, or for (unexpected) visitors.
- Attention to serving the dish in an attractive way. Usually in big pans.
- Food closely connected to different festivities: The occasion determines what is served.
- Chubbiness of kids is seen as healthy.

Chubby kids are regarded prettier and less vulnerable. (neighbourhood support, Humanitas, 2022)

- Not finishing your plate is seen as food waste, which contradicts the Islam. It is expected to finish your plate. If there is any food left, this should be saved in the fridge and eaten the next day.
- Turkish parents seem to be more permissive to the wishes of their children. Parents may feel 'bad' if they cannot or do not answer to the wishes of their children.
- There is fear of the kids not eating enough. If the kid doesn't like or want something, the mom will probably prepare something else immediately, so the child still eats something.

Looking at commonly used ingredients and products of Moroccan and Turkish cuisine, I think their **strengths** regarding health lie in the strong presence of **legumes and spices**. Legumes are great meat replacers and because these cultures already use them a lot, I do not expect much resistance against the use of legumes. The use of spices really determines the flavour of a dish and makes it recognisable. This is a great strength of the Moroccan and Turkish dishes and an element that should be kept if we want to ensure cultural recognition for our target group.

A common 'pitfall' in both cultures seems to be the **overconsumption of carbohydrates via starchy foods**. Both cultures have the habit of serving extra bread or dough products next to their dishes, while there are already potatoes inside the dish. They use this for dipping the saucy part of their dish and instead of cutlery. This addition to every meal adds relatively little nutritional value compared to its calories. However, this way of eating with your hands is a very traditional habit. It will be a challenge to change this tradition into a healthier alternative.

The other pitfall I could find in both cultures is the presence of **a lot of added sugars** in between meals: sweet pastries, sweetened drinks and sugar in tea.

Even though all insights are achieved through trustworthy resources, none of them will apply to everyone. To avoid misconceptions I involve experts along the way of the design process. These experts are all situated in Hillesluis, and know the target audience very well. They will automatically take into account the background knowledge that I might not be aware of yet.

Figure 10 and 11 show an impression of the Turkish and Moroccan cuisine.

CONCLUSION

This chapter studied two very present topics in Hillesluis: a low SES and a great diversity of cultures I am personally not familiar with. The theories about low socioeconomic status taught me that a possible intervention should be as effortless as possible for residents to join. It should have a low threshold, so that it doesn't cost residents a lot of bandwidth or extra stress and fits their need for convenience. Regarding the different cultural cuisines, I focused on the Turkish and Moroccan cuisines, as these together represent around half of the population in Hillesluis. The strengths of these cultures regarding healthy food, is the presence of legumes that are in their diets already, and the great variety of spices they use to achieve a typical taste. The pitfalls mostly have to do with overconsumption of carbohydrates and added sugars. When designing interventions, it is important to make use of the strengths of these cultures and respect their manners around food.



Figure 10: An impression of the Turkish cuisine



Figure 11: An impression of the Moroccan cuisine



7. UNDERSTANDING FOOD CHOICES

Food choices determine the food consumed by consumers, and in turn have a great impact on their health. Many of these choices are made unconsciously and depend on a complex set of variables that act on different levels. The determinants of nutrition and eating are captured in the DONE framework, which is a framework developed in the context of the European research network and knowledge hub DEDIPAC (Determinants of Diet and Physical Activity). In this chapter I take a look at these determinants and discuss how they can impact the target audience of this specific project.

DONE: Determinants of nutrition and eating

The food environment around an individual consists of social, cultural, physical, economic and political factors and can be categorised along four dimensions: food availability, affordability, accessibility and acceptability (Sawyer et al., 2021). These four A's together determine how the market is experienced by consumers as is visible in figure 12. By increasing these elements towards healthy food, the health of the consumer and the system should slowly improve.

Accessibility

Does the consumer have the cognitive, emotional, financial, physical and social resources to access healthy food?

Availability

Are there healthy food options available at all?

Affordability

Is healthy food economically attractive for the consumers?

Acceptability

Does healthy food fit the social and cultural values of the consumer?

These four dimensions determine the choices of the consumer and are influenced by the factors in the environment. In this section, I take a look at how the different parts of the food environment influence the food availability, affordability, accessibility and acceptability and thus the choices of the consumer.

Policy

First, there is the policy level. This is where rules and regulations are established by higher powers like the government. Taxes on certain types of food, food advertisement regulations, labelling regulations, dietary guidelines like 'de schijf van vijf' and market regulations all influence how certain foods are perceived by the consumer. For example, if taxes on fruit and vegetables are executed, these healthy products become more affordable for the consumers. For this project, I do not focus on intervening at policy level as this is outside my reach.

Physical food environment

The physical food environment involves a lot of determinants that vary from macro to single product focus. All determinants have in common that they influence the foods available to the consumer. On a high level we see external factors like the weather, which has an influence on the harvest and thus on what ends up in the stores. The market prices, distance to these stores and density of food outlets in turn influence the affordability and accessibility of the food. On a smaller, micro level, the portion size or the food you have available at home also influences the intake of food. Lastly, there are also product attributes that mainly have an influence on the acceptability of it. Product attributes can be intrinsic, like the flavour, nutritional composition or sensory appeal for the product. They can also be extrinsic, like the product convenience, price, packaging and labelling.

What we can see specifically in Hillesluis is that the unhealthy food is widely available and accessible. The Beijerlandse laan is full of food, mostly unhealthy. As residents are confronted with this unhealthy offer all the time, chances that they will also eat it increase. Because the target audience generally has little money to spend, they are likely to buy unhealthy products as well, because these are the most affordable.

Social/cultural food environment

The social and cultural food environment of a person consists mostly of the people and culture around you. Here we have the cultural norms, values and beliefs that impact mostly the acceptability of the foods around you. Consumers are more likely to eat the foods that fit their cultural food habits, rituals and traditions. Then, there are also a lot of social factors that influence acceptability of certain foods: Especially for kids it has to do with the habits, lifestyle, knowledge and income of their parents. Also the parental perception of a child's weight can impact the acceptability of certain foods. Besides their parents, people are also influenced by other social contacts who might cook with them or recommend certain dishes.

Regarding culture, I already discussed the pros and cons of the different cultural habits in Hillesluis in chapter 6.2. Regarding the social environment, I think there are a lot of possibilities for improvement. The community-like atmosphere ensures that people can influence and help each other a lot. Once a health movement is started by trusted contacts, I think a lot of people will join.

Individual factors

Lastly, there are a lot of individual factors that impact consumption behaviour. These factors can be divided in biological, demographic, psychological and situational determinants. Biological determinants have to do with taste preferences, but also physical abilities and limitations in food preparation and consumption or allergies. Demographic factors are for example socioeconomic status, religion and nationality. Then there are psychological factors which involve mood and emotions, self-control, health consciousness and motivation, food knowledge, cooking skills, beliefs and habits. Lastly, the situational determinants are hunger, stress and available kitchen facilities at the moment.

Some individual factors are reoccurring within many residents of Hillesluis and unfavourable for achieving a healthy diet. For example a low socioeconomic status, low levels of consciousness and knowledge about healthy food and stress all contribute to unhealthy food choices.

Figure 12 shows an overview of the system driving food intake for low SES groups. In green, you can follow the food supply chain from production, to market, to food intake. The food environment is perceived in a certain way and this can be measured in the four A's (centre square). Various personal factors, not in itself related to food influence this perception, as visible in purple. 'Policy' regulations hover at the top of the system as an external influence on the whole.

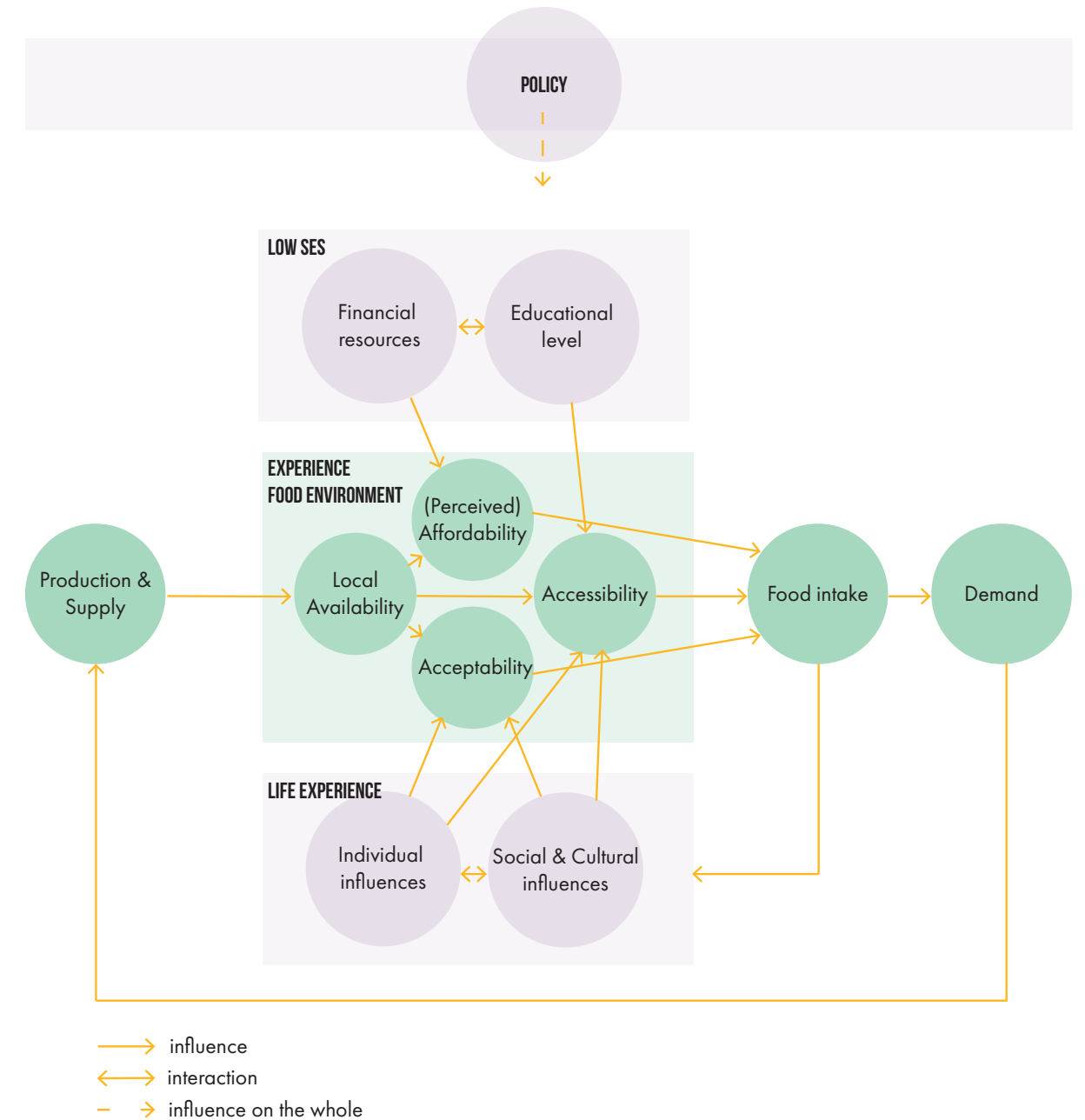


Figure 12: Overview system driving food intake for low SES groups, adapted from Sawyer et al. (2021)

Within the social, cultural, physical, and political factors we can find stakeholders that play a role in relation to the consumers' eating behaviour. These stakeholders are visualised in figure 13.

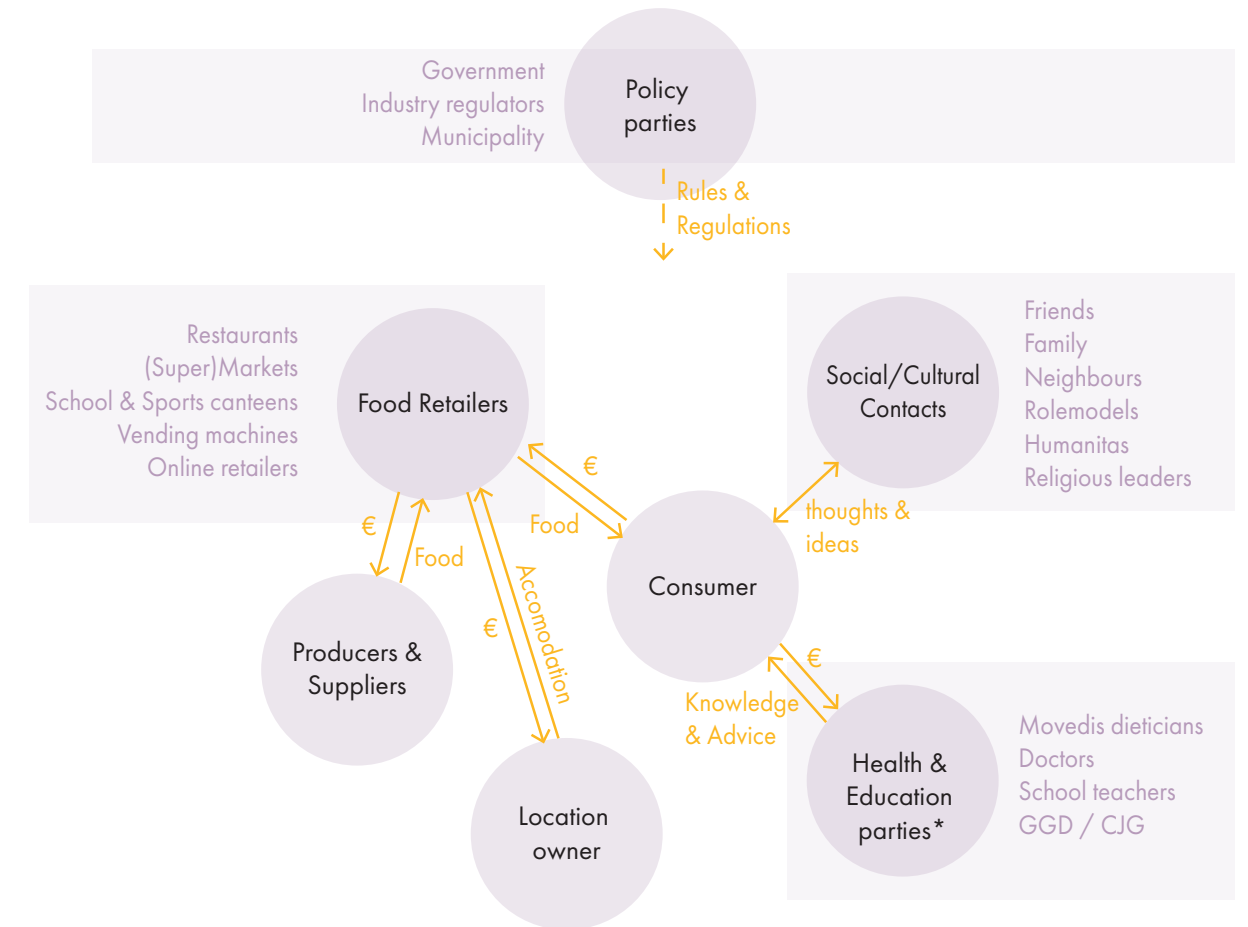


Figure 13: Stakeholders in food decision making

CONCLUSION

The poor dietary intake of low SES groups can be presented as an outcome of a complex adaptive system that sustains a food environment that increases accessibility, availability, affordability and acceptability of unhealthy foods. In order to reshape system dynamics, simultaneous, diverse and innovative strategies are needed to facilitate improvement of availability, affordability, accessibility and acceptability of healthier food (Sawyer et al., 2021). For this, we need to deploy the different stakeholders strategically.

*Health and Education parties are also part of the socio-cultural context of consumers. I show them in a separate 'bubble', as the relationships with these stakeholders are often much more formal compared to the ones portrayed in the 'social/cultural contacts' bubble. Therefore, what is exchanged in the relationship is also different.



8. FIELD RESEARCH

As this project is specifically centred around Beijerlandse laan in Hillesluis, it is important to get to know this neighbourhood. To design a suitable intervention I need to know the audience and the context they live in. Through interviews and observations I learned about the residents (=consumers) and retailers in Hillesluis. I also interviewed the dietician from this neighbourhood, who shared her expertise on common patterns and suitable approaches for working with residents in Hillesluis.

8.1 CONSUMERS

Participants: 6 residents from Hillesluis, parent to at least one child <12 years old.
 Recruited via: Huis van de Wijk Riederkwartier, personal network
 Method: Contextmapping & Semi-structured interviews
 Time span: 30-60mins per interview

When looking at the food system, residents take on the role of 'consumer' as they are the ones who acquire and eat the food in the system. Through interviews I tried to connect with them, and gain understanding about their habits, values, needs and concerns around the theme of food. This is necessary to sketch the current situation, and to be able to identify barriers and opportunities for a healthier food environment. The themes touched upon during the interviews were:

- general role of food in life of the consumer
- eating behaviour
- buying behaviour (grocery shopping, eating out, ordering/take-away of food)
- cooking behaviour

Methods & Procedure

Initially I planned to apply the context mapping method in combination with semi-structured in-depth interviews. This study aimed to find out more about the habits of consumers, and also the meanings behind it. However, most of the choices made out of habit are made unconsciously (Kahneman, 2011). By providing a sensitising booklet as preparation for the interview, the participant would already become a bit more aware of the context in which their experiences around food and eating take place. However, once participants were approached it turned out that most of them were not very skilled in reading and writing of the Dutch language. As I understand, this is the case for many residents in Hillesluis which made me decide to exclude the sensitising booklet as preparation rather than excluding potential participants who could not read or write in Dutch. This, to maintain an accurate representation of the neighbourhood. Eventually, two of the participants were able to fill out the sensitising booklets in advance of

the interview. During all of the interviews the booklets were still used as a probe to guide the conversation.

Sensitising booklet

For the participants where it was possible, a sensitising booklet was filled out in preparation of the interview. This booklet is a tool that can be scaled under the context mapping method. This is a user-centred approach that involves the user as the expert on his or her own experience. It is used in an early stage of the project, while there is still a lot of room for finding new opportunities. Contextmapping uses generative tools like a sensitising booklet in order to let the users express their experiences in a playful way and at the same time become more aware of their context in which their experiences around food and eating take place. This technique enabled me to find the user's goals, motivations, meanings, latent needs and practical matters (van Boeijen et. al., 2013).

The booklet was set up while taking into account the 'path of expression' from Sanders & Stappers (2012). The participant was asked to think about actions and experiences in the past in order to be able to think about the future. The booklet contained six exercises that gave insight into present and past experiences around food. For example, they were asked to keep a food diary for one day to review their own day-rhythm. Figure 14 shows an impression of the booklet, while a the complete booklet can be found in appendix B.

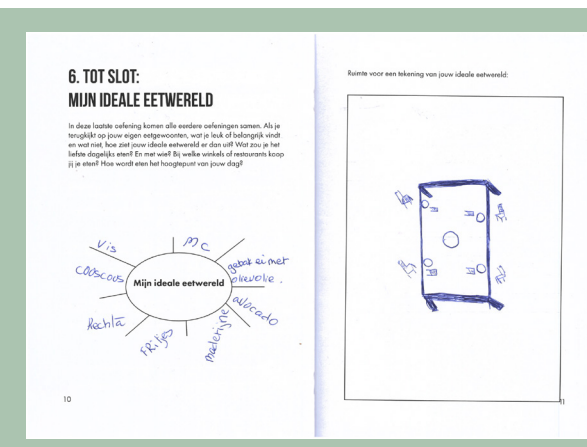


Figure 14: Impression of sensitising booklet

Semi-structured interview

Semi-structured interviews were conducted to get an in-depth understanding of the values, needs and motivations of the consumers around food. The semi-structured approach was used to ensure that similar themes were addressed throughout the interviews while maintaining the freedom to explore interesting topics more in depth (Patton, 2002). Each of the interviews was executed in a face-to-face setting and took place in 'Huis van de Wijk Riederkwartier' or in the participant's home. These are familiar places to the participants, making them feel at ease during the interviews. The interviews lasted 30-60 minutes per person. The themes discussed during the interviews were the following:

- Introduction of the project and introductory questions
- Eating behaviour
- Buying behaviour, including view on Beijerlandse laan
- Cooking behaviour
- Vision on healthy eating
- Ideal foodvision

Attention: I intentionally did not introduce the project as health-related. This, because I didn't want to judge the participants' habits and wanted to avoid socially desirable answers. The topic of health is only treated shortly towards the end of the interview, or when a participant starts to involve it on his/her own initiative. Instead, I introduced the project as an exploration of eating habits.

The full interview setup can be found in appendix C.

Data analysis

The collected data includes the filled in booklets and audiotapes of the interviews which were also transcribed to make sure no data would be lost. The transcripts were analysed using the thematic analysis method by Braun and Clarke (2012). This is a method for systematically identifying, organising, and offering insight into patterns of meaning (themes) across a dataset. After preparing the transcripts, initial codes were generated and immediately put onto post-its in Miro. These codes could either be relevant quotes from the transcript, or interesting themes and insights. Afterwards, the codes were clustered iteratively several times in order to find overarching themes. These themes were turned into insights, which can be found in the 'main take-aways' section of this chapter.

Consumer journey

To get an impression on the daily habits of the consumers around food, I captured their stories in a journey. The journey shows the actions around food and the context in which they take place. This journey helps to empathise with the target audience and to understand their pains and gains. The journey is visible on the next page.

Main take-aways

Food is directly related to social activity

This is the positive association that directly comes to mind when talking about food. It is about eating at home with the family (household) and laughing and talking together.

Social aspect > Health aspect

People in Hillesluis often have many things to worry about. The kids are their main concern in life and most important is that they are happy. Therefore, parents will not insist their children to eat vegetables when they don't want to. Sometimes the atmosphere at the table weighs heavier than the healthy vegetables.

Tension found:

Maintaining a good atmosphere by avoiding friction vs. Caring extra about health, but causing friction which takes extra energy

Kids are key

Parents do everything to see their kids happy. Kids have a lot of influence on the food served in the house, which in turn impacts the diet of the parent as well. Even though parents might prefer something else, they obliterate themselves for the happiness of the child.

"I don't want to cook something separately for myself. It is more important what my son eats than what I eat."

Cooking traditional dishes

Many dishes are traditionally made, and stem from the culture the person originally grew up with. These dishes often involve a lot of meat, potatoes and bread. This makes them very calorie-rich, environmentally unsustainable and does not meet ideal nutritional values.

Traditional family roles

The mom usually spends her days by taking care of the children, cleaning the house, buying groceries and cooking. Dads mostly focus on work.

Strong women communities

Strong bonds between women who live in the same neighbourhood. They meet each other around the school of their children and regularly eat together at each other's houses or go for breakfast together in a restaurant.

Distrusting the unknown

These people don't trust food that is made by someone else. They rather prepare food themselves because then they know what is in it and how it is prepared. After some time they can start to trust others, when they know this person uses the right products. Trust is easier created for people with the same cultural background.

