BETTER TOGETHER:

How Community Support Uplifts Low-Income Households and Fosters Well-being

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Research Plan
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1. Introduction

In the south of Rotterdam, a significant proportion of residents face socio-economic challenges, with many households living below the poverty line. This economic burden affects their well-being in a number of ways, including reduced access to basic services, limited social opportunities and a lack of supportive resources in the community. This can lead to social isolation, increased stress and reduced quality of life. It is important to understand the nature of relative poverty before considering how the built environment can serve this target group. This research aims to investigate how the built environment in Rotterdam South can actively contribute to improving the well-being of low-income households by incorporating shared resources, practices, collective living structures and communal spaces.

1.1.Problem scope

Adults in these households experience high levels of stress, which affects their mental and physical health. Several studies show that chronic stress increases the risk of heart rhythm problems and high blood pressure, weakens the immune system and can lead to more severe reactions to anxiety (Pharos, 2022). Psychological stress can also lead to burnout and depression. These are all physical consequences, but this group also suffers socially from the fact that they hide their situation, while they become isolated and alienated from society because they are not in it or can only participate to a limited extent (Centraal Bureau voor de Statistiek, 2023). In addition to these daily challenges, people living in poverty are also more vulnerable to setbacks. Because they are less able to prepare for them; after all, there is often no buffer. The realisation that there is no room for error puts great pressure on every decision that has to be made (Van Der Laan et al., 2021).

At the same time, growing up in a low-income family has a negative impact on a child's development. Children experience social exclusion and do not have enough money to celebrate their birthdays, buy school supplies, join sports clubs or take part in creative and music workshops, and participate fully in social activities (Centraal Bureau voor de Statistiek, 2023). In addition, low-income households struggle to provide nutritious meals, which leads to a lack of concentration at school. Children often carry the same stress as their parents, which affects brain development (Kalthoff, 2020).
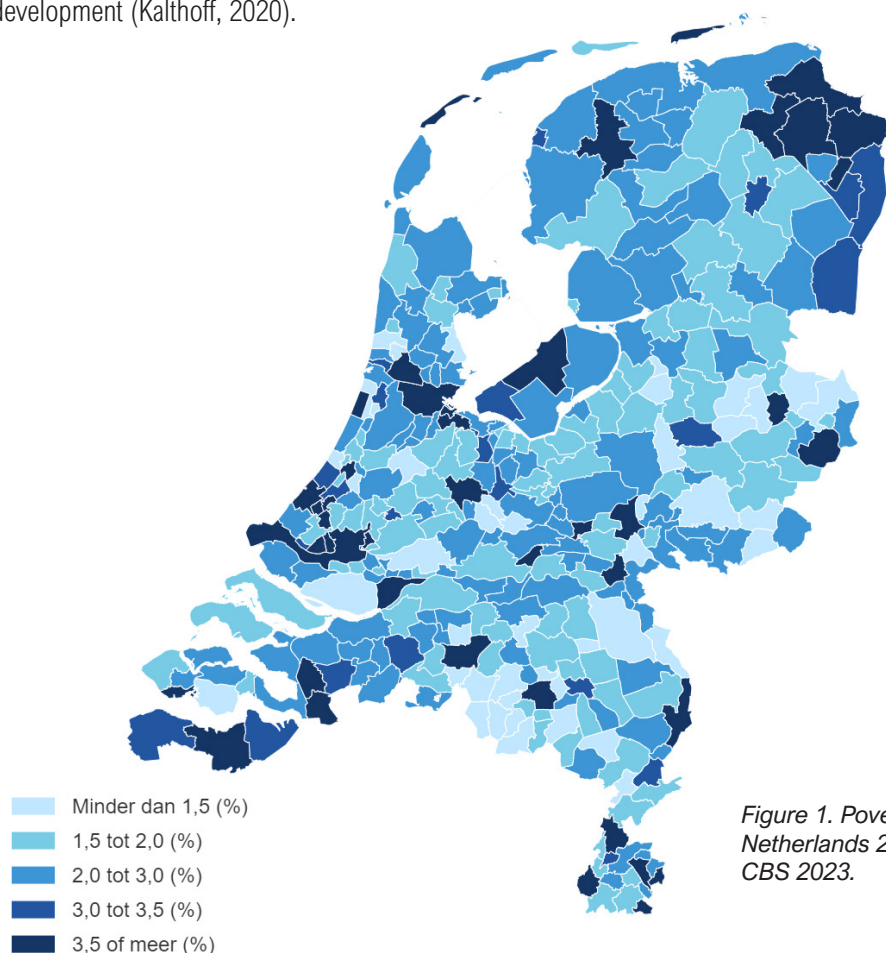

Minder dan 1,5 (%)
1,5 tot 2,0 (%)
2,0 tot 3,0 (%)
3,0 tot 3,5 (%)
3,5 of meer (%)

Figure 1. Poverty map Netherlands 2023, CBS 2023.