Eating out of home as a practical consideration










As mentioned before, these people mostly eat at home. Yet, when they do decide to eat out, this is usually a practical consideration: for example while being on the go already or when they get hungry during shopping or another out of home activity.

Dirk is the place to go

Dirk was clearly the most popular place to get groceries. Reasons for this were: Products are cheap, they have good discount deals, it is close to their houses, it is easy to park the car there. Other popular places were the fresh market and the Turkish supermarket. These were mostly visited for vegetables, fruits and culture-specific products.

Feeling disconnected because of covid

Gatherings have drastically decreased because of covid, and several participants mentioned that their social network is shrinking and that they miss being in touch. The women especially mentioned that they miss their women's gatherings at each other's houses.

Phase	MORNING		AFTERNOON		EVENING		EATING OUT		
	BREAKFAST	(SNACK)	LUNCH	GROCERY SHOPPING	COOKING DINNER	EATING DINNER			
Food involved	<ul style="list-style-type: none"> • Similar every day • Kids: Cornflakes or bread with milk • Me: Bread, olives, cheese, eggs, milk 	<ul style="list-style-type: none"> • Coffee / tea (with sugar) • Fruit 	Bread and different types of topping or a warm meal. Lunch time and content varies a lot	Daily groceries: bread, milk, cheese etc. Weekly groceries: ingredients for dinner meals, fruits, vegetables	<ul style="list-style-type: none"> • Culturally traditional meals: i.e. Tajine, Rechta • Often a combination of potatoes, bread meat/chicken/fish and some other vegetables • Variation of pasta meals 		<ul style="list-style-type: none"> • Fast food: i.e. McDonalds, Bram ladage, Döner kebab • Turkish breads: Simitci 		
Actions	<ul style="list-style-type: none"> • Getting the kids ready for school • Preparing bread and fruit for lunch at school • I eat once the kids are in school at my own pace 	<ul style="list-style-type: none"> • In the morning I spend my time doing household tasks and resting. 	<ul style="list-style-type: none"> • Kids have lunch in school • During the day I just eat whenever I feel like it • I listen to music so I do not feel alone 	<ul style="list-style-type: none"> • I make a shoppinglist in my head • Daily: I walk to the supermarket (Dirk) • Weekly: I go to multiple supermarkets by car • My husband carries the heavy groceries 	<ul style="list-style-type: none"> • I pay attention to: promotions price expiration date • I buy the things I like • I get fruits & vegetables from the market 	<ul style="list-style-type: none"> • I prepare the food before the kids get home • I hide vegetables in the food (puree them) • I prepare something the kids recognize • I always cook extra, in case someone comes to eat spontaneously 	<ul style="list-style-type: none"> • We eat early: immediately when kids (and partner) get home • Catching up with the family: talking & laughing • I save left-overs for tomorrow in the fridge 	<ul style="list-style-type: none"> • I go out for breakfast with friends • I eat out for lunch when we are shopping at Zuidplein • When we are out, we eat the dish in the restaurant (not take-away) 	
Gains	<ul style="list-style-type: none"> • Eating breakfast gives energy for the whole day • Eating breakfast adds structure to my day 	<ul style="list-style-type: none"> • Spending some time alone • Flexibility 		<ul style="list-style-type: none"> • I like shopping • Coming home with all the food makes me feel happy & satisfied • I know what I buy, I feel in charge 	<ul style="list-style-type: none"> • I like cooking • I know what is in the food and how it is prepared 	<ul style="list-style-type: none"> • Spending time with family is the most important for me • I like the diversity of dinner and that it is a warm meal 		<ul style="list-style-type: none"> • Opportunity to try something else • You can cook Italian at home, but if you go out.. It just tastes different. • A break from cooking every day, not getting tired • Spending time with friends or family 	
Emotions	 "I am boosted with energy for the day!"	 "During the day I spend a lot of time alone."	 "I like shopping. Look at all this food!"	 "The groceries seem to become more expensive every week!"	 "I love coming home with my trolley full of food."	 "I know what I eat and how it is prepared."	 "My kids are everything for me. Dinner is family time."	 "I don't like eating out because you never know how the food is prepared. Which oil did they use?"	 "I like to treat my little boy."
Pains	<ul style="list-style-type: none"> • Being in a rush because the kids need to go to school 	<ul style="list-style-type: none"> • Feeling lonely 		<ul style="list-style-type: none"> • Groceries are expensive • No inspiration for what to eat 	<ul style="list-style-type: none"> • Using gas for cooking costs a lot of money these days • I get tired from cooking, especially from the cleaning afterwards 	<ul style="list-style-type: none"> • Family members complaining about the food (vegetables) 		<ul style="list-style-type: none"> • Not knowing how the food is prepared • Eating out / ordering food is expensive • Eating out / ordering food is not healthy 	

8.2 RETAILERS

Participants: 8 restaurants in Beijerlandseleen
Methods: mini interviews & observation
Time span: 5-10mins per talk
Additional: participation in 'verhalen wandeling' & desk research

Retailers are supplying consumers with their foods. Beijerlandseleen is full of food providers, mostly (fast food oriented) restaurants. What they offer determines a big share of what the residents of Hillesluis eat. Through short informal talks with the owners and/or employees of these restaurants, I went after their motivations, aspirations and how they see their role in the neighbourhood. I also asked about their view on health and sustainability.

Before my own walk through Beijerlandseleen, I also participated in a 'Verhalenwandeling' organised by Stichting Wijkcollectie. During this two-hour event I visited six places. Some of these were restaurants, but we also visited 'Alliantie hand in hand', 'like-je-wijk' and a vacuum cleaner store that had been there since 1938. The walk helped me to get a feeling for the atmosphere in the neighbourhood and showed me the great motivation of the passionate organisations we visited. Figure 15 gives an impression of the walk.

Statistics Beijerlandseleen

During my walks through Beijerlandseleen I started to wonder about the number of eateries there are in this street. I tried to count them, but later on decided that it would be easier to look up the street online. Via winkelboulevardzuid.nl I found an overview of all stores in Beijerlandseleen and Groene Hilledijk.

Total amount of stores: 180
1 in 3 = food focused
50% of food = supermarket or speciality store
33% of food = fastfood

Main take-aways

Responsible & involved

There is a group of open-minded and progressive entrepreneurs in Beijerlandseleen who have great passion for their food and are very conscious. They value health and also give themselves a social role in the neighbourhood. Examples: Royal Roots Corner, Loulou's healthy kitchen

The ones who are there for the money

In contrast to the just mentioned retailers, there are also a lot of retailers who are less aware of the health of their customers. Mostly the döner restaurants seemed to be there mainly because 'It is good business'. For me, it felt like they did not care very much about what they sold. If it sells, it sells.

However, I do think that they still fulfil a social role in the neighbourhood. They are very open for a chat and I can imagine that they see a lot of the same faces regularly.

Fastfood-oriented restaurants

All restaurants are focused on fast eating and not for 'a night out'. Ordering at the counter, then sitting down to eat and leave when you're finished.

They look worse than they are

'Looks' are not a priority of most retailers. Their restaurants don't look very inviting as you pass them. However, from what I heard during the interviews the quality of their food is often good. This poor appearance of some of the restaurants might create a stigma around the street that is worse than necessary.

Social safety role of shops

The presence of all the shops in Beijerlandseleen contributes to the amount of people in the streets. As long as the shops are open this seems to work as a social safety control. The atmosphere outside is better and you are never alone. After the shops close it becomes more empty in the streets which also feels less safe.

People need to be actively involved

The owner of 'Royal Roots Corner' also hosts a lot of social activities in her basement. This can be homework classes for kids, little music events or anything she feels would add value to the residents in Hillesluis. She said:

"People here are willing to learn and participate, but you have to let them in and be patient with them. Earn their trust and involve them actively."

Figure 15: An impression of 'de Verhalenwandeling'



8.3 EXPERT: MOVEDIS

Participant: Founder MoveDis
Time span: 45mins

MoveDis is a nutrition and exercise centre in Hillesluis. They offer dietary advice and nutritional information. Next to regular consults they offer for example cooking workshops and supermarket tours, but also cardio fitness and Zumba classes. The aim of MoveDis is to make food and exercise fun. I spoke to the founder of MoveDis in a 45min conversation where she shared some of her expertise. The aim of this conversation was to validate some of my consumer insights and to get some more general insights about what works in this neighbourhood. As a dietician in Hillesluis, Movedis meets a lot of residents and has experience in guiding them towards a more healthy lifestyle. While the insights from the consumer interviews were very personal and specific, the insights from this conversation were more broadly applicable.



Figure 16: an impression of an appointment at MoveDis

Main take-aways

Learning by doing

Many people in Hillesluis don't have the capacity to bring advice to practice by themselves. Therefore it is important to take them by the hand and show them in a practical way. As an example, MoveDis goes to the supermarket together with the client where they can share knowledge in practice. By letting them experience something, they are more easily convinced to understand and follow up on advice.

Cultural recognition

As also mentioned in the consumer insights, culture plays a large role in the trust people have. They don't easily trust food that is prepared by others, except if it is prepared by 'their people'.

Healthy eating is not a priority

Living on a tight budget comes with a lot of worries. Food is often not the first priority to people, let alone HEALTHY food. Movedis emphasises the relevance of healthy eating, which can also help people to cope better with other problems.

Mouth-to-Mouth culture is strong

Because people often have strong networks in their neighbourhoods, mouth to mouth advertising works very well. Once you are successful with a small group, the word will spread fast.

Shame for problems

People often feel ashamed of their problems and therefore don't look for help. Main barriers are not being confident about the dutch language and not daring to admit being in economic trouble. These problems often make people feel alone which causes a negatively reinforcing loop where the problems get worse. Connecting people with similar problems gives them confidence that they are not alone and builds community feeling where people help each other.

CONCLUSION

In the field, I gathered a lot of insight on the residents and retailers living in Hillesluis. The residents of Hillesluis clearly see food as a social event. Their kids are everything to them, which is also visible in the meals they serve: these meals need to please their children, also in order to keep the atmosphere up at the dinner table. Dishes as well as family roles are quite traditional, which means that mostly women are responsible for cooking traditional meals from their original culture. People like what they know and are not very eager to try out new things. Among retailers, there seems to be a division between a new group of very conscious and progressive entrepreneurs and a more conservative group that just sells unhealthy fast-food and is not very willing to change that. Healthy eating is not a priority (yet) in this neighbourhood. If we want to change this, it is important to make something culturally recognisable and hands-on.

9. FROM RESEARCH TO DESIGN

From all insights collected during desk and field research, I discovered the complexity of this challenge and the need for multiple simultaneous, diverse interventions that spark little changes in different parts of the system. Only then we can create, in the first place, the awareness that is needed to start change. With unawareness as a first one, I will use this chapter to list the main barriers and opportunities for creating a healthier food environment.

9.1 BARRIERS AND OPPORTUNITIES

Barriers

Unhealthy physical food environment

Beijerlandseleen is full of eateries of which most offer unhealthy food. Also promotions in supermarkets and online are mostly unhealthy. This makes unhealthy products and dishes widely available and accessible.

Unawareness

Residents are not aware of their personal lifestyle as being unhealthy, mostly for two different reasons: Healthy eating is not a priority for most people with a low SES. They have a lot of problems they are facing daily. This puts the urgency of a healthy diet to the background. The second reason for unawareness about the problem is knowledge. There are a lot of misconceptions about what is healthy and what is not.

Financial resources

The target audience doesn't have much money to spend, while healthy food is (perceived as) expensive.

Distrusting the unknown

Trust is not an easy topic for these people in multiple ways: Firstly, personal relationships. They don't trust people easily. You have to be patient and have to keep involving them before you earn their trust. Secondly, these people don't trust food that is made by someone else. They rather prepare food themselves because then they know what is in it and how it is prepared. The third way has to do with newness in general. People like to cook what they know and are not so much into experimenting with new ingredients and recipes as it automatically seems more complicated. Trust is easier created for people with the same cultural background.

Language

Many people are not confident in speaking, writing or reading dutch. This makes it harder to find information by themselves, but also keeps them from reaching out for help.

Shame for problems

Just like language, being ashamed of their problems is a barrier for reaching out for help as well.

Opportunities

Leveraging culture

Dinner is a social highlight of the day where the family sits together to eat, talk and laugh. How can we use the positive association with this moment to focus attention towards healthy eating in a fun way?

Community based initiative

Hillesluis has a community-like atmosphere. People know each other and I can imagine close collaboration works well once people are motivated about something. A second benefit to the community structure is that word of mouth spreads very fast. How can we use this to spread awareness about healthy eating?

Retailers as changemakers

There is a group of new, responsible retailers starting to gain attention in Beijerlandseleen. How can we show unhealthy fast-food retailers that selling healthy food is also profitable and inspire them to move in this direction as well? How can we stir up competition around healthy/sustainable offers rather than competing for the lowest price?

Kids as changemakers

Parents want the best for their children and listen very carefully to them. Most kids go to schools that run the Lekker Fit! Approach. In school there is extra attention for developing healthy lifestyles. How can we extend the reach of this program to the parents, through the kids?

9.2 DESIGN BRIEF

Through discussing the found barriers and opportunities with the client, a design position within the context was picked. The design brief consists of a design mission, design goal and design criteria.

Design mission:

Encouraging parents (mainly **mothers**) in Hillesluis to increase the nutritional value of their **family dinners** by inviting them to share **healthy cooking experiences** together with their **children**.

mothers: because they have the final say in what is being cooked and served.

family dinners:

- because they happen daily.
- because healthy dining impacts the health of the whole household at once.
- because it is a fun part of the day

cooking experience:

- practical solution: learning by doing.
- cooking process defines nutritional outcome of meal.
- ownership: no distrust because someone else prepared the food. Knowing what is in the dish.

with children:

- children currently have a lot of say on what is served.
- involving children to create acceptance & understanding of new foods. Becoming more open-minded.
- involvement in the cooking process opens conversation (and interest?) about healthy eating and ideally establishes an interaction between parent and child where they both learn from each other.

When executing this mission well, I expect the following benefits to arise:

Create buzz in the short term:

It should work as an eye-opener to break with current habits via an external push from 'the neighbourhood' (stakeholders in the food environment). Experiencing the fun and taste of healthy cooking. In this way we solve the earlier mentioned tension and create health and harmony at the same time.

Exciting new cooking habits on the longer term:

I want the parents and children to both become more involved with the healthy food topic. And eventually create an interaction where children and parents keep challenging and exploring with each other.

Kids get familiar with food and cooking

at an early age:

This increases the likelihood that they will make healthy choices themselves once they grow up.

Design goal:

The following design goal was established to use during the ideation phase. It is a simplified version of the mission, which makes it easier to grasp during brainstorming.

"Design an experience that introduces families in Hillesluis to healthier cooking"

**“DESIGN AN EXPERIENCE
THAT INTRODUCES FAMILIES
IN HILLESLUIS TO HEALTHIER
COOKING”**

Design criteria

Especially during the field research, I was able to collect certain criteria that a design should meet in order to make it a success. These criteria are later used to measure the potential of different ideas generated during the ideation phase.



Low threshold:

To reach and involve residents of Hillesluis, the threshold for participation should be as low as possible. This means several things: be in a place they already know and go to, let there be people they already know and trust, don't give them due dates for signing up via digital platforms they never use, and keep costs as low as possible.



Health potential:

The end goal of this project is positive health impact. An intervention can touch upon health aspects in different ways, some more subtle than others. It is important to focus on the ones that have the best potential to achieve actual change in the target audience's behaviour.



Fun & Positivity:

If we want to engage people, the intervention should be fun! These people have enough to worry about from day to day and can use some positivity in their lives. If it's not fun, they won't come. To meet this criteria it is important to keep collecting feedback from the target audience about their needs and wishes.



Cultural recognition:

The diversity of cultures in Hillesluis comes with many different cultural values and rituals. These are important to people and should be recognised by them in any type of intervention to ensure a feeling of connection and trust.



Learning by doing:

'Doing' is the best way to educate these people. Active involvement and experience are therefore important to be able to get the message across.



10. IDEATION

In this chapter I take you through the creative process of ideation that is used to tackle the design goal. I organised two creative sessions: one with designers and one with experts from Hillesluis. The most promising or creative ideas were used as input for three concept directions. To choose a direction to further develop, I discussed these concepts with the client and stakeholders.

10.1 CREATIVE SESSION 1 - EXPLORING SOLUTION DIRECTIONS

Participants: 4 IDE student colleagues
Time span: 2 hours

The goal of this creative session was to explore potential solution directions that could flow from the design goal as defined after the research phase (see chapter 9). I used this session to kickstart the ideation phase and to stimulate my own creative thinking flow. The design goal combined with emphasizing the relevance of the five design criteria served as a starting point during this session. Firstly, the different parts of the statement itself were explored to pull the participants into the topic. Then, the statement was redefined to 'How can we introduce families in Hillesluis to more diverse cooking?'. In pairs, two concepts were designed and then pitched to the client from the municipality. The session procedure can be found in appendix D. The session was held in a projectroom at IDE. The client joined via Zoom for the final twenty minutes of the session to hear the pitches and share her first thoughts about them. Figure 17 shows an impression of the session.



Figure 17: An impression of the creative session at IDE

Main take-aways

A reoccurring discussion during this session was: can we focus on 'eating healthy' before we even know how to let people eat 'different'? Finding out how to get people in touch with something new became the focus of this brainstorm.

Another insight that came forward during this session again is the culturally diverse nature of Hillesluis we can use as a strength here. By creating open mindedness for new dishes and learning from other cultures, we can bring in the health focus in a subtle way.

It became clear that there are several elements in every solution which you can mix and match in a way that they fit together. This resulted in a morphological chart with the who, what, where, when, why and how of the projected cooking experience. The morphological chart helps to generate new solutions in an analytical and systematic way by combining (existing) elements in new ways (Boeijen et al., 2013). As we are talking about designing a system rather than a product, the solution is not just the sum of its parts. Figure 18 shows the chart.

The ideas generated during this session are collected in section 10.3, together with the ideas generated outside this session.

CREEËR DE ULTIEME GEZONDE KOOK ERVARING

WIE?	Gezinnen uit Hillesluis met minimaal 1 kind van basisschool leeftijd								
WAT?	Samen gezond koken								
WAAROM?	Gezondheids advies / voornemens	Kennismaken met nieuwe cultuur	Contact met een nieuwe groente	Opricht of challenge	Geïnspireerd door iets gezien op flyer/ straat/ internet	Je vrienden koken anders	Iets geproefd en dat wil je nu zelf maken	Het aanbod aan ingrediënten is anders	Wildcard
HOE KOM JE IN CONTACT?	Via school	Via horeca	Via diëtist	Via andere mensen uit de buurt	Via vrienden/ familie	Via huis van de wijk	Via sportclub	Zelf iets op het spoor komen	Wildcard
WAAR?	Thuis	Horeca	Huis van de wijk	Openbare keuken en/ of moestuin	Buiten (bba, vuurtje)	Op school	Bij zorginstelling	(Super)markt	Wildcard
MET WIE?	Zelfstandig met gezin	Onder leiding van een chef	Onder leiding van een gezondheids-specialist	Samen/ naast mede buurtbewoners	Onder leiding van een school docent	Digitale hulp (filmpje)	Wildcard		
HOE VAAK?	Event, [1x, speciale gelegenheid]	Op project basis	Alledaagse activiteit, komt steeds terug	Iets vast in openbare ruimte (is er altijd)	Op eigen gelegenheid (kan altijd)				

Figure 18: Morphological chart

10.2 CREATIVE SESSION 2 - EXPERTISE FROM HILLESLUIS

Participants: 7 Experts from Hillesluis
Time span: 1.5 hours

The goal of this creative session was to collect ideas and opinions from a varied group of people who are based in Hillesluis every day of the week. The group consisted of local business owners and social service providers who are all motivated to contribute to society in Hillesluis. In the first part of the session, many of the insights from my own research were confirmed by the participants. The problems around unhealthy eating habits and an unhealthy food environment were recognised by all of the participants and several causes were mentioned. In the second part of the session some

first ideas were generated, with the question 'How can we introduce families in Hillesluis to more healthy cooking?' in mind. However, as this was also the first time these people were brought together, the real inspiration of this session was not in the generated ideas but in the enthusiastic and determined atmosphere. A more detailed description of the session procedure can be found in appendix E. The session was held in the basement of the Royal Roots Corner, an African eatery which also sells African lifestyle products. The store is situated in Beijerlandse laan, making it an ideal spot to meet the experts from the neighbourhood. The basement is regularly used for social purposes like musical workshops for kids. Figure 19 shows an impression of the session.



Figure 19: An impression of the creative session

Main take-aways

The main take-away from this session was that I found a highly motivated group of people who want to make a change in Hillesluis. They care about the neighbourhood and are committed to improving the health situation. They are willing to collaborate with and support each other. They also confirmed many of my own insights regarding the causes of the current situation. Below, some quotes from the participants:

Lack of awareness:

"People are not aware of their own unhealthy habits. They focus on what tastes good rather than what is good for your body." - Humanitas

"These people are often stressed and have many issues to deal with. This makes healthy eating not a priority." - Restaurant owner 1

Lack of education:

"There are many misconceptions, like crisps with red pepper being a source for vegetables." - Restaurant owner 2

A difficult food environment:

"The food environment around Beijerlandse laan makes it hard to make healthy choices. Before you are able to reach one of the few healthy eateries, you have to pass 1, 2 or maybe even 3 shoarma vendors. That takes determination." - OTB movement

"Supermarket deals are usually for unhealthy products, so that is what these people pick. I always tell them to go to the market instead. There they can get cheaper vegetables and fruits." - Restaurant owner 1

Hesitant to try new things:

"This group is quite hesitant to try new things. They are used to traditional dishes from their own culture and like to stick to those. New things are perceived as difficult." - Humanitas

"From what I see in my customer base, it is mostly the Europeans who are open to trying my vegan creations, even though my own background is African." - Restaurant owner 1

In earlier stages of the project it was considered to have the children of the families as change makers. However, the youth worker present in this creative session strongly advised against this. She has a lot of experience in trying to reach parents through their kids, but admitted that this almost never works. She advised to start with the parents who are already in some way involved with for example a 'huis van de wijk', gym or school and motivate them to participate and bring their children. From there grow your reach towards the less involved parents and their kids.

To effectively make use of this group of motivated people, more follow-up meetings are needed. This, to dive deeper into their ideas and to find out how they can best be facilitated in order to realise them. To completely organise this is outside the scope of this design project. During this project I will still involve them again as experts during the conceptualisation and validation of the chosen idea.

The ideas generated during this session are collected in section 10.3, together with the ideas generated outside this session.



10.3 CONCEPT DIRECTIONS

In this section, all ideas from the creative sessions are collected and converged into three more presentable directions. The directions were determined by looking at the ideas that were rated most promising during the sessions and with the information in mind that was gathered during conversations with experts. This resulted in three concept directions to stimulate healthier cooking among families in Hillesluis: 'Kids as changemakers', 'Culture kitchen', and 'Inspired by the streets'.

Figure 20: Participants spreading the word about this session in their Instagram stories



Concept direction 1 - Kids as changemakers

What if the kids of Hillesluis used their fresh and open minds to inspire their parents to cook healthier? This concept introduces the kids of Hillesluis as experts on healthy food. Many kids learn about health in 'Lekker Fit!' schools and this concept proposes to extend this knowledge to the parents of the kids at home via these kids.

In this concept, 'Lekker Fit!' schools play an important role. These schools spend extra time on exercise and food and also maintain certain rules around what the kids are allowed to eat and drink in school. In school, kids are used to this way of living, so why not take these healthy habits home? As kids are continuously learning and developing, they are more likely to be open-minded about food as well.

Being part of a process builds acceptance and pride, which is why this concept proposes to spend more time on cooking in school as well as at home. The kids prepare and taste a certain dish at school and then receive a mealbox to take home and prepare it again for or with their parents. The kids will be proud to show their newly achieved skills. Parents want what is best for their kids and also listen to them very carefully about what they have learned. Once they see their kids enjoy experimenting with new foods, a positive interaction between parent and kid might be established.



Figure 21: Concept direction 1 - Kids as changemakers

Concept direction 2 - Culture Kitchen

What if the answer to a more healthy and diverse diet lives right next to you? Hillesluis is a very culturally diverse neighbourhood where cuisines from all over the world are mastered by the different residents. This concept uses culture as the key to more diverse and healthy eating. By bringing residents together in a community kitchen they can learn and taste from each other's cultures.

Hillesluis has a community-like feeling to it. People know each other and the latest news might spread faster than you anticipate. Still, residents mostly cook the traditional food of their own original culture. Bringing people together in the kitchen can broaden their food horizon and open their minds to try new twists to what they are used to. Learning from each other, led by a local expert on healthy cooking can become a nice mix of social- as well as food exploration.

The experts can be cooks or owners from local restaurants or maybe even dieticians who are motivated to explore the world of healthy food together. The kitchen should have an experimental setup, leaving room for new input and ideas every time. By involving people and places the residents already know and visit, this is a low threshold activity that can become part of your weekly cooking routine.



Figure 22: Concept direction 2 - Culture Kitchen

Concept direction 3 - Inspired by the streets

What if the streets of Hillesluis were transformed into a culinary cookbook and people would be surrounded by food inspiration, just by stepping out of their doors? This concept would not only inspire residents to cook differently, but would also contribute to the image of Hillesluis as a creative food hub.

Hillesluis is under great transformation. Alliantie hand in hand is committed to creating a vital local economy and an attractive living climate on Beijerlandselaan and Groene Hilledijk for residents, entrepreneurs and visitors. Image and physical appearance of the street are part of their focus. The area is already known for its large quantity of eateries, but what if this became the strength of the area?

By painting beautiful drawings of (healthy) food and recipes on walls of buildings and installing interactive shopping windows that teach you about food in a fun way, the creativity of the neighbourhood will start to show. For local residents and entrepreneurs this contributes to pride and positivity for their own neighbourhood. Re-exploring their own streets by foot to discover these art pieces is healthy and may also open up their minds and inspire them to try something new today.

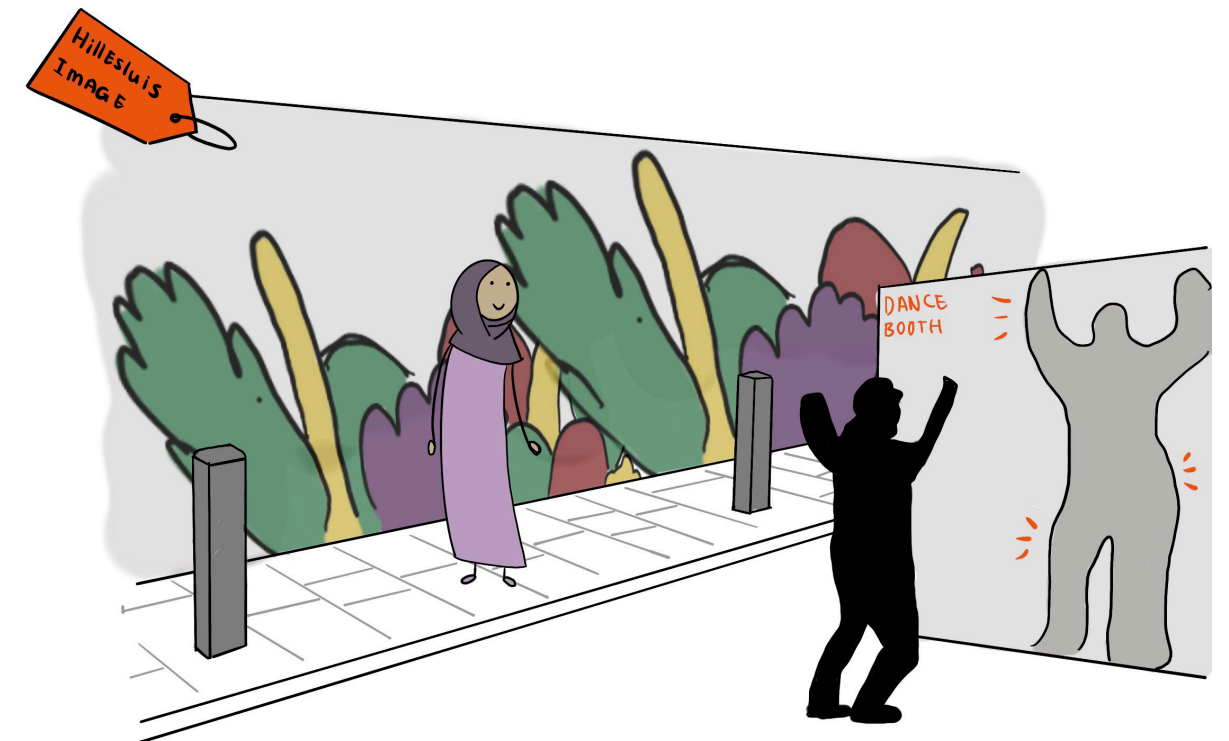


Figure 23: Concept direction 3 - Inspired by the streets

Selection of concept direction

To quickly generate a visual overview that compares the three concept directions, I created Harris profiles. This is a graphic representation of the strengths and weaknesses of the design directions with respect to the earlier defined design criteria (van Boeijen et. al., 2013). The Harris profiles in figure 24 show that concept two 'Culture Kitchen', has slightly more strengths compared to the other concept directions.

In order to make a well-advised choice in which concept direction to select, I discussed them with my client from Gemeente Rotterdam and the stakeholders Humanitas and Lekker Fit!. Eventually it was decided to combine several elements of the three directions together into one, based on the following arguments:

First of all, both Lekker Fit!, as well as Stichting JOZ expressed their worries about reaching parents through their kids. A far more promising idea was to have kids not as changemakers, but as motivation for the parents. Parents want the best for their children and go through a lot to achieve this. Schools can get in touch with parents of children who risk obesity and draw their attention to this opportunity for change in diet.

"Like all parents, also parents in Hillesluis want the best for their children. They are their main motivation in life" - Project manager, Lekker Fit! program

The concept of an open community kitchen centred around the different cultures of the neighbourhood was perceived as a promising one, but mainly as one with social value rather than health impact. By putting some more attention to organising this well, with some more structure and more focus on the health goal, the impact of this setup can be increased. The core of the concept: a community kitchen where neighbours and experts cook together to learn more about healthy cooking while taking cultures into account should be maintained and form the starting point of the final concept.

"There are a lot of things these parents don't know. The cooking sessions should also become a source for information on practical matters and to wipe away misconceptions" - Neighbourhood support, Humanitas

Lastly, we don't want to lose the value of a super low key intervention where everyone can participate just by looking around when going outside. This art inspired intervention direction can serve as an awareness and interest creator for people to start thinking about food differently, or nudge them without them noticing. On its own this direction might not get people to change their eating behaviour, as it is too open-ended and doesn't involve a lot of 'doing'. However, it can complement the buzz in the neighbourhood and help open up the conversation about food.

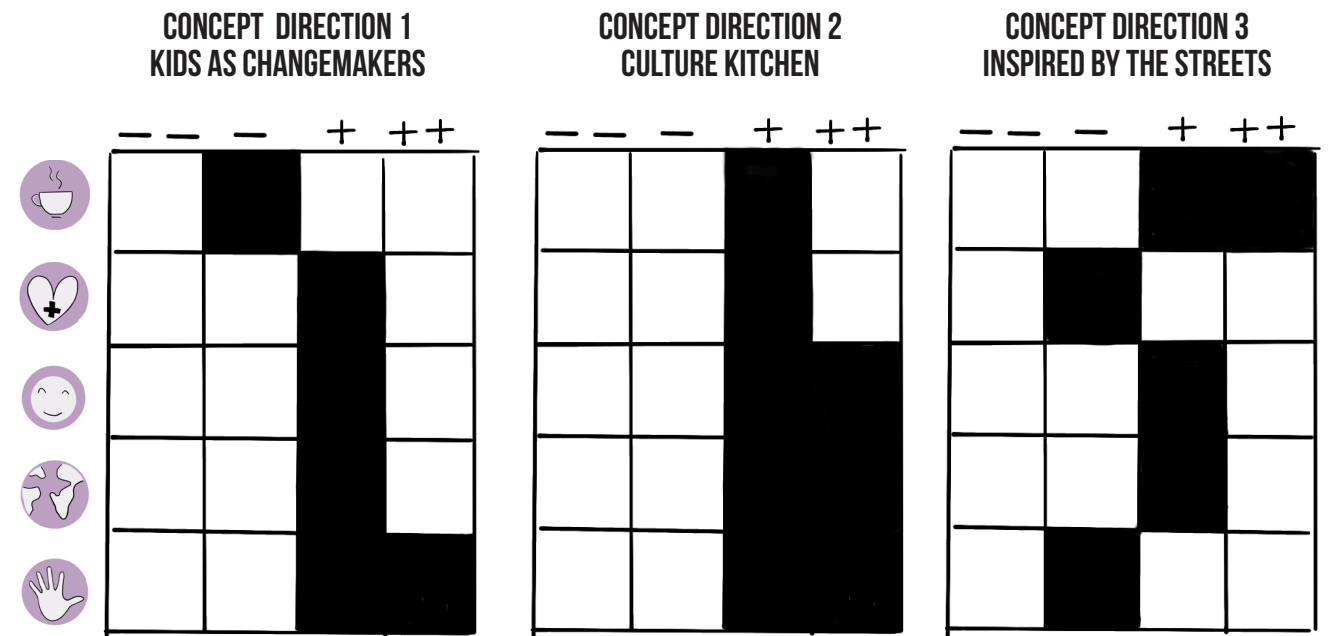


Figure 24: Harris Profile of three directions

CONCLUSION

Through two ideation sessions with designers and experts from Hillesluis, three concept directions were established: 'kids as changemakers', 'culture kitchen' and 'inspired by the streets'. During the conceptualization phase, all three directions will be merged into a single concept. The basis of the concept is the culture kitchen as described in concept direction two. Only, the motivation behind it will be based on parents wanting the best for their child rather than a cultural celebration. Still, the cultural aspects will be taken into account in order to create recognition. Concept direction three will be used as a complementary aspect to inspire or nudge residents in a casual way.



11. CONCEPT

During the conceptualization phase, the picked concept direction was further developed. The concept is explained through a user story and service blueprint. To show the viability of the concept, the role and value for each stakeholder is also explained. At the end of this chapter, the concept is evaluated on how it increases the availability, affordability, accessibility and acceptability towards healthy food, through touchpoints at individual, socio-cultural, physical and political level.

The core of the concept is a workshop series where parents and their children participate once per week during a longer period of time. They are referred to these workshops via school if a child is too heavy or has difficulties to focus. During the workshops, families learn to cook healthier meals in a social setting, guided by a specialised chef. The goal is that acquired knowledge and skills are eventually implemented in their daily life and their cooking activities at home, so that a healthier diet is established. Besides the workshops, I also want to increase the amount of physical stimuli of healthy food in the neighbourhood. Through the application of street art, people passing by can get inspired to open up the conversation about healthy food or to make a healthier choice today.

WHY IT'S CALLED 'DE FAMILIEKEUKEN'

When picking a name for the concept, I wanted it to suit the activity in a way that it would immediately be clear what the concept is about. Secondly, as the workshops are organised by 'De Rotterdamse Stadskeuken' I wanted the name to fit with that as well to make it feel like a brand extension. With those two guidelines it became easy to pick a name: 'De Familiekeuken' (the family kitchen). It is a kitchen where you cook with your family. I like how the name has a 'homey' feel to it, which makes it feel accessible and safe. This fits the residents' need for a low threshold and trustworthy environment. Also, it focuses on the social part of the workshops rather than the health part, which might sound more attractive to them.

“DE FAMILIEKEUKEN”

A WORKSHOP SERIES WHERE PARENTS AND THEIR CHILDREN LEARN TO COOK HEALTHIER MEALS IN A SOCIAL SETTING, GUIDED BY A SPECIALISED CHEF.

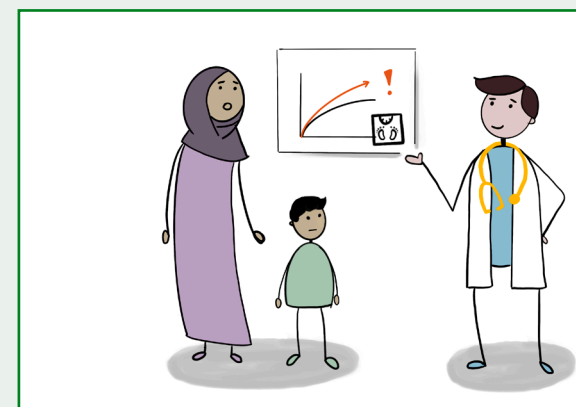
11.1 USER STORY

The concept and its desirability is best illustrated by taking you along on a user’s journey*. The following narrative shows the design in its context of use over time. It lets you empathise with a family in Hillesluis and shows which touchpoints of the design they meet over time.

Note: The different stakeholders and touchpoints are marked **green**. A Dutch translation of the story can be found in appendix F.



This is Esra and her family. She is a single mother of 3 children (Ali (9), Mo (5), Elif (11)). Esra came to the Netherlands from Turkey 15 years ago and has lived in Hillesluis ever since. They don’t have much money to spend, but the love within the family ensures that they have a good time. Making sure her children are happy is most important to her. Esra does not have a job, so she and her family are on welfare. All three children go to the same Lekker Fit! School.



It is September and the children have just started school again after the summer holidays. This is also the time when the **school doctor** visits the school. Esra is surprised when she is called for an appointment at school to talk about Ali’s health. Ali is overweight and if this continues, there is a chance that he could get diseases such as diabetes. Esra is shocked, because she always tries to make sure her children eat well and she even hides extra vegetables in the pasta during dinner.

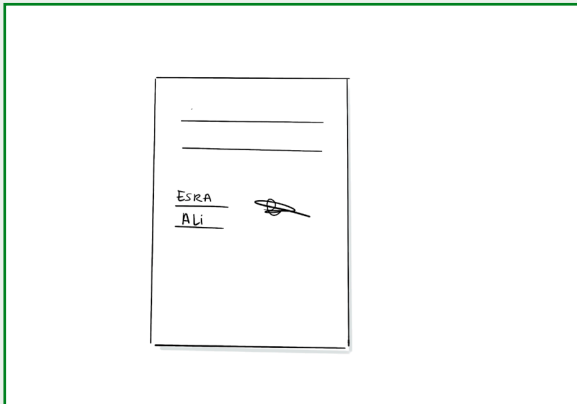


The school doctor understands her concerns and tells her about ‘**De Familiekeuken**’ at the Hillevliet. In the building of **De Rotterdamse Stadskeuken** she can cook with Ali under the guidance of a chef. Every Wednesday afternoon, after school, a workshop is organised where healthy but above all tasty food is prepared. You also get simple tips that you can easily implement while cooking at home. Moreover, it is a good moment to spend time with your child and other local residents. It doesn’t have to take extra time, because you prepare enough food to eat with your family that evening. That saves a task at home!

*Drawing style adapted from Westra (2018)



Esra has listened to the story and wants to think about it for a while. That afternoon she goes for a cup of tea in **Huis van de Wijk Riederkwartier**, where she often comes to chat with some other mothers while the children are at school. The school doctor is also discussed and **several other mothers** have been advised to take a look at the cooking classes. Sonya from **Humanitas** is also present and reacts enthusiastically. The lessons have been set up in collaboration with Humanitas and it promises to be fun as well as educational!



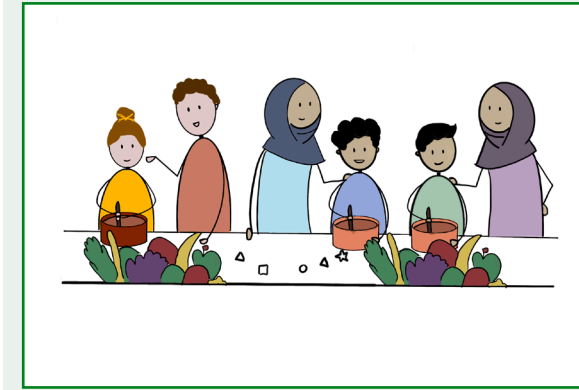
She suggests Esra and the other mothers simply join a trial afternoon. Esra has known Sonya for several years and has great confidence in her. Together with another mother, Esra registers via the **registration form** she receives from Sonya.



On Wednesday afternoon she and Ali walk into the **Hillevliet**. In the **large kitchen** there is a long table with a large amount of vegetables in the middle. The **chef** is an enthusiastic Turkish woman which immediately eases Esra. They will understand each other. Ali sees that his **classmate** Johan is also there with his mother, so they take a place next to them. The workshop starts in Dutch, a good exercise for Esra to practise Dutch more regularly. Fortunately, cooking is very visual and it is not a problem that she sometimes misses a small piece. Plus, she's got Ali with her, who can repeat little things if they've gone just too fast.



The chef says that the vegetables were collected yesterday at the end of the day by a number of **volunteers at the Afrikaandermarkt**. They don't all look equally beautiful, but the taste will still be good! In this way, costs can be kept low and we prevent all those vegetables from being thrown away.

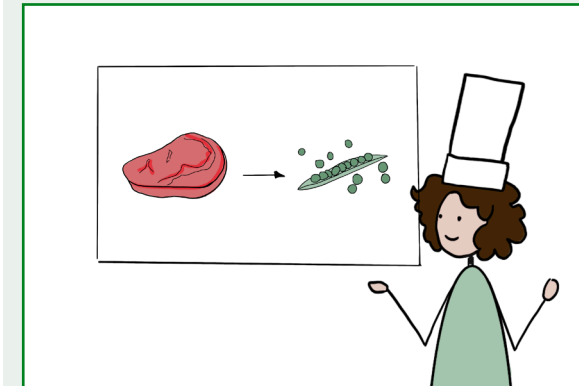


On the menu today is making a Moroccan tajine. During the various workshops, all kinds of cultures are touched upon, so that all participants can recognise themselves. Different vegetables are peeled and cut while the children make figures from the carrot slices with a cookie cutter. To her great surprise, Esra sees Ali tasting all the vegetables while cooking: So he likes carrots after all! The chef can tell wonderfully about the history of the tajine and everyone listens carefully. She says that today we cook without meat because it is better for our health and the environment. The chickpeas are good meat substitutes.

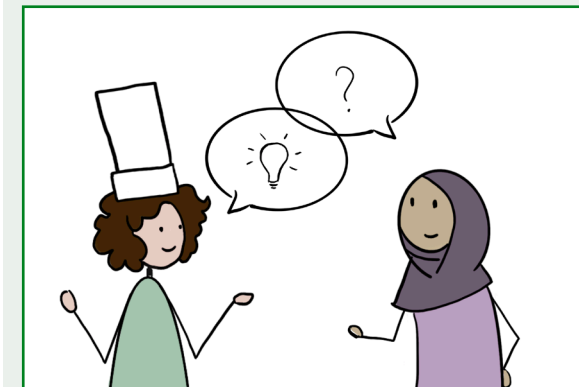


While the tajines are stewing there is some time to eat a delicious juicy **orange** as a snack. Oranges contain a lot of vitamin C, which is good for your resistance.

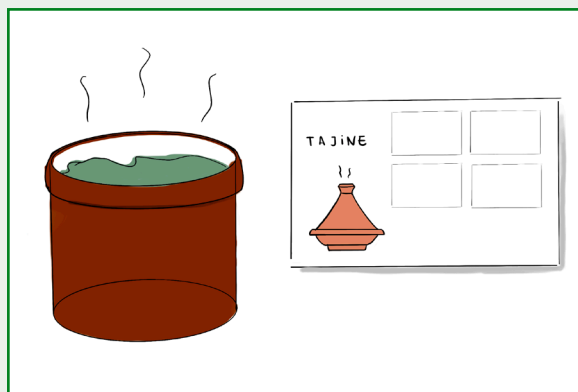
The children also go outside to **play football**. Exercising is part of a healthy lifestyle. Esra proudly watches her son as he easily makes new friends.



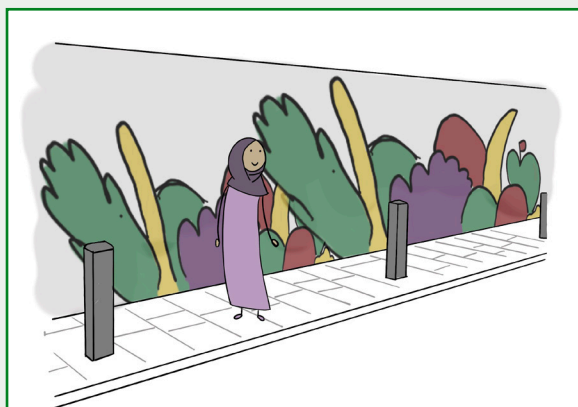
Meanwhile, the mothers get a short **lecture** from the chef. They learn about how legumes and nuts can replace meat in traditional meals and make the meal healthier and also cheaper!



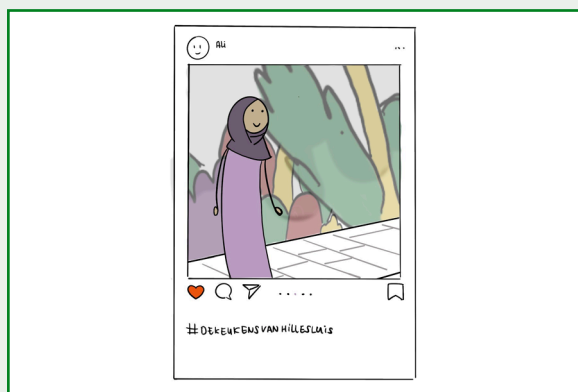
Esra wonders how she can save more money on her groceries. The chef appreciates Esra's question and suggests that the focus during the next workshop can be on smart shopping of healthy and fresh products. Esra feels heard.