	Inkomen ten opzichte van het sociaal minimum, tot:						
	101%	110%	120%	130%	140%	150%	>=150%
Afrikaanderwijk	24%	31%	35%	39%	42%	45%	100%
Agniesebuurt-Provenierswijk	14%	19%	22%	25%	27%	30%	100%
Bergpolder-Blijdorp-Liskwartier	8%	11%	13%	15%	18%	20%	100%
Beverwaard	14%	18%	21%	24%	27%	30%	100%
Bloemhof	20%	26%	31%	35%	38%	42%	100%
Bospolder-Spangen-Tussendijken	21%	27%	31%	35%	38%	41%	100%
Carnisse-Zuiderpark	11%	16%	19%	23%	26%	29%	100%
Cool-Scheepvaartkw-Stadsdriehoek	7%	9%	11%	12%	14%	16%	100%
Crooswijk	19%	25%	30%	33%	36%	39%	100%
Delfshaven-Schiemond	14%	19%	22%	24%	28%	30%	100%
Dijkzigt-Oude Westen	20%	25%	29%	32%	35%	38%	100%
Entrepot-Noordereiland	14%	18%	22%	24%	26%	29%	100%
Feijenoord	27%	34%	39%	43%	47%	50%	100%
Groot- en Oud-IJsselmonde	12%	16%	20%	23%	26%	29%	100%
Hillegersberg	7%	9%	11%	13%	15%	16%	100%
Hillesluis	17%	23%	27%	31%	34%	38%	100%
Hoek van Holland	5%	9%	12%	15%	18%	20%	100%
Hoogvliet	9%	13%	16%	19%	22%	25%	100%
Katendrecht-Wilhelminapier	10%	14%	16%	18%	20%	22%	100%
Kralingen	12%	15%	18%	21%	23%	25%	100%
Lageland-Prinsenland-sGraveland	10%	14%	17%	20%	22%	25%	100%
Lombardijen	15%	21%	26%	29%	32%	36%	100%
Mathenesse	12%	16%	19%	22%	24%	27%	100%
Middelland-Nieuwe Westen	16%	21%	24%	26%	29%	31%	100%
Nesselande	3%	5%	7%	8%	9%	11%	100%
Ommoord	11%	16%	20%	24%	27%	30%	100%
Oosterflank	17%	23%	27%	30%	34%	36%	100%
Oud Charlois-Wielewaal	14%	19%	23%	26%	29%	33%	100%
Oude Noorden	19%	24%	28%	31%	34%	37%	100%
Overschie	11%	15%	18%	21%	23%	26%	100%
Pendrecht-Zuidwijk	17%	24%	28%	32%	35%	38%	100%
Rozenburg	6%	9%	11%	14%	17%	19%	100%
Schiebroek	15%	20%	24%	27%	30%	33%	100%
Tarwewijk	15%	19%	23%	26%	29%	33%	100%
Vreewijk	17%	24%	30%	35%	39%	43%	100%
Zevenkamp	14%	19%	22%	25%	28%	30%	100%
Heijplaat-Kralingseveer-Pernis*	5%	8%	10%	12%	15%	16%	100%
ROTTERDAM	13%	18%	21%	24%	27%	29%	100%

Figure 2. Percentage residents in neighborhoods living relatively on a social income, Gemeente Rotterdam 2023.