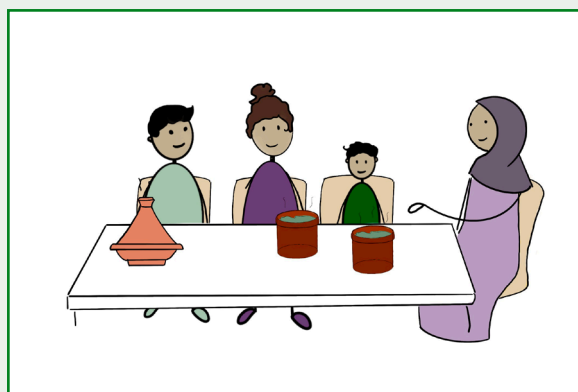
When the food is ready, it is divided into several **containers** so that everyone can take home some food and have enough to eat with the family tonight. Everyone also receives a sheet with the recipe of this day, so that it can be prepared again at home. **The recipe** shows the different steps visually, so that it is understandable for everyone. Additional textual explanations are available in several languages.



On the way home with their self made tajine, Esra and Ali pass by a beautiful **wall painting** on the side of a newly renovated building. The beautiful colours of fresh fruit almost jump off the wall. The sign at the bottom right reads: **LouLou's healthy kitchen** is a partner of healthy food in Hillesluis: Share an original photo of yourself with this painting and get a delicious healthy juice at Loulou's healthy kitchen for only 1 euro!



With that delicious orange still fresh in his mind, Ali immediately asks his mother to pose in front of the wall. He posts the photo on his **instagram** with #HealthyHillesluis. That will be a nice snack tomorrow!



When they arrive **at home**, the whole family can gather at the dinner table right away. Ali proudly tells about the magical steaming process of the tajine and his little brother looks curiously at the star-shaped pieces of vegetables. At the table they talk about today's experiences; the conversation about healthy food has started.



The next day Esra shares her experiences from the workshop with another mother in the schoolyard. She responds enthusiastically and together they register with the **school's gym teacher** to cook weekly at the Hillevlief for the next three months. The **contribution** for this workshop series can be paid in instalments so that Esra does not have to cover the costs in one go. In addition, her **health insurance** pays a large share! Through the workshops, Esra and her son make new social contacts and together they learn more and more about healthy cooking.

11.2 STAKEHOLDERS

This section elaborates on all stakeholders you came across when reading the user story. Their different tasks and motivations around 'De Familiekeuken' are discussed. I divided them into three groups: main stakeholders, secondary stakeholders and optional stakeholders.

Main stakeholders:

Firstly, the main stakeholders. These are the essential parties to make the concept work.



Parents (& their children)

Parents and their children are the target audience. The workshops revolve around them and because of them. If they are not there, there is no point in organising the workshops at all. Their main motivation to show up is because these parents want their children to grow up healthy and happy. These workshops help them in creating a healthier social food environment as they challenge the habits they are used to. They will keep showing up as the workshops are not only useful but also a lot of fun. Because they are part of a fixed group there is social- pressure as well as motivation to show up.



Humanitas / Stichting SOL

Social institutions are a well trusted party for most residents in Hillesluis. As they are vested in Huizen van de Wijk they are always easily accessible when in need of help. These parties exist to provide social services, so 'De Familiekeuken' is in line with their goals. They know the neighbourhood best and take a managing and promoting role in setting up 'De Familiekeuken'. The transfer from Humanitas to Stichting SOL can be used as a moment to set specific priority to activities that contribute to healthy lifestyles.



De Rotterdamse Stadskeuken

De Rotterdamse Stadskeuken is a restaurant vested in 'de Hillevlief', a building that also accommodates a Huis van de Wijk and several offices. It is a social kitchen, meaning that experienced catering employees share their knowledge with currently unemployed residents. It is a safe learning environment, which makes it perfectly suitable for workshops like 'De Familiekeuken'. Humanitas strongly collaborates with De Rotterdamse Stadskeuken and together they have already organised cooking related activities in this kitchen before. While Humanitas takes care of the social

side, De Rotterdamse Stadskeuken is on the execution side: They arrange the foodstock, decide on healthy recipes to cook and have one of their experienced chefs as host and support during the workshops.



Lekker Fit! Basisscholen in Hillesluis
Schools will be the main place for recruiting participants for the workshops. School doctors and gymnastics teachers will refer parents to 'De Familiekeuken' when they think it could benefit them and their children. Just like for parents, the main purpose of schools is to raise healthy kids who are eager to learn.

Secondary stakeholders:

The secondary stakeholders don't have a large share in the organisation of the workshops, but can better be seen as enablers. They support 'De Familiekeuken' with money or goods to make execution possible.



Gemeente Rotterdam
Gemeente Rotterdam is in charge of the funding that goes to social support organisations like Humanitas / Stichting SOL. I assume that this also means they coordinate together what priorities are. Gemeente Rotterdam can facilitate this concept by, next to the funding, discuss the prioritisation of healthy food. I can imagine that they also finance part of the street art with their budget for City Deal interventions. Before the concept is implemented Gemeente Rotterdam should also step forward as facilitator in coordination of setting up collaboration between the different stakeholders.



Health insurance

On the subject 'It's better to prevent than to heal', I think it would make sense for health insurance companies to pay (a share of) the participant fee for 'De Familiekeuken'. By investing in developing a healthier lifestyle, a lot of money will be saved later as people have a decreased chance of developing NCDs. The feasibility of involving this party is important to discuss during the validation phase (chapter 12).



Groenten zonder grenzen

This organisation runs with volunteers who go to fresh markets at the end of the day and collect fruits and vegetables that would otherwise be thrown away (Groenten zonder Grenzen, n.d.). Collaboration with this, or a similar party can help to decrease cost and increase environmental responsibility of the concept. Participants in the workshop will be encouraged to volunteer in this program at least once during their participation.



Local painting/graffiti/street artists

To realise the inspiring artworks in the neighbourhood it would be nice to hire an artist that is closely associated with the neighbourhood. This artist can then combine the health input together with the atmosphere of Hillesluis.



Property owners

If we want to use buildings as a canvas for the streetart, the property owners need to give permission for this.



Optional stakeholders:

Local catering industry (Horeca)

During the second creative session I spoke with the owners of two healthy local restaurants: Loulou's Healthy Kitchen and Royal Roots Corner. They are both motivated to help in tackling this problem and would love to share their knowledge on healthy food. Collaborations with these and other local restaurants could add to the content of the workshops by inviting them as guest experts. In this way they can satisfy their motivation to contribute to a healthier neighbourhood as well as promote their own businesses. Next to making a contribution via the workshops, they can also collaborate on the street art initiative. An artwork related to their business can decorate and inspire the neighbourhood with healthy food and can again serve as promotion for these restaurants.

Note: I don't necessarily want to exclude all the fast food restaurants here. Most of them do have certain healthier options, even though they might usually not focus on them. By making healthy food a hot topic in Hillesluis I hope these restaurants are also inspired to pay more attention to their healthy aspects. How cool would it be if one of the workshops would revolve around 'healthier cheat meals'? More possible spillover effects of this concept can be found in chapter 14.2.



MoveDis

MoveDis is the local centre for nutritional health and exercise. Their goal is to help people achieve a healthier lifestyle through changes that are easily implementable in their life. They could contribute as expert guests during the workshops or even help in setting up the content as they already have a lot of experience in this field. Also, next to the schools, MoveDis can forward her patients to 'De Familiekeuken' as a way to help the patients improve their lifestyles. The other way around, certain families might also benefit from a private consultation with MoveDis, which is something they might be more interested in after recognising the value of a healthy lifestyle in the workshops.

11.3 VALUE EXCHANGE

The previous section explained the roles and motivations of the different stakeholders. To help illustrate the viability of the concept, figure 25 shows the dynamics of how these stakeholders relate to each other and how value is exchanged.

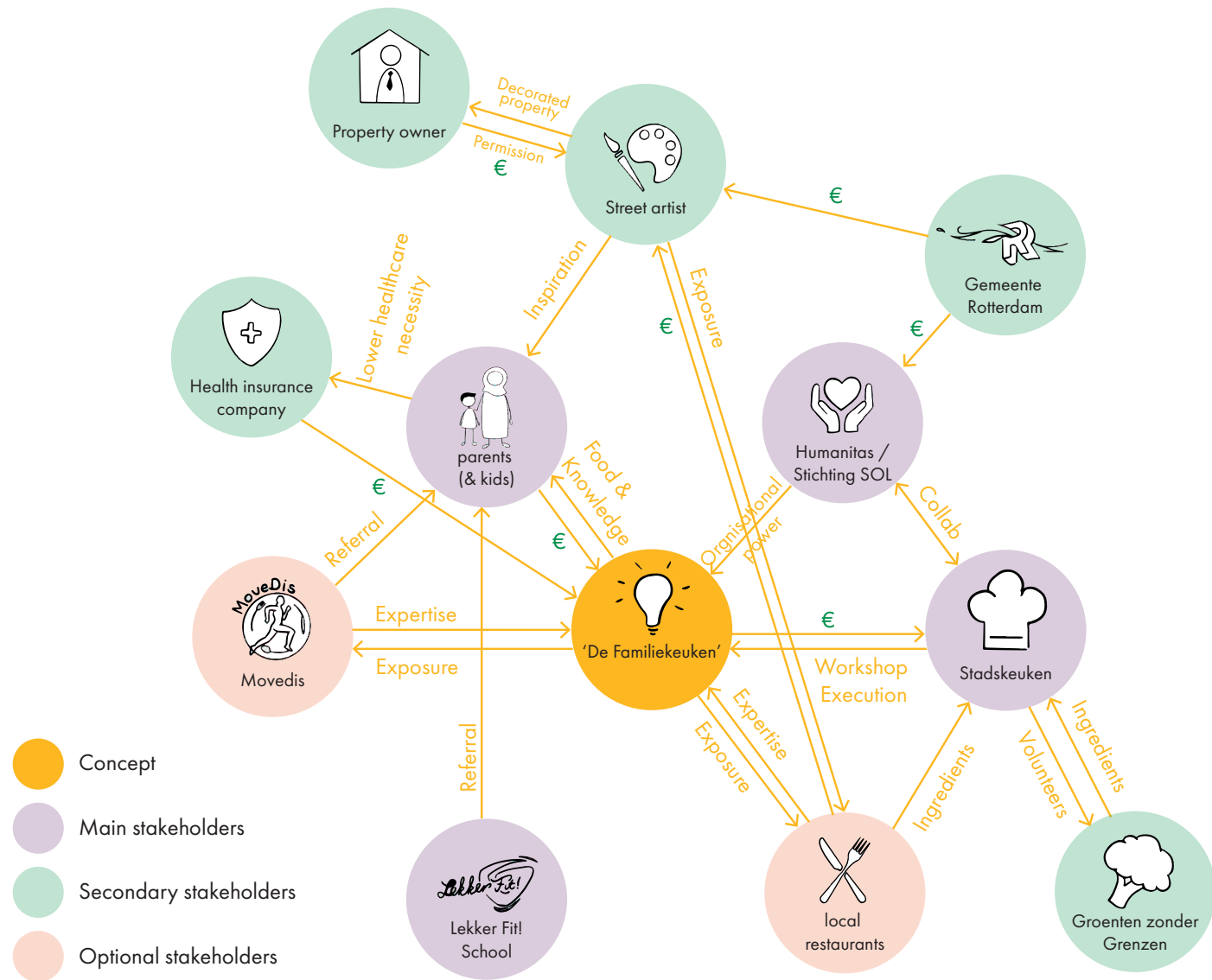


Figure 25: Value exchange for stakeholders around 'De Familiekeuken' concept

11.4 USER ONBOARDING AND SERVICE BLUEPRINT

As could be read in the user story in 11.1, before reaching the point of participating in 'De Familiekeuken', families probably have already come across quite some people and places that together motivate them to sign up for the workshops. To visualise the road to signing up for the workshop series, I used the AIDA model (E.K.

Strong, 1925). AIDA is short for: Attention, Interest, Desire and Action. Through those four steps, the decision process of the consumer is mapped. By showing this funnel shaped road, I want to emphasise on the role of the social- and physical living environment in decision making.

In figure 26 you can see the touchpoints that residents run into in each stage of the consideration, and their accompanying thoughts illustrated through a quote.

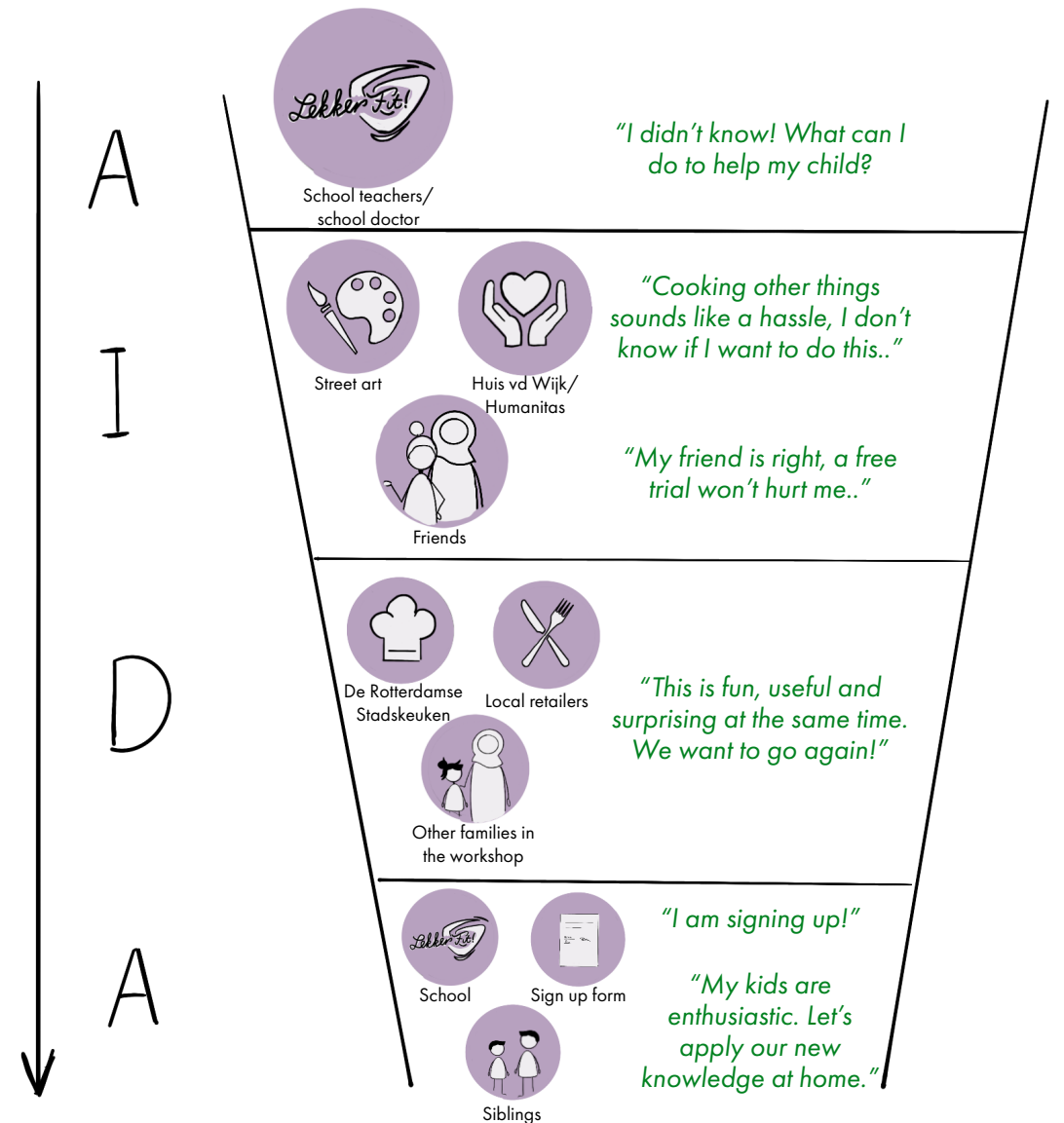


Figure 26: User onboarding funnel, leading through the AIDA model

Once families have signed up to participate in 'De Familiekeuken', it is also important to know how the workshops' organisation is structured. To illustrate how the execution of the workshops work, a service blueprint was created. A service blueprint shows how the intended user experience is built up for the different channels and touchpoints involved in the service. The top rows show the user journey phases and the user actions related to them. The front stage shows the interactions directly related to the user. Below the line of visibility, the back stage actions are described. These actions are invisible to the user. The bottom row describes processes and systems that are needed to fulfil certain front- and back stage actions. The arrows are used to show connections between the different elements.

The blueprint in figure 27 on the next spread shows the actions, processes and systems that are needed to facilitate the workshops. The front stage actions mostly represent the actions of the cook/experts leading the workshop, while the back stage actions mostly represent this person's thoughts and actions outside the workshop. The support processes and systems ensure that the front- and back stage actions can be executed and are further explained in the next page.

Support processes and systems

Registration management system

In order to distribute the available spots among interested participants, registrations should be managed in one place. As Humanitas will be the managing party, it makes sense for them to collect the registrations even though parents might have signed up via school. When too many people sign up, distribution of the spots should in my opinion go via a lottery system as the people who might benefit the most from the workshops will probably not be the first to sign up. The lottery system gives all interested ones an equal chance.

Billing system

As financial situations in this area are often complicated we cannot expect parents to pay full contribution at once. On the other hand, you don't want them having to pay per workshop, because they might not show up when they don't have the money at the specific moment. By allowing them to pay the contribution in an amount of terms that suits them, we take into account their financial situation. The costs of the workshops should be kept as low as possible, but not free. If participants don't have to pay at all, I foresee lack of commitment. There should be certain consequences if people decide to not show up.

Stock management

Managing the stock of food for the workshops is done in two ways:

- Fresh ingredients: The fresh ingredients are collected via 'groenten zonder grenzen'. This organisation runs with volunteers who go to fresh markets at the end of the day and collect fruits and vegetables that would otherwise be thrown away. Participants in the workshop will be encouraged to volunteer in this program at least once during their participation.
- Storable ingredients: Storable ingredients like pasta, rice, lentils and canned products are ordered with the regular stocks for de Rotterdamse Stadskeuken. Orders are placed by the workshop chef.
- Storage material: Regarding the boxes for taking home the food, ideally the participants bring their own reusable

tupperware containers. This, to avoid unnecessary waste and to keep costs low. However, for cases where these boxes are forgotten or not there for another reason, single use packaging should be available. We assume that De Rotterdamse Stadskeuken already has a way of managing doggy bags / to-go meals. 'De Familiekeuken' will ride along in this system.

Kitchen

De Rotterdamse Stadskeuken hosts the workshops inside their kitchen facility.

Content management

The execution part of the workshops mostly leans on one of the chefs from 'de Rotterdamse Stadskeuken', who is in charge of hosting the workshops. This is a familiar face to the participants who listens to them to extract their needs and adjusts the content of the workshops according to this. Experts on certain subjects are invited as guests during the workshops to share their expertise. The community-like nature of Hillesluis shouldn't make this too hard to arrange. Lastly, someone has to prepare the visual recipes that are handed out after each workshop. This can be done by this same chef or a graphic design intern who works with de Rotterdamse Stadskeuken via Stichting JOZ.

Playing material

To get the kids moving for a few minutes during the timeframe of the workshops some playing materials like a football should be available. These are readily available in Huis van de Wijk Hilleliet, or kids can bring their own material.

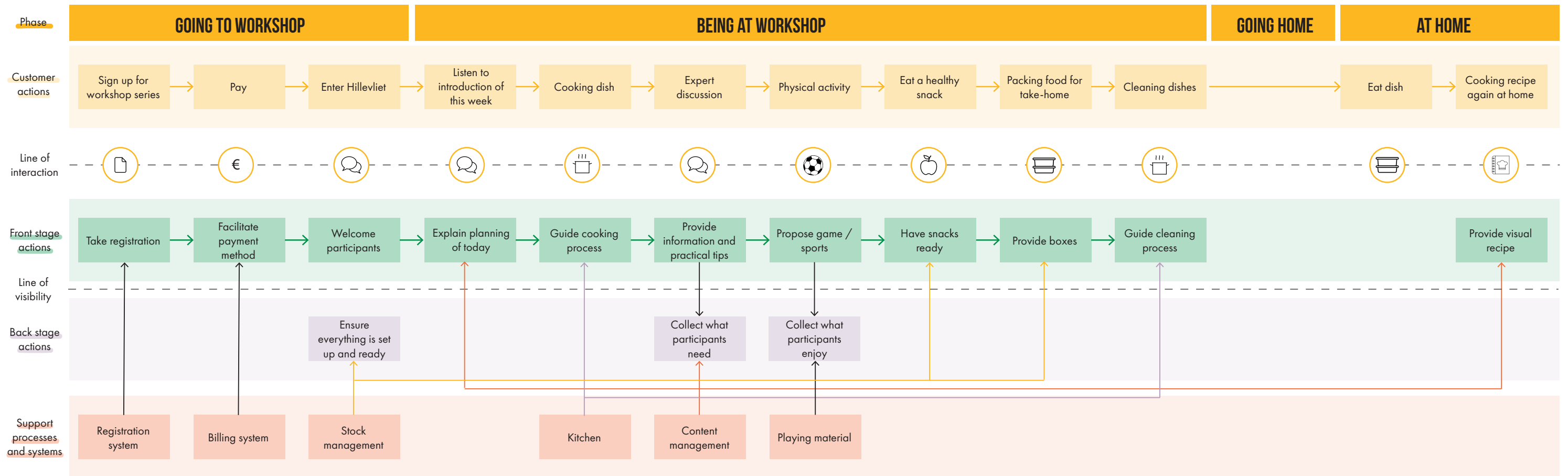


Figure 27: Service blueprint 'De Familiekeuken'

11.5 EVALUATION OF CONCEPT

'De Familiekeuken', together with the extra visibility of healthy food in the neighbourhood through art expressions, shows its effects on multiple levels in the system. The intended effect of the changes is an increased likelihood of making healthy choices. As discussed in chapter 7, this depends on the availability, accessibility, affordability and acceptability of healthy food. In the same chapter I discussed the different levels of the food environment (individual, socio-cultural, physical, political) that influence the 4 A's. This section first explains the main impacts of the concept per level, of which an overview is also shown in figure 28. Then, I discuss the influence of these impacts on the 4 A's.

On an **individual level**, the concept mostly contributes to education on healthy cooking and eating. Also, because the workshops take place on a regular basis for a longer period of time, I hope to also establish new, healthier habits.