1.2. Relevance

Unfortunately, almost 450,000 people in our country live in hidden food insecurity, trying to survive on a low income, both physically and socially (Het Nederlandse Rode Kruis, 2024). These national problems are more pronounced in poor cities such as Rotterdam (see Figure 1). In 2023, 13% of residents received the minimum social income and 10.5% of children lived in a low-income family - twice the Dutch average (Centraal Bureau voor de Statistiek, 2023). Several reports (see Figure 2) show how this target group is represented in Rotterdam South. In the district of Feijenoord, the Feijenoord neighbourhood is one of the areas with the highest percentage of households living long-term on the social minimum income (Gemeente Rotterdam, afdeling Onderzoek en Business Intelligence (OBI) & Moors, 2023). Besides these numbers, the neighborhood contains also many characteristics that predict whether a household is more likely to live on the social minimum income. Some risk factors are, for example, single-parent families, families on social assistance, families with poorly educated parents, and migrant and refugee families (Kalthoff, 2020). It is known that almost 178 different nationalities live in Rotterdam, making it one of the most diverse cities in the Netherlands. In Feijenoord, 73% of residents have a non-Western immigrant background, including Surinamese, Turkish and Moroccan communities. The district has also more single-parent families (19%) (Centraal Bureau voor de Statistiek, 2023), this shows that the district not only has a very high number of low-income households, but also a large number of vulnerable people (see Figure 3). In addition to these predictive characteristics, another map shows the extent to which they are spread across the municipality. The comment that Rotterdam has a low indicator shows how segregated these districts and neighbourhoods are likely to be (see Figure 4). The scope of this research is households and individuals living on a low income in the neighborhood Feijenoord. This excludes people with a mental or physical disability and homeless people. By limiting this target group, this research can provide more insight and information. This does not mean, however, that other vulnerable groups do not need to help as much.
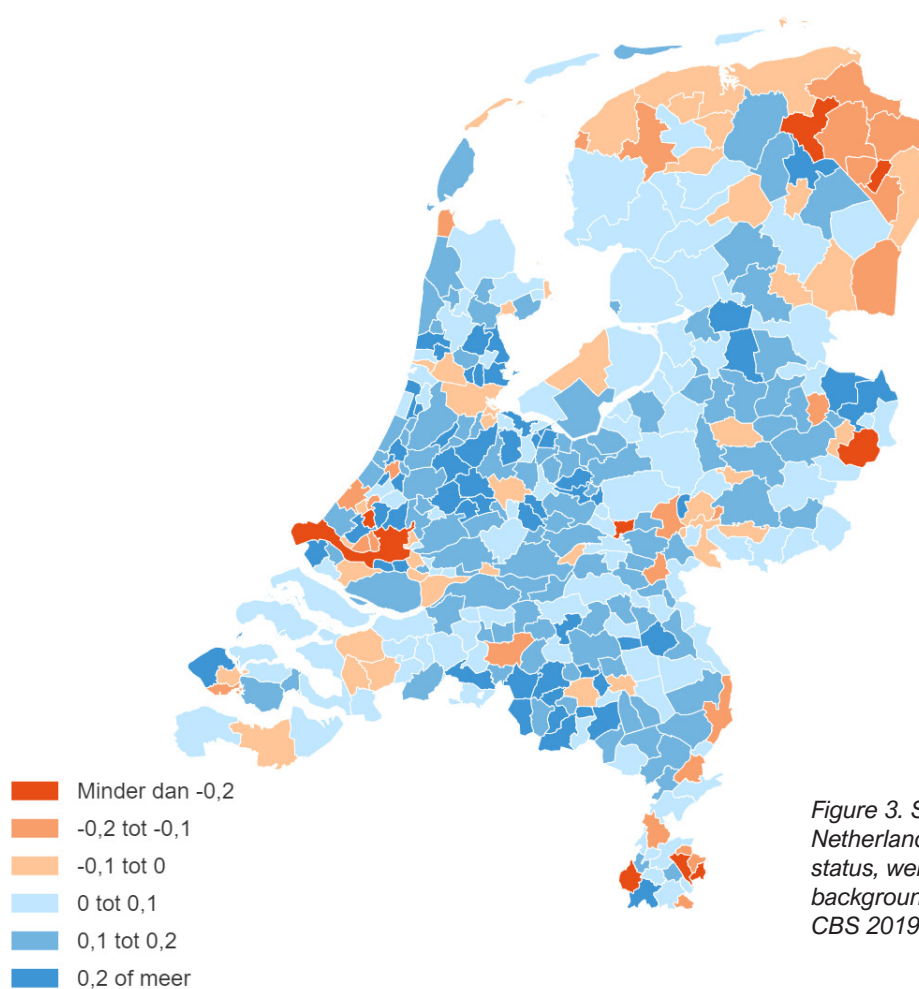
Minder dan -0,2
-0,2 tot -0,1
-0,1 tot 0
0 tot 0,1
0,1 tot 0,2
0,2 of meer

Figure 3. SES-WOA score Netherlands, social-economic status, welfare, educational background and job statu, CBS 2019.