On a **socio-cultural level** this concept mostly helps to open up the conversation about healthy food. This answers to one of the found challenges in the research phase: people pay little attention to what is healthy and what is not, they mostly talk about 'what tastes good'. During the workshops, participants start talking about healthy food with each other and also when they take home the food they prepared during the workshop, the

conversation can continue at the family dinner table. The art expressions in the neighbourhood can also spark conversation between people as they pass by and take a look at what they see.

On a **physical level** this concept inspires. The art expressions in the neighbourhood as well as getting to know 'new' ingredients and dishes during the workshops can inspire people to cook something different today. This can be a conscious consideration: "Hey that pasta recipe on this wall looks delicious, now I feel like eating pasta tonight". The inspiration can also happen unconsciously: If you see pictures of eggplants several times before you enter the supermarket, your brain might nudge you into choosing eggplants today.

On a **political level** this concept doesn't make direct impact. However, it is in line with a political focus on preventive healthcare. As I also showed in the MLP (chapter 5), this political focus is currently not dominant over the focus on 'recovery'. However, more attention for prevention is slowly rising and will hopefully one day become the main focus. Concepts like 'De Familiekeuken' contribute to this.

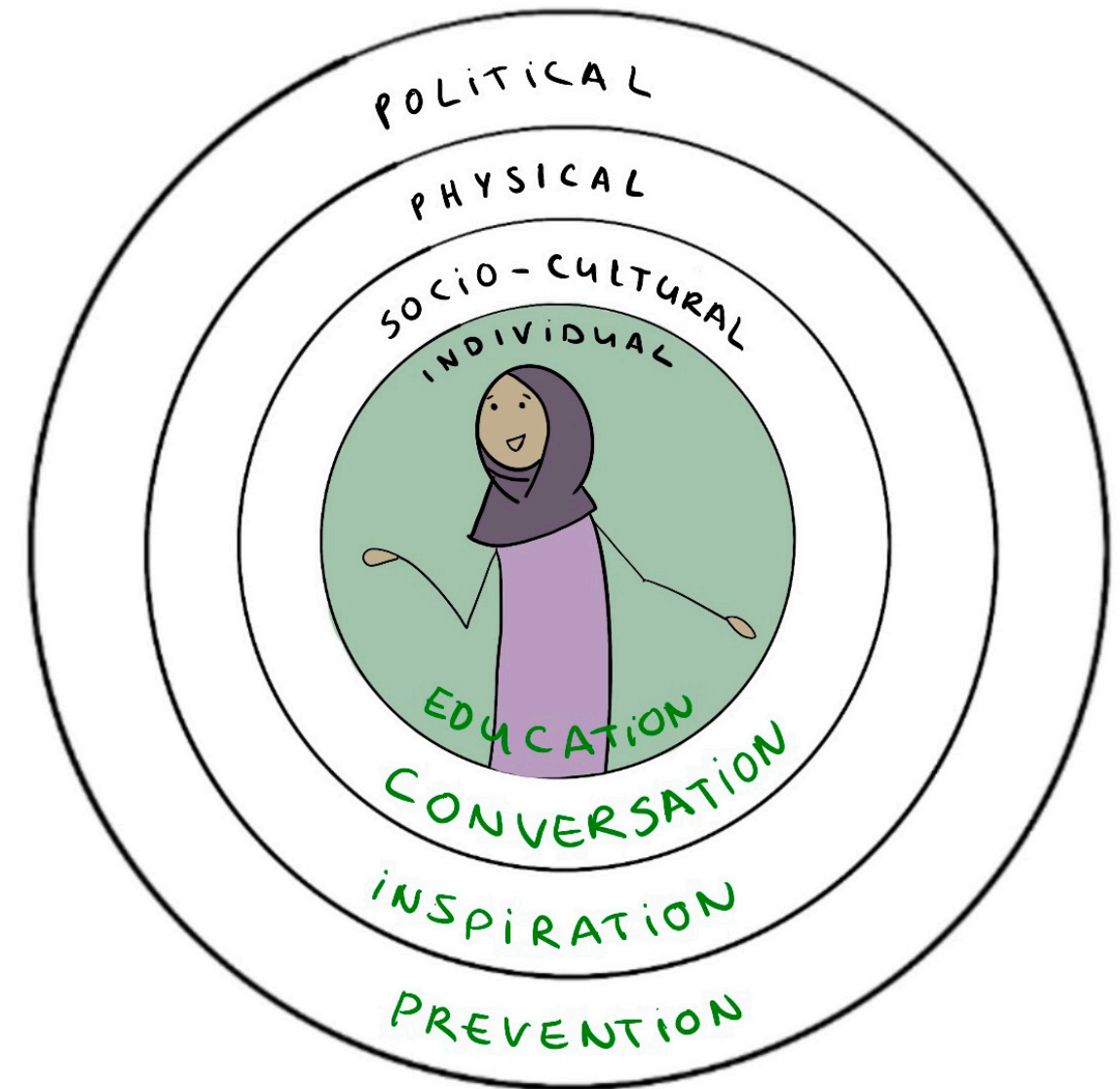


Figure 28: Projected impact of concept on individual, socio-cultural, physical and political level

Availability

During the workshops, healthy food is made available to its participants. As there will only be healthy food available in the workshops, it will be impossible to make an unhealthy choice there. Once they get used to the availability of healthy ingredients in the workshops they might be able to perceive them as better available in other places as well, as they will start to specifically look for them when shopping groceries. The concept in itself does not directly impact the availability of healthy food in the neighbourhood, however I hope to inspire retailers to change their offer to a healthier one through the buzz my concept evokes. So even though the actual availability is not changed by the concept, the perception of the availability might increase if people know where to search. In the longer term, I hope my concept helps to inspire local retailers to provide a healthier offer, which leads to increased availability of healthy options.

Accessibility

'De Familiekeuken' certainly contributes to the accessibility of healthy food. As a reminder: accessibility has to do with the cognitive, emotional, financial, physical and social resources to access healthy food. On a cognitive level, the improved educational knowledge will help participants to be able to make healthier choices. Also, the low costs of the workshop, combined with 'tricks' for affordable shopping they learn during the workshops can help them access healthy food more easily. 'De Familiekeuken' is situated at a central place in the neighbourhood, making the workshops as well as the food involved physically accessible. As on a social level the conversation about healthy food is opened, the subject of healthy food will be more top of mind, which automatically makes it more accessible. The healthy restaurant-deals related to the street art also help residents in finding and accessing healthy options in the neighbourhood. A barrier to keep accessing the healthy food of the workshops might be that the participants need to stay committed to the workshops in order to get access. Through experimenting with the concept we will learn whether participants will find it hard to stay engaged.

Affordability

'De Familiekeuken' contributes to the affordability of healthy food in two ways. Firstly, the workshops themselves ensure a healthy family meal for an affordable price. Keeping the cost low is possible because of the collaboration with Groenten zonder Grenzen and because purchases can be made in large quantities which is often cheaper. The latter is of course possible because during the workshops, a larger group of people all cooks with the same ingredients. The second way in which the workshops contribute to better affordability of healthy food has mostly to do with perception. During the workshops, parents will be educated on how to shop healthy food in a cost effective way. For example, buying fruits and vegetables at the fresh market (especially at the end of the day) is a lot cheaper than buying them in Albert Heijn. This ensures that even though shop prices stay the same, the stigma around healthy foods being expensive will change. Next to 'De Familiekeuken', the art expressions can also help afford healthy food. As these art pieces will be linked to local retailers, residents can enjoy healthy snacks for a reduced price.

Acceptability

If healthy food is widely available, accessible and affordable, but not accepted there is still a problem. Therefore my concept also had to contribute to the acceptability of healthy food. Within Hillesluis I didn't really feel disacceptance for healthy food, but also not a strong acceptance or desire. There are several ways in which I tried to increase the acceptability of healthy food with my concept. Firstly, the strongest point in my opinion is the positive association with healthy food I create: 'De Familiekeuken' is a social occasion where, next to health, fun and engaging with each other is central. If the atmosphere is positive, participants are also more likely to accept. What also contributes to the acceptance of eating differently, is the share of ownership participants have over the food. As they are fully engaged in the preparation process, they have a stronger 'bond' with the food compared to when they would see a ready-to-eat meal for the first time. Especially with kids I can imagine this works very well: If they spend some time working with a specific ingredient, they will certainly become curious about its taste. Then, as the workshops also teach participants some background knowledge about healthy diets, they will learn about the positive as well as negative consequences of certain diets. If they know what certain products can do for their bodies, they will become more likely to accept it. Lastly, by opening up the conversation about healthy food in general, it will automatically become more broadly accepted as people will be faced with it over and over again.

CONCLUSION

This chapter introduced the concept of 'De Familiekeuken': A workshop series where parents and their children learn to cook healthier meals in a social setting, guided by a specialised chef. The different elements of this chapter illustrated how the concept is desirable, viable and feasible. An evaluation of the concept shows how it contributes to the education, conversation and inspiration around healthy food and how this is a way of preventive healthcare. The concept as developed is able to increase the availability, accessibility, affordability and acceptability of healthy food.

12. VALIDATION

To validate the potential of 'De Familiekeuken', users, stakeholders and experts were asked for an initial response to the concept. This chapter shares the main insights I gathered during 10 short street interviews with potential users and seven longer conversations with stakeholders and experts.

12.1 USER VALIDATION

To validate the desirability of 'De Familiekeuken' I spoke to 10 potential participants for the workshops. To do this, I went to Hillesluis and approached families on the street. To select the right people, I mainly paid attention to the (estimated) age of the children that parents had with them and also asked them whether they lived in the neighbourhood. I had short conversations with them which mainly provided me with a first impression. The insights are qualitative, so no statistical conclusions could be drawn.

Approach

To help me approach families on the street, I created a flyer that I could show to people in order to gain their interest and to increase the 'realness' of the concept (see figure 29). When approaching a family, I first asked whether they like cooking as this is an easy question for most people to answer and gain interest. Then, I showed them the flyer and explained to them what the concept of 'De Familiekeuken' entails, and that this workshop series will soon start at 'De Hillevliet'. After explaining the concept I asked for their first impression, what they would expect to learn, whether they were willing to pay for it (if so, how much?) and what time of the week would suit them best. I spent two afternoons in the field, and during the second one I also asked people to leave their contact details with me so that we can reach them once the first pilot takes place. The main insights are listed in the next section.



Figure 29: Flyer used during user validation

Results

Enthusiastic Kids

As I only approached parents who had their kids with them, the children also heard my explanation of 'De Familiekeuken'. Without any exception, all kids immediately began to cheer and became very enthusiastic. The children in Hillesluis love cooking, which is also something I already heard from the person I spoke to who works as neighbourhood support via Humanitas. He mentioned that cooking workshops for kids they organised in the past were always very popular compared to, for example musical lessons. Talking to these families on the street confirmed the enthusiasm of the kids.

| *"Mom I want to sign up now!!" - child 1*

| *"I looooooove cooking" - child 3*

Concept recognition

I already knew that there were already organisations organising cooking classes for kids in Hillesluis. However, I was surprised to find out that 3 out of 10 families mentioned having participated in cooking classes before. I expected it to be an exception, but in this sample it was quite common. I think the recognition of the cooking concept contributed to the excitement of the kids, which in turn also enthused their parents. I did not hear about any cases where the parents were also involved in the workshops, but they seemed very willing to join and try. The recognition of the concept seems to lower the threshold for interest in 'De Familiekeuken'.

| *"My daughter already participated in cooking classes via school, it would also be nice if we could do something like that together, because she really likes it." - parent 8*

Motivation: Kids and social

When asking about what people would expect from the workshops and what they would like about it, two main motivations could be identified: The first one revolved around the activities being fun and useful for their kids. Parents see the workshops as an opportunity for their children to learn about the relevance of vegetables, fruits and

healthy food in general. Some also addressed themselves in relation to what they would like to learn; this mostly had to do with cooking more diverse than they do right now.

| *"I think it is a great opportunity for the kids to learn about the relevance of vegetables, and also to try the ones they think they don't like" - parent 2*

| *"If my boy can learn something as important as cooking for free, I am very sure we would join. I want to know how you can make something nice, even if you only have a few simple ingredients" - parent 7*

| *"We mostly eat rice and meat at home. It would be nice to learn something different." - parent 8*

The second motivation I noticed was the social aspect of going to the workshops. Some referred to it as a fun activity to participate in with the whole family, others liked that there would also be other families from different cultures at the workshops. It is clear that the social aspect contributes to the perceived fun factor of the activity.

| *"During another cooking class, I mostly liked it because it was fun to cook with all the other kids together" - child 2*

| *"This seems like a fun activity to do with the whole family together." - parent 6*

Timing: week or weekend

In terms of timing for the workshops, there were two preferences I could identify.

Group 1: Approximately half of the families I spoke to preferred the workshops to be a fun weekend activity that they could go to with the whole family. On weekends the parents don't have to work and the kids are free from school, which makes them more flexible.

Group 2: The other half of the families liked to keep their weekends flexible, and didn't want to have any recurring obligations there. They preferred the workshops to take place right after school and before dinnertime. I learned that most schools in Hillesluis currently work with

a 'continurooster', which means Wednesday afternoons are not free anymore. All weekdays finish somewhere between 14:00 and 15:00, depending on the school. It would therefore make sense to start weekday workshops around 15:30.

Keeping costs low

As expected, most people mentioned that they didn't have much money to spend on activities like this. They avoided mentioning concrete numbers when I asked them how much they were willing to pay, but it was clear that costs should be kept as low as possible. Most of the parents mentioned that they would prefer it if they could go for free or for a small price. When I asked them who they would expect to pay for the cooking ingredients, they found it acceptable to contribute. If they would not participate in the workshop they would need to buy food anyway, so paying for the workshop ingredients would only be fair.

Bottlenecks: time and distance

Even though most people responded very positively, there were also less enthusiastic parents. The main reason for them to dislike the concept was that they did not have time for it or did not want to make time for it. Arguments were busy (irregular) working schedules, a lot of children to bring back and forth to school and sports during the day or just being too busy in general. With some of these parents I felt stress and rejection rise as soon as I spoke to them, which gave me the feeling of a complicated life situation where it would be hard to make them change their minds and where a more professional approach would be necessary.

| *"I don't have time for this. I have work and three children which is already a lot to deal with. I am happy when I finally have some time for myself late in the evening." - parent 4*

A second reason for people to respond less positively to the workshops was the distance from their houses to 'De Hillevlief'. Some people I approached mentioned that they would not go to such an event on a regular basis if it wasn't within a short walking distance from their house.

This taught me that the intervention probably will work best for families who live within a ten-minute walking distance from the workshop location.

Spillover effect

Some of the parents I approached on the street were not able to communicate with me in Dutch. In these cases the children tried to translate between me and the parent. One of the kids mentioned that she would find it very nice to take her mother to an activity like this, so that her mother could practise her Dutch language. I was inspired by this idea, and agree that engaging in such an activity can help foreign people practise the language by doing. However, teaching the language should not become a main focus, as the cooking concept on its own already needs a lot of attention. More spillover effects of the concept can be found in chapter 14.2.

From intention to action

As mentioned in the introduction of this chapter, I initially mainly asked for people's intention to participate in 'De Familiekeuken'. The second day in the field I decided to take it one step further and asked people to leave their contact details so that we could call them about the participation in the pilot workshop. I spoke to four families that day, and with two of them I felt like I could ask them to sign up: and they did! In hindsight I think I could have collected more phonenumbers if I also had applied this strategy the day before. The (unexpected) ease with which these two mothers shared their contact details show their sincere curiosity about 'De Familiekeuken'.

12.2 STAKEHOLDER VALIDATION

To validate the feasibility of the concept, the main stakeholders were interviewed separately. This means, I spoke to Humanitas and De Rotterdamse Stadskeuken. Unfortunately I was not able to speak with the gymnastics teacher of a local school as this meeting was cancelled last-minute. I also spoke to some optional stakeholders: local restaurants and MoveDis. First, I talked them through the concept by using the user story as also presented in chapter 11.1. After hearing their first impression, I asked them about the opportunities and challenges they could see from their perspective. In this way I could get insight into their attitudes towards the concept and collect recommendations for further development.

Attitudes

All stakeholders responded positively to the idea of 'De Familiekeuken'. The concept fits the wellbeing-task of the social institution and 'De Rotterdamse Stadskeuken' confirmed that the best way to create awareness and acceptance for healthy food is to be in touch with it through preparing and tasting it. The stakeholders especially liked the combination of the workshops with the transformation of the physical environment towards one that shows more healthy food. 'De Rotterdamse Stadskeuken' confirmed that they would be interested in collaborating with the social institution in order to set up the concept. MoveDis was mostly enthused by the low threshold that comes with the 'interactive' food-related artworks on street. Connecting this to businesses in the neighbourhood is a great way to get a lot of engagement in the neighbourhood, without the pressure of 'needing to show up' for residents.

Opportunities

During the interviews, multiple ideas came up that could complement the concept as I proposed it. I listed the most interesting ones below:

Beyond food

Humanitas emphasised the relevance of focussing

beyond just food and extending the impact of these workshops towards healthy lifestyles. This means, combining food, exercise and mental wellbeing. This could for example be done by helping the participants with practical things like signing up for a sports club via 'Jeugdfonds'.

"It is nice to focus on healthy food, but the problems of these people are far more complex. It is their whole lifestyle and mental state of mind they need help with." - Neighbourhood support, Humanitas

Wider applicability of street art

In the original concept I used the street art mainly as inspiration for conversations among people who pass by, and connected it to healthy food deals at local businesses. During the validation conversations, more ideas for interaction were put forward: Via a QR-code, people could also be led to information websites, videos, or games about healthy food, or to a sign-up form for a trial at 'De Familiekeuken'. To determine what kind of content is suitable to share in interaction with the art pieces, further research is necessary. As mentioned before, we need to ensure that the actions needed to get to the right content should not ask for too much digital knowledge.

"I am triggered by the street art, because it invites people without any expectations. It's very low-key" - Owner, MoveDis

Recognisable health symbol in Hillesluis

In order to help residents in making healthy choices, it would be nice if there would be a recognisable symbol that is visible throughout the whole neighbourhood. MoveDis is already developing such a trademark, so it would make sense to collaborate with them in order to achieve this.

"If people walk outside after the workshop, they should also see healthy options available to them. If they keep running into kebab, it is hard to move forward with their newly acquired knowledge". - Neighbourhood support, Humanitas

Kitchen gardens

What better way to give attention to healthy food is there then to grow it in front of the residents' eyes? According to multiple stakeholders, kitchen gardens could be very inspiring for people to get familiar with healthy food. There are already some kitchen gardens along the edges of the area, but there are also more central squares in Hillesluis that could be turned into kitchen gardens to be run by residents themselves. This would save them a lot of money and at the same time be an inspiring process. A challenge here is that residents need to take responsibility in nursing the gardens, which takes a lot of time and can be difficult to organise. I see two opportunities when starting these kitchen gardens: Firstly, if one of them is connected to 'De Familiekeuken', the vegetables used during the workshops can be grown 'in house'. Secondly, when kitchen gardens open up in other places of the neighbourhood, extra attention can be paid to the maintenance of such gardens in the workshops and people can start bringing their own vegetables.

"If people know how something grows, they are more likely to eat it" - Manager, De Rotterdamse Stadskeuken

Health week as kick-off event

To spread a first wave of awareness around the subject of healthy eating, MoveDis proposed organising a health week in the neighbourhood. This could be combined with the reveal of the art pieces and their interactions, as well as a moment to promote 'De Familiekeuken'. This could immediately create a positive and festive association with the topic. To ensure that the buzz doesn't die out after this week, it is important that parts of the health week stay visible in the neighbourhood. In this case that would mean that the street art remains visible and 'De Familiekeuken' keeps engaging its participants over a longer time span.

Challenges

During the interviews, I also identified some challenges that make it harder to bring the concept to life:

Lack of time / manpower / money

From multiple perspectives, I heard that the willingness to organise this concept is there, but that the time it will take makes it hard to realise. For the involved stakeholders, organising these workshops is not their core business which makes it harder to reserve time for it. Ideally, there is a motivated chef who is willing to host and organise these workshops as his/her main focus. Other options mentioned during the conversations with stakeholders are: A train-the-trainer concept, where a small group of motivated residents is trained by a chef and dietician and can afterwards lead the workshops. A second option would be to recruit dietetics-students to organise these workshops as part of an internship. The challenge here would be to maintain high quality and continuity of the workshops. A second challenge is that there needs to be enough money available to finance the extra needed manpower. The initiator of 'De Rotterdamse Stadkeuken' owns more spaces inside the building of 'De Hillevliet' which offers perspective for the future for the feasibility of the concept.

"I only want to organise the workshops if I can do it properly. I want to do it well. Right now I can't realise this, as I also need to focus on my core business." - Initiator, De Rotterdamse Stadskeuken

Collaboration between different stakeholders

Just as mentioned in the previous challenge, the willingness to improve the neighbourhood is there. However, collaborations between different businesses often don't succeed because people seem to think it is financially more beneficial to just keep your ideas to yourself. For all stakeholders to start collaborating as a collective, they need to be sure that there is something in it for themselves as well. This can be financial, but can also be positive promotion which helps them get more customers inside their own store.

“If they do it just for themselves, they think they end up earning more by the end of the month.” - Owner, MoveDis

Long term sustainability

This concept is of course not the first initiative to reach Hillesluis. There have been a lot of initiatives in the past and there are many organisations who are committed to improving the wellbeing of people in Hillesluis. The problem with most of the initiatives is that they don't last very long. There are several reasons for this, of which the most important one is that they often rely on volunteers or funding. Once an initiative runs out of money, or the key volunteer decides to focus on something else, the concept dies with it. It is thus important that the organisation behind 'De Familiekeuken' is stable.

Keeping participants engaged

As is discussed many times in this report, residents in Hillesluis often have a lot of things going on in their lives which makes it hard for them to think long-term and to prioritise healthy eating. It can happen that they seem interested at first, but that they don't want to commit to a weekly 'obligation'. We have to experiment with this and figure out how to implement 'De Familiekeuken' in their weekly rhythm, just like they do groceries every week.

Switch social institution

During spring 2022, Humanitas leaves Hillesluis and will be replaced by Stichting SOL. Humanitas has gained trust among residents in Hillesluis over the past years, and there is a chance that (some of) this gets lost when transitioning to another party with new people. Hopefully the transition will run smoothly, which is something outside my reach. An opportunity that comes with this new institution is that plans and priorities will probably be re-established. This is a chance to prioritise healthy lifestyles in their program.

“If there are only unknown faces here, do you think women from this neighbourhood will still come?” - Neighbourhood support, Humanitas

12.3 EXPERT VALIDATION

During this phase I also consulted two experts on two different issues. First, I consulted a senior policy officer at Gemeente Rotterdam to learn about the opportunities to finance the workshops via health insurance. Secondly I spoke to the project manager of Alliantie Hand in Hand, who is in charge of the transformation of Beijerlandseelaan. I consulted him to discuss the options for street art in Hillesluis and to get his opinion on my idea to let the focus on food contribute to the neighbourhood's image. The latter subject is discussed in the discussion section in chapter 14.