Minder dan 0,7
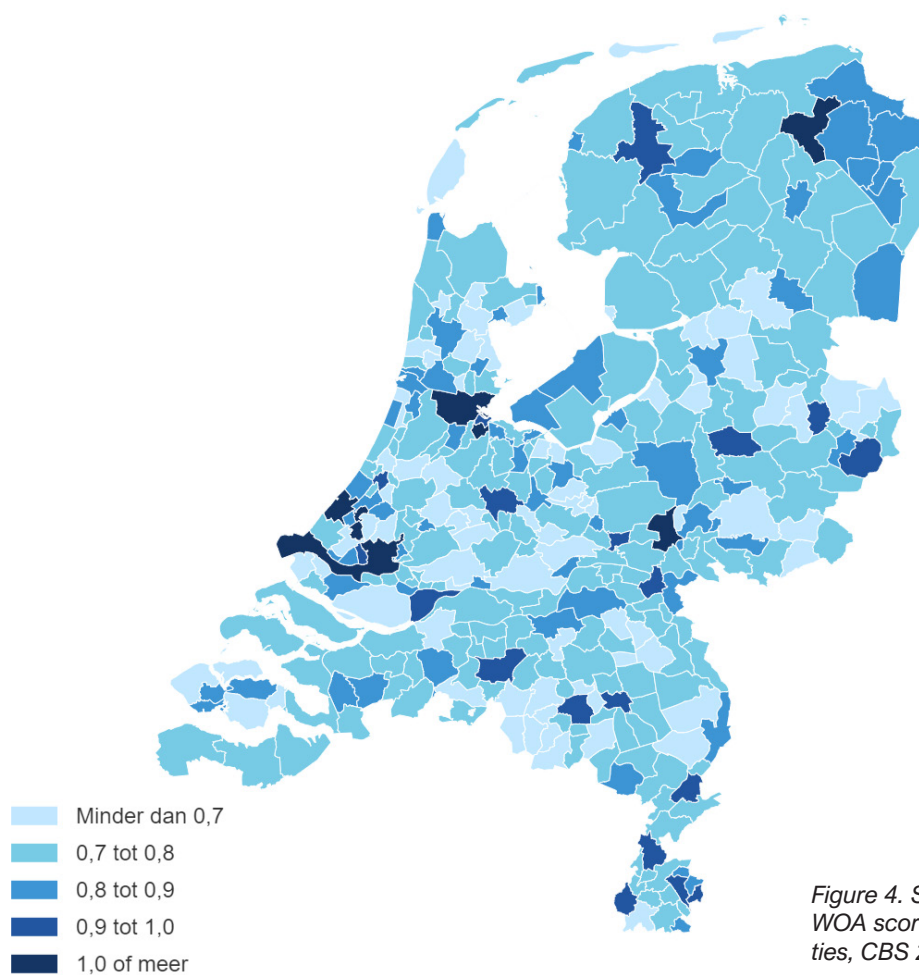0,7 tot 0,8
0,8 tot 0,9
0,9 tot 1,0
1,0 of meer

Figure 4. Scattering of SES-WOA score inside municpali-ties, CBS 2019.

1.3. Research goal

Many households in the south of Rotterdam suffer from living on a low income and the associated negative consequences; one can speculate what role the built environment plays in facilitating their needs and thereby reducing the negative effects of living on a low income. Through the concept of resource sharing, this research aims to create a situation in which several households in Feijenoordwijk can benefit from each other's different qualities. Nowadays it is easy to say that vulnerable groups should be helped to become more independent and self-reliant in order to improve their well-being. But does society run the risk of becoming individualistic when we can bring together complementary skills. If vulnerable people do not have the financial means, is it fair to expect them to have access to the same resources as the average person? Many families feel embarrassed by their situation and therefore find it difficult to ask for help; the final design can act as an accessible tool to navigate their situation and improve their wellbeing. Architecture in this context can be a facilitator of this improvement, but less so as a direct solution to living in poverty. This research seeks to bridge architecture and social impact by providing a framework for spaces that facilitate these vulnerable populations. In order to address the challenges faced by people living on a low-income within our society, this architectural research aims to explore how the built environment can relieve stress, reduce social isolation and promote inclusivity.

2. Theorethical Framework

Having identified and tackled some of the challenges faced by the residents of Rotterdam South and Feijenoordwijk, it is important to consider which theories and methods could underpin the final intervention. Because of the isolation and loneliness of this vulnerable population, one way of approaching the problem is to look at how it can be solved together rather than alone. Therefore, sharing resources, spaces, and practices will be the main solutive focus throughout this research and design process.