Expertise Health Insurance

To decrease the cost of the workshops for participants, there turned out to be two potential options to include a health insurer.

Collaboration with VGZ Rotterdam Pakket, minima polis

Gemeente Rotterdam collaborates with the Dutch health insurer 'VGZ' and established an insurance package especially for people with a low income, yet who need a lot of care. Many residents of Feijenoord (Hillesluis is part of this area) are insured with this package that is partly financed by the municipality. Compared to others, this package has a lot of 'prevention budget', to be spent on courses that help to maintain a healthy lifestyle. So far, the prevention budgets are often not used by residents because they are often not aware of its existence.

There is an opportunity for 'De Familiekeuken' being included in the set of prevention courses once there is enough proof that the concept actually works, and once there is a plan to make it available throughout the whole city and not just in Hillesluis. These are two of the rules set by the initiators of VGZ's Rotterdam Pakket. According to the expert, there is a possibility to run a pilot in one neighbourhood and acquire 'proof of concept' through this pilot. Launching 'De Familiekeuken' as a pilot in Hillesluis could in this case be a

starting point once there is a scaleup plan as well. However, as the real results from prevention courses will only show in the long term, I wonder how the success rate will be measured.

Co-financing dietetic hours

Another way to finance part of the workshops via health insurance is applying a co-financing strategy. Each adult has 3 hours of dietetics in the basic insurance package. In the 'Rotterdam Pakket' this is even 5 hours. If the workshops are led by a dietician, the time used can be divided by the amount of participants through this co-financing strategy. This means that with the 3-5 hours available, one participant can benefit from many more hours of guidance. For example: If there are 10 people, who each have 5 hours of dietetics in their insurance package, there are 50 hours available to the group, which comes down to 25 two-hour workshops (preparation time for the dietician not taken into account).

Expertise street art Beijerlandseelaan

Regarding the application of art expressions in Hillesluis, several options came forward during the expert meeting. My original plan was to apply art to the facades of buildings in Hillesluis, which would be possible in collaboration with the owners of the buildings. However, I was warned that there is not much 'empty space' that is suitable for purposes like this. Due to this lack of space, we thought of several alternatives of which a combination might be possible

- Street as canvas, in collaboration with municipality.
- Trees and street lights as canvas, in collaboration with municipality
- Shopping windows as canvas, in collaboration with retailers
- Stand alone objects as canvas, for example flowerpots or benches, collaboration depends on size and location of object.

Figure 30 on the next page shows an impression of what these options could look like.

CONCLUSION

Looking at insights collected from all stakeholders, the general first impression is positive. Potential participants as well as stakeholders like the concept and seem to be willing to make it work. On the participant side, kids responded in the best way possible and would like to start immediately. This also positively affected the attitudes of their parents. Parents mostly saw the workshops as a way to have their kids learn more about the relevance of healthy food, while at the same time spending quality time together. This is in line with the original motivation behind the concept: wanting what is best for your child. Among stakeholders, everyone agreed on the relevance of the concept. There were also multiple ideas to stretch the concept further or add elements to it in such a way that it contributes to a healthy lifestyle rather than just a healthy diet. The main concerns currently lie at the lack of time/manpower to start the organisation right away, as this new concept is of course no one's core business right now. The other challenge is to establish collaboration between stakeholders in such a way that it will be effective and durable. From the expert interviews it can be concluded that there are opportunities to finance part of the workshops through a health insurer, if we can meet certain conditions. Street art in Hillesluis is possible in collaboration with the owners of the buildings, but because there is little empty space it is also wise to consider other 'cavasses' like the street or shopping windows.








Figure 30: Inspiration for art expressions in Hillesluis, mix of pictures is taken by me and collected from internet

13. TOWARDS IMPLEMENTATION

Implementation of the concept doesn't have to be extremely difficult or time consuming. In principle, all the people and elements to get started are already there. As mentioned in the validation section, the main challenges

lie in prioritising the organisation of the workshops in such a way that stakeholders invest enough time to realise it. Secondly, the collaboration between stakeholders needs to be facilitated very well in order for it to succeed. However, to be able to organise a first pilot, we do not rely on these challenges yet. In this chapter I propose a first pilot for 'De Familiekeuken' as well as for the application of art expressions in the neighbourhood. Both pilots have the same goal: real life testing of the concept in an experimental setup so that it can continuously be further improved towards an optimal 'recipe'.

Goal	TESTING 'DE FAMILIEKEUKEN' FORMAT				
Description	Testing the idea by proposing it to people on the street using a flyer is not the same as a real life pilot edition of a workshop. By organising a pilot workshop, the format can be tested, evaluated and improved.				
Main questions to answer	<ul style="list-style-type: none"> - How do participating families respond to the workshop? <ul style="list-style-type: none"> - What do they like? - What don't they like? - What are the families' needs during the workshop? - What do the families want to learn? - What is a suitable group size? - What is a suitable duration? - Would the participants want to join again next week? 				
Stakeholders involved	 Parents (& kids) Participation	 Stadskeuken Workshop execution in own kitchen	 Humanitas / Stichting SOL Supportive role, recruitment of participants	 Gemeente Rotterdam Guide preparation and evaluation process, observe workshop from 'outsider perspective', finance pilot	 MoveDis Plan B: workshop execution by MoveDis (option already confirmed)
Set-up	<ul style="list-style-type: none"> - Free trial - Participants: 4 families (8 people in total), recruitment by calling back users I spoke to during validation phase & through Humanitas - Duration: 2 hours - Content: Follow the activities from the user story. Cooking a dish from Turkish or Moroccan cuisine, with a healthier twist. Choose one of these cuisines, because these represent the largest cultural groups in Hillesluis. Next to this, include a moment for exercise and a short lecture about a widely recognisable challenge like: tricks to increase the share of vegetables in a meal while still making it kids-proof. Also, take extra time for input from the participants' side to be able to answer the above-mentioned questions we want to answer after the pilot. It might even be helpful to have brief evaluation interviews with the participants by the end of the workshop. 				
Outcome and next steps	I expect that this pilot will lead to a lot of insights regarding what works and what needs to be improved. After this pilot, the concept can be iterated step by step. As it starts to take shape, the other stakeholders can slowly become engaged as well in order to build a self-sufficient organisational system. When the workshops are up and running, the delegate from the municipality can slowly opt out of its facilitating role, as the organisation will be able to manage by themselves.				

Goal

TESTING ART EXPRESSIONS

Description

Before decorating the whole neighbourhood, I think it would be wise to test if and in what way residents respond to the art. This piloting can be done in parallel to research about which type of art expressions would be best suitable for the neighbourhood and what would be strategic places to expose them (see recommendations).

Main questions to answer

- Do people notice the art expression?
- Do people interact with the art expression?
- What do people think about the art expression?
 - Would they like to see more of it?
- Which type of people respond to the art expression? (young people, old people, tourists?)
- Do people collect the food-deals connected to the art expression?

Stakeholders involved

 Residents	 Local restaurant	 Street artist	 Gemeente Rotterdam
spotting and interacting with art	Offer a deal connected to the art expression, talk with customers about food and the art piece and collect their thoughts about it (option: Loulou's healthy kitchen).	Design art expression	Guide preparation and evaluation process, finance pilot

Set-up

To test the response to the art, a first low budget art piece can be made. This piece should be exposed at a central place where it will catch attention, so that we have a better chance of people noticing it and interacting with it and in that way can collect a lot of feedback. As it is a pilot, the shape of the piece shouldn't be permanent and not too expensive. Possible options for this are a large poster or banner that can hang somewhere for a few weeks. Secondly, exposing the piece shouldn't depend on complex permits. By exposing the art on for example a big shopping window, we only need permission from the concerned retailer.

To measure the interaction with the art, the piece should show a QR code that they can scan to activate the food-deal at one of the healthy retailers. We can see how many people scan it, and how many also come to collect the deal. When they collect the deal, the retailer can collect feedback about their experience through a casual conversation. The limitation to this is that we will not know the thoughts of the people who might have taken a look at the art expression, but did not scan the QR code or collect the food-deal.

Outcome and next steps

I expect that through the pilot, we can get a first impression on whether people respond positively to the art. However, I think the impact will become much bigger when there are more art expressions throughout the neighbourhood. Then, the pieces become more noticeable and people can take 'food walks'. An idea to create buzz around the art can be to organise a design competition where residents can participate. The one who wins will have his/her artwork exposed among the other art expressions and for example get one year of free fruit and vegetables. Organising this competition can also already contribute to the awareness about healthy food in the neighbourhood.

Role Gemeente Rotterdam

The role of the municipality in implementing the solution is two-fold. In the first place it would be nice if the municipality would delegate someone to facilitate the process of setting up the organisation of the concept and to lead the collaboration between the involved stakeholders. This same person can observe how everything is developing during the pilot sessions, and be an 'outsider perspective' here. The second way for the municipality to facilitate is financial. Especially to run the pilots at the beginning, a financial kickstart will be needed.

CONCLUSION

To further validate and implement the concept, I propose to organise pilots for 'De Familiekeuken' as well as for the art expressions in the neighbourhood. In this way the concept can use an experimental setup to improve the concept further. In the case of 'De Familiekeuken', this starts by organising one workshop with only the main stakeholders. From there, we can further develop the workshops and slowly involve the other stakeholders as well. For the art expressions, I suggest starting with one, very noticeable yet low budget art piece to test whether people interact with it. Afterwards, I propose to organise a design competition for residents where they can send in their design to promote healthy food, in order to create buzz. The role of the municipality in the implementation is mostly facilitating and supporting the organisation of the pilots and leading the collaboration between the stakeholders. Secondly, a financial kickstart will be needed to set up the pilots.

14. DISCUSSION & CONCLUSION

This chapter evaluates this project as a whole. First, the design process will shortly be summarised. Then, I will discuss the several spillover effects the project can have beyond its original scope and see how the concept is scalable. After that, I discuss the contributions and limitations of the project and propose some recommendations for further development. Lastly, I draw a conclusion to finish off the project.

14.1 PROCESS SUMMARY

The goal of this project was to find out what is needed to improve the food environment around Beijerlandse laan and how the municipality can facilitate this. To reach this goal, I went through four design phases: discover, define, develop and deliver. This section shortly summarises what was found in each of the phases.

Discovering the context

The initial stage of the project was about exploring. Through desk research and literature reading I learned about systems, the food system, trends and consumer behaviour. To learn about the people in Hillesluis and their values, needs and habits around food I went into the field and I interviewed residents as well as retailers and the neighbourhood's dietician. This phase ended with a wide set of knowledge and insights about the above mentioned themes.

Defining design goal

All the data collected during the discovery phase was used to get an image of the current food system in Hillesluis. While structuring insights, I found opportunities as well as barriers towards a healthier food environment in Hillesluis. This led to the following design goal:

“Design an experience that introduces families in Hillesluis to healthier cooking”

Along with this design goal came five design criteria, to be kept in mind during the rest of the design process: Low threshold, health potential, fun & positivity, cultural recognition and learning by doing.

Developing ideas

With a clear design challenge in mind, it was time to ideate. Through two creative sessions multiple ideas were generated. The ideation sessions resulted in three concept directions: ‘Kids as changemakers’, ‘Culture kitchen’ and ‘Inspired by the streets’. After discussing the three directions with stakeholders, it was decided to continue with a combination of the three directions.

Deliver an implementable concept

In the final phase of the project, the chosen concept was further detailed into a concrete concept that is illustrated through a user story, service blueprint and visualisation of the value exchanged. The concept consists of two parts: First, a workshop series where parents and their children learn to cook healthier meals in a social setting, guided by a specialised chef. Second, art expressions throughout the neighbourhood that inspire healthier food choices and open the conversation about healthy food. The design was validated with potential users, stakeholders and experts. I proposed setups for two pilots: one for ‘De Familiekeuken’ and one for the art expressions in the neighbourhood. This is the first step towards implementation of the concept.

14.2 SPILLOVER EFFECTS & SCALABILITY

This project focused on designing an intervention that improves the nutritional value of family dinners. As discussed, this focus was chosen because ‘family dinners’ are recurring every day, impact the whole family, and because people have a positive association with this moment. As I wanted to positively introduce families to healthier food, this scope was suitable during the project. However, as the concept further developed, I found opportunities for spillover effects that could come with the concept. This section discusses the positive effects that the concept could cause, beyond ‘cooking a healthy family dinner’. Next to this, I also discuss the scalability of the concept: What did we learn during this project that is also useful beyond the scope of this project?

Spillover effects Hillesluis:

Beyond dinner

The focus during ‘De Familiekeuken’ is on preparing a healthy family dinner. However, there are more meals in a day. During the workshops, attention can also go to, for example, ‘healthy snacking’, like was already visible in the user story. By handing out oranges during the workshops and explaining why they are good for your body, participants also become aware of conscious choices during the rest of the day.

Beyond food

During my conversations with Humanitas, we spoke about the opportunity to extend the impact of the workshops beyond food. Next to a balanced diet, a healthy lifestyle consists of regular exercise, avoiding tobacco and drugs and getting enough rest (Voedingscentrum, n.d.). Information and activities around the other elements of a healthy lifestyle can also be touched upon during ‘De Familiekeuken’ workshops. In the user story, I already proposed a sports activity as intermezzo during the workshop.

Social Role

Besides learning how to cook a healthy meal, this concept also has a social role. Parents spend some time with their child, which enforces the bond between them. Also, as there are other families as well, the workshop can be a place to meet other families from the neighbourhood. New friendships between parents and children can be established, which contributes to the social wellbeing of the individuals and the social cohesion of the neighbourhood.

Language practice

Many adults in the neighbourhood struggle to speak the Dutch language well, which makes them feel insecure. As the workshops of ‘De Familiekeuken’ will in first instance be taught in Dutch, it is a nice opportunity for parents to practise. As cooking is a very visual activity, and recipes with context will also be provided in different languages, I hope that people see this as an opportunity to learn the language rather than being scared away.

Buzz in the neighbourhood

With the combination of ‘De Familiekeuken’ and art expressions in the neighbourhood I hope to create buzz around the whole neighbourhood, beyond the group I mainly targeted (parents and their <12 year old kids). For example, participants of the workshops can function as ambassadors for healthy food as they talk to their personal network, all people can take a look at, and interact with, the art expressions in the neighbourhood. As other retailers in the neighbourhood will also pick up on the focus around health, I hope to inspire them to adjust their offer as well. So while the concept is focused on the workshops and art expressions, its impact can spread much further.

Neighbourhood image

During the expert meeting with Alliantie Hand in Hand, I discussed the impact of increased visibility of healthy food on the image of Hillesluis. Currently, Beijerlandse laan is known for all its eateries, but not in a positive way. It is referred to as a ‘vreetshuur’. By highlighting health aspects through the art expressions and focusing more

on the healthy options in the neighbourhood, this image can be changed. Currently, a lot of new apartments are built just outside Hillesluis. It is expected that these new residents already have a higher demand for healthy food. Once they also enter Beijerlandse laan, other retailers will learn that they can also earn money with a healthier offer (van Gelder, 2022). All these changes together can contribute to the image of Beijerlandse laan as ‘Rotterdamse eetstraat’ (as van Gelder likes to call it) where you can taste everything Rotterdam has to offer.

Environmental sustainability

The focus during this project has been on the health of people. However, at the same time we have been working on a strategy that also contributes to environmental sustainability. The diets proposed in ‘De Familiekeuken’ are built up of fresh seasonal ingredients, limit meat consumption and will thus be more environmentally sustainable than current diets. This aspect was not communicated much during the project, as sustainability has a much lower priority for the target audience and will thus not be an effective motivator for them.

Scalability

This concept was especially developed to fit within Hillesluis. I invested a lot of time in engaging with the neighbourhood to learn about the values and needs of the people living there. In a complicated neighbourhood like Hillesluis, you need specific customisation. I wouldn’t dare to just copy and paste the intervention to another neighbourhood without engaging with it first.

Of course, unhealthy lifestyles and food environments are not unique to Hillesluis. Across all types of people and places, the causes for unhealthy lifestyles and environments can differ, and also a suitable solution might look completely different: For example, if we would focus on people who are constantly on the go and therefore don’t have time to cook, a cooking workshop wouldn’t make any sense. I think the scalability of this project lies mostly in the build-up of the intervention.

Firstly, an intervention should be **layered** in order to be effective: Ensure that the intervention interacts with the individual, socio-cultural, physical as well as political environment of the target audience.

Secondly, I think it is valuable to work with the **parties that are already present** in the neighbourhood. These parties know the neighbourhood and especially in low SES neighbourhoods, it is important that these parties have already gained the trust of the residents.

Thirdly, I think it was a strong point to involve the **children** into the project for two reasons: Children have the future, so it is important to educate them young on the relevance of a healthy lifestyle. Secondly, children are parents’ main motivation in life. In any neighbourhood, parents are probably more likely to change something if it benefits their child than when it would just benefit themselves.

Fourth, take **positivity** as the starting point of each health related intervention. I always feel like there is a negative association to diets that for example help to lose weight. By framing it in a positive way and making it fun to progress on your personal wellbeing I think it becomes a lot easier to actually improve your lifestyle.

Lastly, I do see options for scaling the cooking workshops to a **broader target group**. For example, teenagers can also be an interesting target audience to explore because they are at the age where you start to make your own choices regarding food. However, a set-up that works for them probably doesn’t involve parents and needs a different tone of voice.

To conclude, I think it is not easy to scale the concept of ‘De Familiekeuken’ en art expressions in the neighbourhood as it is right now. For each target audience and neighbourhood, different nuances to the concept will be needed. Therefore, I mainly used this section to share learnings around the build-up of the intervention. Those can be scaled to other interventions as well.

14.3 CONTRIBUTIONS ...

Contributions to Gemeente Rotterdam

As this project was commissioned by Gemeente Rotterdam, it is important to show what it contributes to their mission: Healthy citizens in a healthy food environment. This thesis serves as inspiration for the City Deal experiments that Gemeente Rotterdam plans to execute around Beijerlandse laan.

During my project I was able to collect important first insights about the neighbourhood in a relatively short time. The gathered insights and values can help Gemeente Rotterdam in setting up other interventions as well. Secondly, I connected to quite some stakeholders in the neighbourhood's food system. Gemeente Rotterdam can continue to work with these stakeholders and facilitate effective collaboration between them. Thirdly, I of course proposed my concept: a concrete set of two interventions that together have an impact on each layer of the system. In short, I took a headstart in exploring the neighbourhood, connected with interesting people and set up a concept to inspire further progression of the City Deal experiments. Also, I showed the relevance of being sensitive to the residents in this neighbourhood, which is something the municipality should not lose sight of.

Contribution to stakeholders

By connecting with people from all different perspectives in the neighbourhood I was able to connect these perspectives together. During the ideation session in Hillesluis, a first step was taken towards willingness for collaboration. It is important for the stakeholders to get an holistic image of their neighbourhood, and learn to look beyond self-interest in order to really make progress.

Contribution to design field

This project contains an in-depth case study that turns the theoretical system driving food intake for low SES groups into practice. This project shows how this theory is applied through designing concrete interventions that together touch upon the different layers of the food environment and in that way increase the availability, accessibility, affordability and acceptability of healthy food.

... & LIMITATIONS

Research limitations

When doing qualitative research, you are of course always dependent on the individuals you talk to. This automatically causes subjectivity in the collected insights, especially because I could only speak to a limited number of people. The great diversity of people and cultures in Hillesluis is something I tried to represent in my participant sample, however as an 'outsider' who does not spend every day in the neighbourhood it is hard to determine whether I was able to get a fully representable view. A research setup that involves a larger sample and involves a quantitative follow-up can sketch a more reliable overview of the target audience.

A second limitation I could identify in my research phase is the possible gap between what people say vs. what they actually do. During the interviews I tried to get an image of the buying, cooking and eating behaviour of residents. What was remarkable, is that most of them told me they didn't snack in between meals. This is of course possible, but it could also be that they simply forgot about it as snacking often happens with little attention. To get a more realistic overview of what people eat, a diary study where people track what they eat for a longer time could be useful. This project eventually focused on 'family dinners' as this is an easy to identify, daily happening meal where the whole family is involved. However, this might not be the most 'harmful' type of food of the day. It is thus important to intervene beyond dinner time.

The third limitation is similar to the second, as it also has to do with a possible gap between what people say vs. what they actually do. During the validation stage of the project, I was mainly able to test the intentions of the involved participants and stakeholders. It's nice that the intentions of most people were positive, however I think great facilitation from the side of Gemeente Rotterdam is necessary to turn these intentions into actions.

A fourth limitation is that the week where I planned my validations, was also spring break for schools. This meant that I was unable to, in conversation with school teachers, directly reach out to the parents and kids that would benefit most from participation in 'De Familiekeuken'. In an ideal scenario, I would test the concept by approaching these families in the schoolyard and find out their first response. However, my alternative to randomly approach families in Beijerlandse laan luckily turned out quite well too.

Lastly, this same spring break meant that validating the concept with a gymnastics teacher from one of the Lekker Fit schools also had to be postponed. Eventually I managed to plan a meeting two days before the due date of this report, but sadly the teacher didn't show up at the planned time. I propose to invite her again when pitching the concept during a meeting organised by the municipality. In that way she can still share her thoughts about the concept from a school perspective.

Solution limitations

The solution as designed by me mainly involves local businesses as stakeholders. This was a conscious choice, as these businesses are more flexible and don't rely on organisation wide regulations they need to meet. This made it easy for me to directly speak with the owners who could in turn directly decide to what extent they were interested to collaborate. The consequence is that the impact these small businesses can make is very local. Once bigger chain organisations like McDonalds start to cooperate and begin to offer healthier options, the impact can reach much further as they serve a lot more customers and also in different areas. Getting these bigger organisations on board could be an interesting future step.

A second solution-related limitation has to do with the complexity of the problems people in Hillesluis face. Even though I tried to empathise with the residents in the best way I could, the problems of these people often go far beyond just food. Residents cope with a lot of challenges at the same time, which results in health problems that cannot be solved through a series of healthy cooking workshops. This situation is different for each individual, and in many cases it will be up to a professional to help people cope with underlying aspects of their behaviour and wellbeing.

Lastly, there is one uncertain aspect in the organisation of 'De Familiekeuken' that could turn out to be a limitation: Finding the right chef. The host leading 'De Familiekeuken' has to be just the right person: trustworthy, passionate, specialised in healthy food, a great storyteller and with the right tone of voice to make the participants identify with him/her, all at the same time. I think the success of this concept strongly depends on this person and we have to be lucky to find this person within reasonable time.

14.4 RECOMMENDATIONS

Because of time restrictions, not all aspects of the concept could be detailed completely. The main purpose of this project was to learn about how to design for a healthy food environment in a neighbourhood like Hillesluis. The concept I developed is an example of what would fit this neighbourhood, but is not set in stone. To further develop the concept and to bring it to life, some additional steps are necessary.

Further development 'De Familiekeuken'

I think the first step is to organise a pilot as proposed in the implementation plan. This is the best way to learn about what works and how the concept needs to be improved. From there the concept can be built up further. Important steps to take when further developing 'De Familiekeuken', is ensuring that it indeed becomes effective and useful. It should be correct from a didactical point of view and the content needs to resonate with the participants. I propose to do further research on what suitable content for the workshops would entail.

If the pilot shows promising results, it would be nice to find a setup for 'De Familiekeuken' that works on more locations in Rotterdam. This, to be able to qualify as a 'prevention activity' that can be compensated by VGZ's Rotterdam Pakket. To do this, I propose to network with 'Huizen van de Wijk' in other neighbourhoods. It is important that for each neighbourhood, attention is paid to nuances that are needed to fit the residents of that specific neighbourhood.

Further development 'Art expressions'

As with the development of 'De Familiekeuken', the recommendations for further development will probably flow mostly from the pilot as proposed in the implementation plan. Next to this, I suggest doing additional research on the ideal shape of the art expressions. In chapter 12.3, I showed many examples of art expressions. It should be researched which type of art would bring the message across in the best way. Furthermore, for each of these types, other stakeholders will be involved in its application (i.e. property owners for street art on buildings, the municipality for street art on the street). Contacting these stakeholders to discuss the options and get an idea about their willingness is another step that needs to be taken. Lastly, further research should be done on what would be strategic places to expose the art. I suggest to look both at places where a lot of people pass (by foot), as well as some more 'hidden' spots where we can surprise people. Local experts can probably help out here.

14.5 CONCLUSION

The final result of this project is a combination of two interventions that together contribute to a healthier food environment in Hillesluis. The core of the concept is a workshop series where parents and their children participate once per week during a longer period of time. They are referred to these workshops via school if a child is too heavy or has difficulties to focus. During the workshops, families learn to cook healthier meals in a social setting, guided by a specialised chef. The goal is that acquired knowledge and skills are eventually implemented in their daily life and their cooking activities at home, so that a healthier diet is established. Besides the workshops, I also want to increase the amount of physical stimuli of healthy food in the neighbourhood. Through the application of street art, people passing by can get inspired to open up the conversation about healthy food or to make a healthier choice today.

This result successfully addresses the design goal: An experience that introduces families in Hillesluis to healthier cooking. The concept of 'De Familiekeuken' was positively received by potential users when validating it through street interviews. Stakeholders and experts were also positive about the result and expressed that they would like to collaborate in the organisation of the concept. Next to the intended effect, I also identified several positive spillover effects that the concept could cause, like social benefits for residents and an improved image of the neighbourhood.

The original research question of this thesis was: "How can the municipality of Rotterdam facilitate and design for a healthier food environment that results in structural improvement of the public health in Hillesluis?". The answer to this is two-fold: In the first place it would be nice if the municipality would delegate someone to facilitate the process of setting up the organisation of the concept and to lead the collaboration between the involved stakeholders. This same person can observe how everything is developing during the pilot sessions, and be an 'outsider perspective' here. The second way for the municipality to facilitate is financial. Especially to run the pilots at the beginning, a financial kickstart will be needed.

This project contains an in-depth case study that turns the theoretical system for driving food intake for low SES groups into practice. This project shows how this theory is applied through designing concrete interventions that together touch upon the different layers of the food environment and in that way increase the availability, accessibility, affordability and acceptability of healthy food.

To conclude, the project successfully contributes to its purpose of helping the municipality in finding a way to best facilitate a healthier food environment in Hillesluis. As explained in the validation and discussion section, there are still some challenges to overcome on the way to implementation of the concept. However, I hope that this thesis is inspiring in a way that it leads to action and positively impacts the health of residents in Hillesluis as well as other neighbourhoods.

15. PERSONAL REFLECTION

In the last quarter of 2020-2021 I started the 'manage your master', and with that the orientation phase for my graduation project. I had no clue in what direction I wanted to do my project, except that I wanted it to revolve around a complex societal issue. Well, a complex societal challenge it was!

My search journey started in the field of sustainability, because that is what I find most interesting and important. I read articles about the energy transition and protein transition, and while reading about the latter became enthusiastic to read more and more about it. This seemed like a good sign. I contacted several parties on the topic and had several interesting conversations which was a fuzzy part I really enjoyed. I spoke to people who were passionate about the protein transition which motivated me a lot. However, formulating a fitting assignment wasn't that easy. What did I have to offer? What was I going to do? Why didn't I just 'pick and go' with an existing vacancy? I guess because I don't like taking the 'easy' route. I want to show that I already have some networking skills and that I can create my own assignment in collaboration with a company. Eventually ended up at the municipality of Rotterdam. What started as a conversation about the protein transition, led to one about healthy eating in one of the low SES areas of Rotterdam. I decided to go on with the topic of healthy eating and try to keep involving my environmental point of view along the way. The project revolving around the food system in one single street of Rotterdam seemed like a nice and clear system for a beginner like me to start with. That was a nice joke I told myself.

From the moment I started, I felt that connecting with the people in Hillesluis was going to be very necessary, yet very complicated at the same time. I completely underestimated the time I would lose to arranging meetings and interviews with the right people. It took a lot of calls and going to Beijerlandse laan to just step into people's stores to talk to them. This was not easy for someone who still suffers a little bit from 'fear of talking to strangers'. However as the project developed, I

also developed. I learned that people in Hillesluis were mostly very friendly and helpful, and to step away from my own fears. Still, I was balancing on a thin line as I was constantly afraid to insult people by accident, because their values and worldviews could differ a lot from my own. This made the assignment challenging and interesting at the same time. Even though I feel like I've only seen a small part of these people's lives, a whole new world opened up to me and I became super aware of the 'Delft-bubble' I usually live in. To summarise: The target audience during this project was very different from the people I work with in my daily life. This challenged me to be patient and use my empathising skills to the fullest. Also, it taught me that 'being where they are' is the best way to do this. In the end my hard work paid off: all stakeholders were happy to meet me again and discuss my designed concept and asked whether they could join my final presentation because they were curious about the final result.

Besides managing stakeholders in Hillesluis, I also had to engage my client: The municipality. This was not easy as the municipality was a problem owner rather than a direct stakeholder in the system. I spent most of my time trying to understand the system and it was hard to decide which of my findings were interesting for the municipality to know. Especially in the research phase this was hard to determine. However, from the midterm point onwards, the project became more specific and it became easier to share insights. One of my favourite moments was to invite Karin to the pressure cooker ideation session that I facilitated with IDE students as participants. It felt like I had just connected two worlds.

As you can see, the communication management during this project alone already taught me a lot. Let's take a look at the content of the project: As already mentioned at the start of this reflection, it wasn't easy to grasp the entire system. What I especially found hard was to set boundaries. The system could always be stretched broader and more holistically. I could stretch from food to lifestyle and from food production to food waste. Luckily, my supervisory team sometimes reminded

me about the fact that I couldn't do everything and I decided quite fast that even though I wanted to take a systemic approach, the focus would be on improved health for consumers. Working with the user in the centre gave me something to hold on to. It made me decide to focus on the parts of the system that the consumer directly interacts with, and leave other parts of the food system outside the scope. From that moment, my food system consisted of what I could literally see at BeijerlandseLaan. It turned out that my sometimes annoying characteristic of 'not being interested enough to go into too much detail' was quite useful during this project. It kept me from collecting way too much information and helped me focus on what was relevant (even though I was very interested this time!).

Planning meetings with stakeholders sometimes slowed me down, and often my meetings with them happened 'just in time' before the next deadline. This meant that my workflow often had to be hyper efficient in the final week before a deadline. Even though it didn't feel comfortable, I think it helped me to make decisions and quickly filter what was most important. The parts of my thesis written under pressure are probably the best parts.

I could continue to write about my experiences during this project for a lot longer but I think the bottom line can be summarised in a few sentences:

- This project was the most challenging one I have done so far, but also the most interesting one.
- Where I thought I was good at communication and managing already, this project constantly challenged that. This was sometimes frustrating, but also very rewarding when everything eventually turned out well.
- I met many interesting people with inspiring stories, which has made me a more open minded person who can postpone judgement.
- I now know that I can work independently on a big project, but can't wait to be in a team again.

It feels unreal to write these final words, but I guess this is it.

Take good care of yourself and your environment.

Best,
Mariska



Figure 31: Go blueberry picking for a happy and healthy lifestyle

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APPENDIX A: PROJECT BRIEF

DESIGN
FOR OUR
future

5266

IDE Master Graduation

Project team, Procedural checks and personal Project brief

This document contains the agreements made between student and supervisory team about the student's IDE Master Graduation Project. This document can also include the involvement of an external organisation, however, it does not cover any legal employment relationship that the student and the client (might) agree upon. Next to that, this document facilitates the required procedural checks. In this document:

- The student defines the team, what he/she is going to do/deliver and how that will come about.
- SSC E&SA (Shared Service Center, Education & Student Affairs) reports on the student's registration and study progress.
- IDE's Board of Examiners confirms if the student is allowed to start the Graduation Project.

! USE ADOBE ACROBAT READER TO OPEN, EDIT AND SAVE THIS DOCUMENT

Download again and reopen in case you tried other software, such as Preview (Mac) or a webbrowser.

STUDENT DATA & MASTER PROGRAMME

Save this form according the format "IDE Master Graduation Project Brief_familyname_firstname_studentnumber_dd-mm-yyyy". Complete all blue parts of the form and include the approved Project Brief in your Graduation Report as Appendix 1 !

<p>family name <u>Graat</u></p> <p>initials <u>M.C.E.</u> given name <u>Mariska</u></p> <p>student number <u>4453905</u></p> <p>street & no. _____</p> <p>zipcode & city _____</p> <p>country _____</p> <p>phone _____</p> <p>email _____</p>	<p>Your master programme (only select the options that apply to you):</p> <p>IDE master(s): <input type="radio"/> IPD <input type="radio"/> Dfi <input checked="" type="radio"/> SPD</p> <p>2nd non-IDE master: _____</p> <p>individual programme: _____ (give date of approval)</p> <p>honours programme: <input type="radio"/> Honours Programme Master</p> <p>specialisation / annotation: <input type="radio"/> Medisign</p> <p><input type="radio"/> Tech. in Sustainable Design</p> <p><input type="radio"/> Entrepreneurship</p>
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SUPERVISORY TEAM **

Fill in the required data for the supervisory team members. Please check the instructions on the right !

** chair Sine Celik dept. / section: DOS

** mentor Anna Louisa Peeters dept. / section: HCD

2nd mentor Karin de Jager

organisation: Municipality of Rotterdam

city: Rotterdam country: The Netherlands

comments (optional)
:
:
:

Chair should request the IDE Board of Examiners for approval of a non-IDE mentor, including a motivation letter and c.v.



Second mentor only applies in case the assignment is hosted by an external organisation.



Ensure a heterogeneous team. In case you wish to include two team members from the same section, please explain why.

APPROVAL PROJECT BRIEF

To be filled in by the chair of the supervisory team.

chair Sine Celik date 21 - 09 - 2021 signature

CHECK STUDY PROGRESS

To be filled in by the SSC E&SA (Shared Service Center, Education & Student Affairs), after approval of the project brief by the Chair. The study progress will be checked for a 2nd time just before the green light meeting.

Master electives no. of EC accumulated in total: 35 EC
Of which, taking the conditional requirements into account, can be part of the exam programme 30 EC

List of electives obtained before the third semester without approval of the BoE

YES all 1st year master courses passed

NO missing 1st year master courses are:

name C. van der Bunt date 24-09-2021 signature CB

FORMAL APPROVAL GRADUATION PROJECT

To be filled in by the Board of Examiners of IDE TU Delft. Please check the supervisory team and study the parts of the brief marked **. Next, please assess, (dis)approve and sign this Project Brief, by using the criteria below.

- Does the project fit within the (MSc)-programme of the student (taking into account, if described, the activities done next to the obligatory MSc specific courses)?
- Is the level of the project challenging enough for a MSc IDE graduating student?
- Is the project expected to be doable within 100 working days/20 weeks?
- Does the composition of the supervisory team comply with the regulations and fit the assignment?

Content: APPROVED NOT APPROVED

Procedure: APPROVED NOT APPROVED

comments

name Monique von Morgen date 11/10/2021 signature _____

A food strategy for a healthy Rotterdam project title

Please state the title of your graduation project (above) and the start date and end date (below). Keep the title compact and simple. Do not use abbreviations. The remainder of this document allows you to define and clarify your graduation project.

start date 20 - 09 - 2021 end date 15 - 03 - 2022

INTRODUCTION **

Please describe, the context of your project, and address the main stakeholders (interests) within this context in a concise yet complete manner. Who are involved, what do they value and how do they currently operate within the given context? What are the main opportunities and limitations you are currently aware of (cultural- and social norms, resources (time, money,...), technology, ...).

Food is an essential part of our lives. At the same time, food causes a lot of trouble for the public health and the environment because of the way we treat it. Production and consumption of food has a large impact on the climate and animal welfare and is a threat to biodiversity. Eating too much and unhealthy food leads to an increase in overweight and other lifestyle related diseases like diabetes. This in turn impacts our health care system, causes absence at work and so stretches into other parts of society systems as well. The relevance of a healthy lifestyle becomes even more clear these days, as overweight people are more likely to get serious complications once they get infected with corona.

Also in the city of Rotterdam, the current food situation is not ideal. Overweight is a big problem: Half of the adults is too heavy, and almost 25% of the kids. This latter number is almost twice as high as the national average. Expectations are that without taking measures, the amount of citizens being overweight will only rise further. Over time we can see that the city's amount of food providers keeps growing and in this way seduces people to keep buying and eating (unhealthy) food. Also the type of food providers changed: where the amount of fastfood locations has grown by 37% in the past 15 years, the amount of fresh food suppliers was reduced by 38%. Especially in neighbourhoods of low social economic status the fastfood locations increased.

It is clear that something needs to change. As long as the environment people live in keeps making it harder to make healthy choices, we cannot expect the situation to change in a positive way. Therefore an integrated approach is necessary that targets both the food environment and the consumers' behaviour. The projected stakeholders here are the municipality of Rotterdam, local shop owners and restaurants who sell foods, local food producers, initiators of green initiatives, citizens who buy the food, and the ministry of health, wellbeing and sports. The latter is, among other things, in charge of certain laws that determine how much influence the municipality has on the types of food offered.

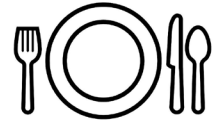
The municipality of Rotterdam has established its ambitions for an improved food environment in an internal report. However, this document is not tested outside the municipality yet. When this is done, it is likely that some tensions will arise between interests of citizens or shop owners and what is needed to achieve the municipality's ambitions. This will impact the execution of the strategy.

An opportunity that I see is that the market is at a tipping point: i.e. the amount of meat replacements seems to be growing every day. For me this shows willingness and opportunity to change. Also there are already a lot of (citizen) initiatives that target healthy and/or sustainable eating. These initiatives can inspire others, and can also be a fruitful place to start collaborations that have a bigger impact. Limitations that I foresee firstly have to do with the large differences within the city. The diversity of the city is beautiful, but at the same time makes it hard to establish a holistic view on all the different perspectives there are. A second limitation could be that conducting field research is still restricted due to Covid-19. Doing user research, for example through interviews and creative sessions, might only be possible via online tools. Another limitation can be that the catering industry is hit hard by the Covid-19 pandemic, making this a tricky moment for them to start (radical) change. However, this limitation can also turn out to be an opportunity instead.

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APPENDIX B: CONTEXT MAPPING BOOKLET CONSUMERS

IK EN HET ETEN DAT IK DAGELIJKS EET



HOI!

Mijn naam is Mariska en ik ben student aan de TU Delft. Ik doe onderzoek naar keuzes en gewoonten rondom het kopen, bereiden en eten van eten. Zonder dat we het door hebben maken we namelijk enorm veel voedselkeuzes per dag!

Dit boekje is om je voor te bereiden op je interview. Het is als een dagboek met korte oefeningen. Elke oefening duurt ongeveer 5 minuten. Alles wat je aangeeft is goed, ik ben namelijk geïnteresseerd in jouw persoonlijke verhaal. Jij bent de expert van je eigen leven.

Vul het boekje in zoals jij leuk vindt: schrijf, teken, plak stickers; het mag allemaal. Zorg dat je dit boekje ingevuld meeneemt naar interview, zodat we er dan samen nog eens doorheen kunnen kijken.

Alleen ik heb inzicht in jouw antwoorden. Alles wat je mij vertelt verwerk ik tot anonieme inzichten. Niets leidt terug naar jou.

Tot snel!

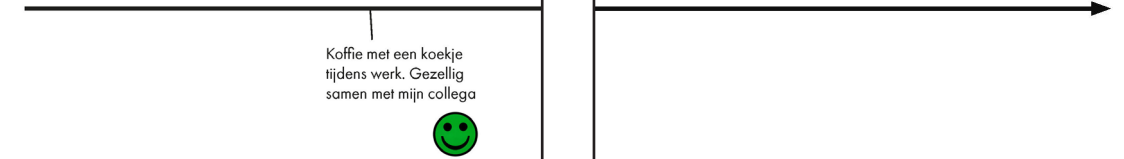


3. EET-DAGBOEK

Om je bewust te worden van je eigen gewoonten, wil ik je vragen om een dag lang alles bij te houden wat je eet of wat met eten te maken heeft. Bijvoorbeeld: boodschappen doen, koken of iets te eten kopen terwijl je onderweg bent.

Om je op weg te helpen heb ik alvast 1 voorbeeld op de tijdlijn hieronder gezet.

dag van de week: _____



1. EVEN VOORSTELLEN..

Ik wil je graag beter leren kennen aan de hand van de volgende vragen.

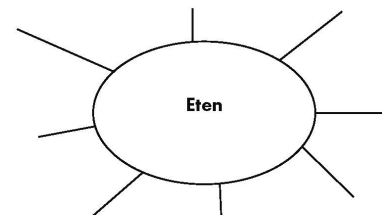
1. Zo omschrijf ik mezelf:

2. Mijn woonsituatie is als volgt:

3. Mijn favoriete eten is:

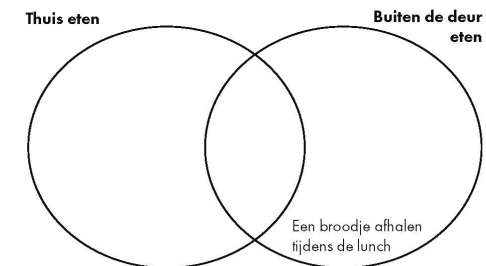
2. ETEN

Dit onderzoek gaat over eten en eetgewoonten. Wat betekent eten voor jou? Waar moet je het eerste aan denken? Voel je vrij om meer lijntjes toe te voegen.



4. THUIS ETEN OF BUITEN DE DEUR

Sommige maaltijden eet je (bijna) altijd thuis, maar soms eet je vast ook buiten de deur: bij vrienden, op werk of in een restaurant. Geef aan wanneer je het liefst thuis eet, wanneer buiten de deur en wanneer je dit juist combineert.



1. Geef op de tijdlijn aan wat je verspreid over de dag gegeten hebt. Geef hierbij zo veel mogelijk details: met wie was je toen je dit at? En waar was je? Waarom koos je voor dit soort eten?

2. Ik ben ook benieuwd naar je emoties rondom de eetmomenten. Op welke momenten was je blij? Welke momenten vond je minder leuk? Geef aan met smileys.



5. VOOR- EN NADELEN VAN UIT OF THUIS ETEN

Bekijk wat je op de vorige pagina hebt opgeschreven. Wat zijn volgens jou de voor- en nadelen van thuis eten of juist buiten de deur?

Thuis eten

😊 _____

😞 _____

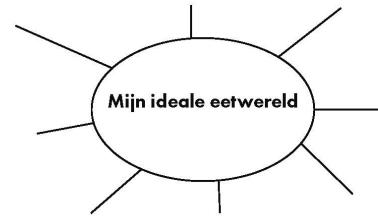
Ergens anders eten

😊 _____

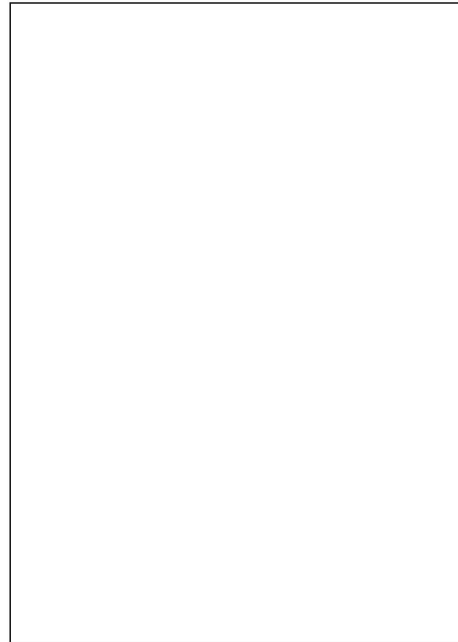
😞 _____

6. TOT SLOT: MIJN IDEALE EETWERELD

In deze laatste oefening komen alle eerdere oefeningen samen. Als je terugkijkt op jouw eigen eetgewoonten, wat je leuk of belangrijk vindt en wat niet, hoe ziet jouw ideale eetwereld er dan uit? Wat zou je het liefste dagelijks eten? En met wie? Bij welke winkels of restaurants koop jij je eten? Hoe wordt eten het hoogtepunt van jouw dag?



Ruimte voor een tekening van jouw ideale eetwereld:



Aanvullingen en notities

**BEDANKT VOOR HET DELEN VAN
JOUW VERHALEN!**

Vergeet niet dit boekje ingevuld bij de hand te houden tijdens het interview. Tot dan!

APPENDIX C: SET-UP CONSUMER INTERVIEWS

Titel: Ik en het voedsel dat ik dagelijks eet
Aantal participanten: 6-10
Tijd: interviews van ongeveer 1u pp
Locatie: bij de gezondheidsvoorlichters Rotterdam (hillevliet)

- Eisen participanten:
- spreekt Nederlands, liefst ook lezen en schrijven.
 - man/vrouw in balans
 - leeftijd: 25-45 en ouder van een kind <12
 - etnische achtergrond: afspiegeling buurt
 - opleidingsniveau: afspiegeling buurt

Doelen: door middel van deze interviews in combinatie met de sensitizing boekjes wil ik inzicht krijgen in:

- Algemene rol van voedsel in het leven van de consument
- Eetgedrag
- Koopgedrag (boodschappen, uiteten, afhalen/bestellen)
- Kook gedrag

Ik wil ontdekken wat de belangen, motivaties en waarden van de consumenten zijn op dit gebied. Door inzicht te krijgen in WAT ze doen en WAAROM hoop ik uiteindelijk een consumer journey te kunnen opstellen. Deze kan vervolgens helpen bij het spotten van kansen.

Ik leg expres niet de nadruk op 'gezond' eten en de beijerlandse laan omdat ik mensen niet wil afschrikken en omdat dit wordt onderzocht met de mini onderzoeken vanuit de gemeente zelf. Gezond eten en de beijerlandse laan kunnen natuurlijk door de antwoorden van de participanten wel al vanzelf naar voren komen. Richting het einde van het interview stip ik beide punten ook even aan, zodat ik weet hoe mijn participanten hierover denken.

Note: Idealiter ontvangen de participanten het sensitizing boekje minimaal 2 dagen voor het interview zodat ze deze voorafgaand aan het interview kunnen invullen. Mocht het boekje niet van tevoren ingevuld kunnen worden ivm tijdsplanning of welke andere reden dan ook, dan kan het boekje alsnog tijdens het interview als leidraad worden gebruikt en dan gezamenlijk worden ingevuld.

Semi-structured interview

1. Intro

Ik zou graag een geluidsopname maken van het gesprek dat wij vandaag hebben zodat ik dit voor de verwerking van mijn onderzoek kan terugluisteren. Ik ben de enige die naar deze opnames zal luisteren, en verwerk inzichten vervolgens anoniem. Vindt u dit goed?

Wij kennen elkaar natuurlijk niet, dus voordat we beginnen lijkt het me leuk om een ons even aan elkaar voor te stellen. Mijn naam is Mariska. Ik ben een student van de TU Delft en ik doe voor mijn afstuderen onderzoek naar keuzes en gewoonten rondom het kopen, bereiden en eten van voedsel.

Ik ben ook benieuwd wie jij bent! Dus, wie ben je, wat doe je in het dagelijks leven, wat is je woonsituatie?

2. Intro voedsel [5min]

Dit gesprek gaat natuurlijk over voedsel en eetgewoonten. Als je het woord 'voedsel' hoort, waar denk je dan zoal aan?

- waar komt dat vandaan?
- vind je dat belangrijk? waarom?

3. Eetgedrag [15min]

Als het goed is heb je in het boekje een dag bijgehouden wat je hebt gegeten, zullen we hier samen doorheen lopen?

- wat heb je gegeten?
- op welke momenten?
- met wie?
- wat was de reden dat specifiek dit eten gegeten werd?
- welk gevoel heb je hierbij?

- Is deze dag typerend voor hoe je normaal op een dag eet?
 - waarom wel / waarom niet?
- Eet je op vaste momenten, of wisselt dat?
 - hoe?
- Waar let je op bij het bepalen van wat je gaat eten? (bijv. checken wat je nog in huis hebt, mening van kinderen)
 - besteed je over het algemeen veel aandacht aan wat je eet?
- Hoe passen de verschillende maaltijden in je dag?
 - neem je er de tijd voor of gaat het gehaast?
 - wat is de invloed van je dagprogramma op wat je eet?
- Wat doe je als je trek hebt, maar geen eten bij de hand?
 - waarom?

4. Koopgedrag [15min]

thuis

Voordat je kunt eten, moet dat eten natuurlijk ergens vandaan komen.

- Waar doe je meestal boodschappen?
 - Waarom kies je voor deze winkel(s)?
 - Ben je de vaste persoon van je huishouden die de boodschappen doet?
 - Ga je alleen of met iemand?
- Hoe vaak doe je ongeveer boodschappen?

- koop je per dag of in een keer voor meerdere dagen?
- waarom doe je dat zo?
- Waar let je op bij het doen van de boodschappen?
 - Wat vind je belangrijk? (vb. prijs, aanbiedingen, smaak, bereidingstijd)
 - waarom?

Uit

Naast eten kopen om vervolgens thuis te koken kan je ook in een restaurant eten, eten bestellen, of eten afhalen.

- Hoe vaak doe je dit?
- waar ga je dan heen? / waar bestel je dan?
 - waarom kies je hiervoor?
- Wanneer is dit meestal? (tijd van de dag, gebeurtenis in de week?)
- Met wie?
- Waar let je op bij het kiezen van de voedsel aanbieder?
 - wat vind je belangrijk? (vb. prijs, aanbiedingen, smaak)
 - waarom?

Uit vs. thuis

- Wanneer eet je graag uit?
- Wanneer eet je graag thuis?
- Wat zie je als de voor- en nadelen van thuis eten?
- Wat zie je als de voor- en nadelen van ergens anders eten?
- Als je op weg gaat, neem je dan vaak eten mee of koop je iets? (bijv. lunch op werk)

Beijerlandsewaan

Je woont hier vlakbij de beijerlandsewaan. Het voedselaanbod hier is enorm.

- Wat vind je van het aanbod op de beijerlandsewaan?
- Kan je alles vinden wat je zoekt?
- Waar kom je graag? waarom?
- Waar kom je minder graag? waarom?
- Wat mis je op beijerlandsewaan, of hoe kan het beter? waarom?

5. Kook gedrag [10min]

Als je thuis eet, moet er natuurlijk ook af en toe gekookt worden.

- Houd je van koken?
 - waarom wel / waarom niet?
 - wanneer wel / wanneer niet?
 - hoe vaak kook je ongeveer?
 - wat vind je de leuke en minder leuke dingen aan koken?
- Wat voor type kok ben je?
 - snel of uitgebreid?
 - veel verse ingrediënten of meer voorverpakt?
- Kook je alleen voor jezelf, of ook voor anderen?
 - wanneer wel / wanneer niet?
- Wanneer kook je?
 - moment van de dag?
 - voor 1 of meerdere dagen?

Visie op gezond eten [10min]

De laatste tijd wordt er meer aandacht besteed aan gezond en duurzaam eten.

- In hoeverre ben je je hier bewust van?
- In hoeverre ben je hier mee bezig?
- Hoe doe je dit?
- Eet je hierdoor anders dan voorheen? Hoe?
- Hoe ziet u de toekomst van voedsel?

Voedseldroom [5min]

Als je terugkijkt op jouw eigen eetgewoonten, wat je leuk of belangrijk vindt en wat niet, hoe ziet jouw voedseldroom er dan uit?

- Wat zou je het liefste dagelijks eten?
- En met wie?
- Bij welke winkels of restaurants koop jij je eten?
- Hoe en door wie wordt jouw eten bereid?
- Hoe wordt eten het hoogtepunt van jouw dag?

APPENDIX D: SESSION PROCEDURE - CREATIVE SESSION IDE

Time	What	Aim	Material	notes
12:00	Sleutel ophalen			
12:40	Voorbereiden ruimte			
13:00 - 13:05 (5min)	Welkom	planning en 'regels'	Planning papier	
13:05 - 13:15 (10min)	Kennismaking	Omschrijf jezelf aan de hand van voeding		Staand
13:15-13:20 (5min)	Project Brief	Uitleg project, context en doel sessie	'speech' met project uitleg en onthulling statement	Staand
13:20 - 13:25 (5min)	Purge	Eerste ideeën op papier. Ook de stomme!	Purge poster, Schrijven op post-its!	Staand bij muur
13:25 - 13:40 (15min)	Flower associations	Uitpluizen van statement + dotvoting op interessante onderdelen	Posters met trefwoorden, schrijven op post-its	4x3min voor associations, papier doorschuiven tussen deelnemers. 1x3min voor dot-voting
13:40 - 13:50 (10min)	formulering statement	SPARK	Spark poster. Tot stand koming in groepsdiscussie	
13:50 - 14:00 (10min)	Pauze			In pauze foto's maken van materiaal tot nu toe
14:00 - 14:15 (15min)	Brainstorm met buurt triggers op SPARK statement	ideeën en deel-ideeën	Post-its, trigger posters	4x3min voor ideeën, papieren rouleren. 1x3min voor dot voting interessante ideeën
14:15 - 14:30 (15min)	Concept fase in 2-tallen + testplan	Presenteerbaar idee bedenken	Concept posters	10min voor bedenken en uitwerken, 5min om testplan offline/online te bedenken
14:30 - 14:55 (25min)	Presentaties aan Karin	Presentatie en discussie	Karin in Zoom, Concept posters	2 korte presentaties van 1 of 2 concepten + ruimte voor discussie. 10min per groep + 10min discussie.
14:55 - 15:00 (5min)	wrap-up	reflectie in 1 woord		evt blijven napraten met wie dat leuk vind / theetje drinken

APPENDIX E: SESSION PROCEDURE - CREATIVE SESSION HILLESLUIS

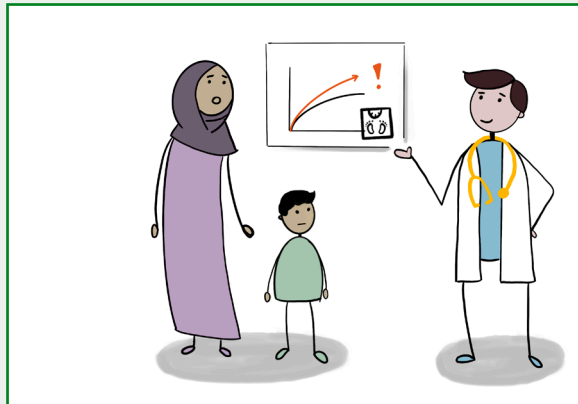
Time	What	Aim	Material	notes
15:30	Aanwezig bij Royal Roots			
15:45 → uitloop tot 16:10	Inloop			
16:10-16:20 (10min)	Welkom	planning en 'regels'	Planning papier	
16:20-16:30 (10min)	Kennismaking	Omschrijf jezelf aan de hand van voeding		Staand
16:30-16:40 (10min)	Project Intro	Uitleg project, context en doel sessie	'speech' met project uitleg en onthulling statement	Staand
16:40-16:50 (10min)	Samen eerste idee combinatie	Morfologische kaart begrijpen	Purge poster, Schrijven op post-its!	Mensen bedenken los van elkaar, zodat er een soort force-fit moet komen voor het eerste idee → niets is te gek
16:50 - 17:10 (20min)	Ontwerp ronde 1	Per duo een idee bedenken mbv de morfologische kaart	morfologische kaarten, concept posters, pennen	
17:10 - 17:25 (15min)	presenteren en discussie	ideeën uitwisselen. Wat is interessant? Waar worden mensen enthousiast van?		
17:25-17:30 (5min)	Pauze	Hopelijk kan deze pauze eerder al plaatsvinden, als we aan het begin niet uitgelopen zijn		In pauze foto's maken van materiaal tot nu toe Mini evaluatie met Frank
17:30 - 17:40 (10min)	Ontwerp Ronde 2	Per duo een idee bedenken mbv de morfologische kaart	morfologische kaarten, concept posters, pennen	
17:40 - 17:50 (10min)	Presenteren			
17:50 - 18:00 (10min)	Dot-vote en Discussie	Favoriete idee kiezen. Waarom het beste idee? Waarom werkt dit in Hillesluis? Wat hebben we nodig? Hoe gaat dit werken?		
18:00	Afsluiting	Afsluiten in 1 woord & Bedankjes uitdelen		

APPENDIX F: USER STORY - DUTCH VERSION

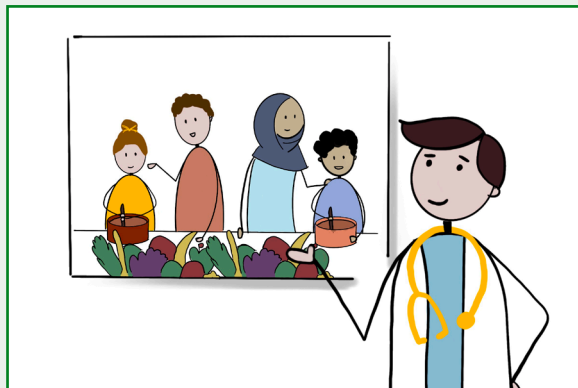
Note: The different stakeholders and touchpoints are marked green.



Dit is Esra en haar gezin. Ze is alleenstaande moeder van 3 kinderen (Ali (9), Mo (5), Elif (11)). Esra is 15 jaar geleden vanuit Turkije naar Nederland gekomen en woont sindsdien in Hillesluis. Ze hebben het niet breed, maar de liefde binnen het gezin zorgt dat ze het toch fijn hebben. Zorgen dat haar kinderen het goed hebben is het belangrijkste voor haar. Esra heeft geen baan en daarom zit ze met haar gezin in de bijstand. De kinderen gaan alledrie naar dezelfde Lekker Fit! School.



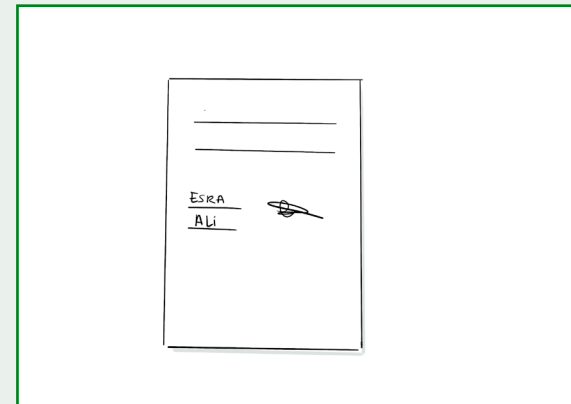
Het is september en de kinderen zijn net weer begonnen met school na de zomervakantie. Dit is ook het moment dat de schoolarts langskomt op school. Esra is verbaast als ze wordt opgeroepen om op gesprek te komen op school om te praten over de gezondheid van Ali. Ali is te zwaar en als het zo doorgaat is er kans dat hij vervelende ziektes kan krijgen zoals diabetes. Esra is geschrokken, want ze probeert juist altijd te zorgen dat haar kinderen goed eten en ze verstoppt zelfs extra groentes in de deegwaren tijdens het avondeten.



De schoolarts ziet haar zorgen en vertelt haar over 'De Familiekeuken' op de Hillevliet. In het pand van De Rotterdamse Stadskeuken kan ze onder leiding van een chef samen met Ali komen koken. Iedere woensdagmiddag wordt er na schooltijd een workshop georganiseerd waar gezond- maar vooral ook lekker eten wordt gekookt. Ook krijg je er simpele tips die je gemakkelijk tijdens het koken thuis kunt doorvoeren. Bovendien is het ook nog eens een goed moment om gezellig tijd met je kind en andere buurtbewoners door te brengen. Extra tijd hoeft het niet te kosten, want je bereidt genoeg eten om met je gezin die avond van te eten. Dat scheelt thuis weer een taak!



Esra heeft het verhaal aangehoord en wil er even over nadenken. Die middag gaat ze een kopje thee drinken in Huis van de Wijk Riederkwartier, waar ze vaker komt om gezellig met wat andere moeders bij te kletsen terwijl de kinderen op school zijn. Ook de schoolarts komt ter sprake en meerdere moeders hebben het advies gekregen om eens een kijkje te nemen bij de kooklessen. Sonya van Humanitas is ook aanwezig en reageert enthousiast. De lessen zijn zijn opgezet in samenwerking met Humanitas en het belooft naast leerzaam ook nog eens erg leuk te zijn!



Ze stelt Esra en de andere moeders voor om gewoon eens een proefmiddag mee te gaan doen. Esra kent Sonya al een aantal jaren en heeft veel vertrouwen in haar. Samen met een andere moeder schrijft Esra zich meteen in via het inschrijfformulier dat ze van Sonya krijgt.



Op woensdagmiddag wandelt ze samen met Ali naar de Hillevliet. In de grote keuken staat een lange tafel klaar met in het midden een grote berg groentes. De chef is een vrolijke Turkse vrouw en dat stelt Esra meteen gerust. Zij zullen elkaar begrijpen. Ali ziet dat zijn klasgenoot Johan er ook is met zijn moeder, dus nemen ze een plekje naast hun. De workshop start in het Nederlands, een goede oefening voor Esra om regelmatig Nederlands te oefenen. Gelukkig is koken heel beeldend en is het niet erg dat ze soms een klein stukje mist. Bovendien heeft ze Ali bij zich, die kleine dingetjes kan herhalen als ze net te snel zijn gegaan.



De chef vertelt dat de groentes gisteren aan het eind van de dag door een aantal vrijwilligers bij de Afrikaandermarkt zijn opgehaald. Ze zien er niet allemaal even mooi uit, maar daar proeven we straks niets van! Op deze manier kan er goedkoop gekookt worden en wordt voorkomen dat al die groente wordt weggegooid.

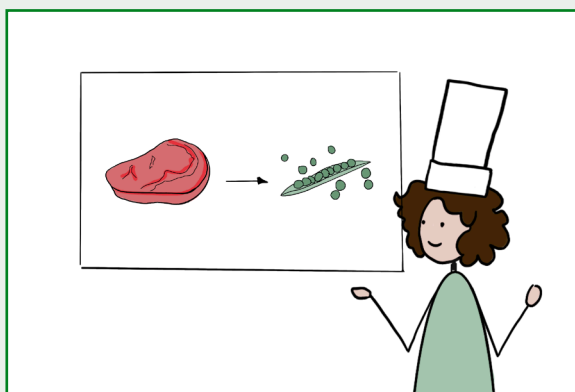


Op het menu vandaag staat het maken van een **Marokkaanse tajine**. Tijdens de verschillende workshops worden allerlei culturen aangestipt, zodat alle deelnemers zichzelf terug kunnen herkennen. Verschillende groentes worden geschild en gesneden terwijl de kinderen met een uitsteekvormpje figuren van de schijfjes wortel maken. Tot haar grote verbazing ziet Esra Ali tijdens het koken van alle groentes proeven: Hij lust dus toch wortels! De chef kan prachtig vertellen over de historie van de tajine en iedereen luistert aandachtig. Ze vertelt dat we vandaag zonder vlees koken omdat dit beter is voor gezondheid en milieu. De kikkererwten zijn goede vleesvervangers.



Terwijl de tajines stoven is er wat tijd om een heerlijk sappige sinaasappel te eten als **tussendoortje**. In sinaasappels zitten veel vitamine C, dat is goed voor je weerstand.

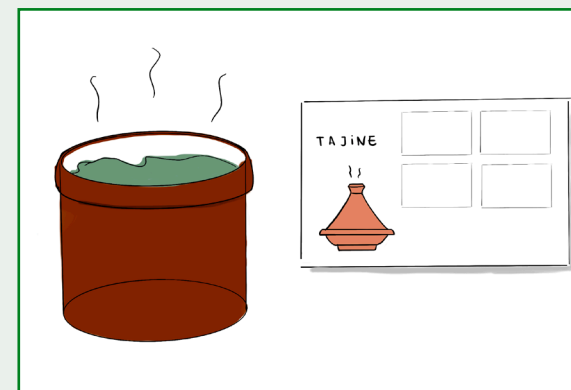
Ook gaan de kinderen even naar buiten om te voetballen. Lekker **bewegen** past in een gezonde leefstijl. Esra ziet trots toe hoe haar zoon gemakkelijk nieuwe vrienden maakt.



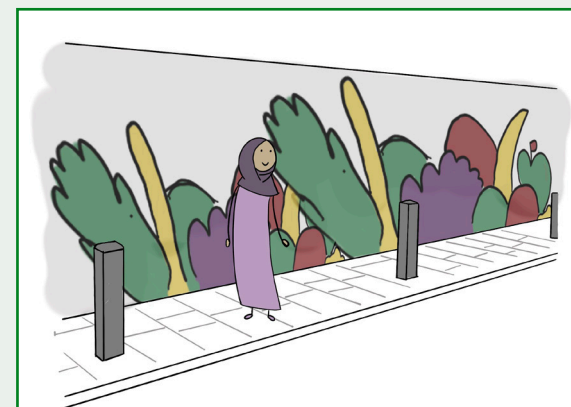
Ondertussen krijgen de ouders binnen een stukje **theorie les** van de chef. Ze leren over hoe peulvruchten en noten vlees in traditionele maaltijden kunnen vervangen en ervoor zorgen dat de maaltijd in één keer een stuk gezonder wordt, en daarnaast ook nog eens goedkoper!



Esra vraagt zich af hoe ze de rest van haar boodschappen ook voordeliger kan doen. De chef waardeert Esra's vraag en stelt voor dat er tijdens een volgende workshop gefocust kan worden op het voordelig inkopen van gezonde, verse producten. Esra voelt zich gehoord.



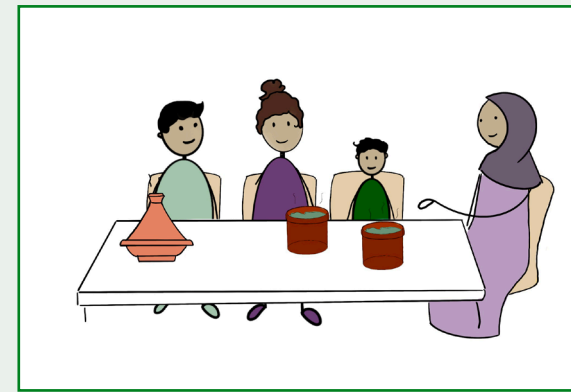
Wanneer het eten klaar is wordt het verdeeld over verschillende **bakjes** zodat iedereen een deel mee naar huis kan nemen en genoeg heeft om vanavond met het gezin te eten. Ook krijgt iedereen een mapje met daarin het **recept** van deze dag, zodat het thuis nogmaals bereid kan worden. Het recept geeft de verschillende stappen visueel weer, zodat het voor iedereen te begrijpen is. Textuele uitleg ter aanvulling is er in verschillende talen.



Onderweg naar huis met hun zelfgemaakte tajine gerecht lopen Esra en Ali langs een prachtige **wandschildering** op de zijkant van een pas opgeknapt pand. De prachtige kleuren van vers fruit springen bijna van de muur af. Op het bordje rechts onderaan staat: **LouLou's healthy kitchen** is partner van gezond eten in Hillesluis: Deel een originele foto van jezelf met dit kunstwerk en haal een heerlijk gezond sapje bij LouLou's healthy kitchen voor maar 1 euro!



Met die lekkere sinaasappel nog vers in zijn geheugen, laat Ali zijn moeder meteen poseren voor de muur. Hij post de foto op zijn **instagram** met **#HealthyHillesluis**. Dat wordt een lekker tussendoortje morgen!



Thuis aangekomen kan de hele familie meteen aan tafel. Ali vertelt trots over het magische stoomproces van de tajine en zijn kleine broertje kijkt al nieuwsgierig naar de stervormige stukken groente. Aan tafel wordt er gepraat over de ervaringen van vandaag; de conversatie over gezonde voeding is geopend.



De volgende dag deelt Esra haar ervaringen van de workshop met een andere moeder op het schoolplein. Deze reageert enthousiast en samen schrijven ze zich in bij de **gymleraar** van de school om de komende drie maanden wekelijks te gaan koken op de Hillevliet. De **bijdrage** voor deze workshopserie mag in termijnen worden betaald zodat Esra de kosten niet in één keer hoeft te dekken. Bovendien betaalt haar **zorgverzekering** een flink aandeel mee! Door de workshops leggen Esra en haar zoon nieuwe sociale contacten en leren ze samen steeds meer over gezond koken met nieuwe ingrediënten.