2.2. Commoning

The first theory explains the importance of sharing inside and outside the built environment. Stavros Stavrides is a Greek architect and activist who rethinks the concept of commoning by expanding or opening it. And thus creating new ways of living in the common practice and the culture of sharing. Commoning refers to the practices that define and produce goods and services to be shared to achieve the well-being of individuals, and communities in the lived environment. Commoning practices form both their subjects and their means; commoning practices produce what is to be named, valued, used, and symbolized as common (Bollier and Helfrich 2012). The theory of Stavrides (2016) contends that space-commoning is more than simply sharing space as a resource or asset, it involves a set of practices and imaginative approaches that explore the emancipatory potential of sharing. Common space is both a tangible result of collectively established sharing institutions and a vital mechanism through which these institutions are formed, simultaneously shaping those involved.

> '' Common worlds may be crafted as homogeneous and homogenizing structures of beliefs and habits. But in the process of their creation and reproduction lies the possibility of transforming them into worlds of commoning. Worlds of commoning are not simply worlds of shared beliefs and habits but are strongly connected to ways of sharing that open the circle of belonging and develop forms of active participation in the shaping of the rules that sustain them. Worlds of commoning are worlds in movement.'' - (Stavrides, 2016)

2.3. Affordances

Secondly, the perspective of James J. Gibson on affordances will help portray an image of why and how people view material and immaterial concepts in the living environment as a consequence of their perception. Affordances are what objects and spaces could provide due to their unique set of properties in combination with how it is perceived by the individual. Thus why affordance is seen as the complementarity between the person and their environment. Men have been known to manipulate their surroundings towards anything to create more affordances (Gibson, 2014), this process is comparable to what Stavrides Stavros mentions by stating that space does not just passively offer possibilities, but is actively shaped and transformed through collective practices, creating new social relations and affordances for emancipation.

These theories will have a great input regarding understanding people their needs, what their affordances to the existing spaces are, and if not how these could be transformed to create meaningful relations. The common insight will help with understanding the spectrum of private and collectiveness in the built environment.

3. Research Questions

Extracted from the problem statement the following main research question (RQ) comes out of defining this issue:

RQ: Can the living environment stimulate collectivity and the sharing of resources, spaces, and practices among different (long-term) low-income households, such as in Feijenoord, to enhance their well-being?

There are three sub research questions (SQ) to try to understand the complexity and multi-layers within the problem this research tackles and to link this to the theoretical framework:

SQ 1: How do different characteristics of an individual or household influence willingness to share resources, spaces and practices?

SQ 2: Which resources, spaces, and practices should be shared, which should stay private and how should the transition in between be shaped for (long-term) low-income households in Feijenoord?

SQ 3: Can collectivity diminish the negative consequences of different households living on a (long-term) low-income experience and thus improve their well-being?

To answer the RQ , SQ one points out that there are still many different types of people within the scope of this research, i.e. people who all have different needs when it comes to sharing. This question links back to Gibson's theory of affordances by asking to what extent design should be collective in nature when everyone wants and needs something different. Due to the diversity within this group, there will be a wide variety of affordances. Recognising these differences is essential to understanding how community needs can change between different sub-groups and the importance of flexibility in the final design. The second SQ aims to articulate the different typologies of ownership and control that people want in a community. This is necessary to provide a clear spectrum of the control people want and need over the material and immaterial concepts of housing and to make the research more tangible. Finally, the final SQ of how the environment can facilitate practices that improve the wellbeing of the target group through the said theory of commoning will be carried out from the RQ. In Figure 5 it is seen how the different SQ are extracted from the RQ, and how each has their intention to help answering the main question. It also shows how the methodologies in chapter 3.3 help answering to these questions.

3.2. Definitions

Living environment; This includes the space where everything alive interacts and lives

Collectivity; This term encompasses a broad range of practices and actions in which a group of individuals engages in collective self-organization to plan, design, construct, and manage housing together with others (Czischke et al., 2023). The degree to which it deviates in each project, but it all ultimately comes down to sharing spaces and resources.

(Longterm) Low-income households; Households living on a low income are individuals or multiple people living on max. 120% of the social minimum income (Centraal Bureau voor de Statistiek, 2023). This is the minimum amount of money, established each year by the government, that somebody needs to be able to provide livelihood (Centraal Bureau voor de Statistiek, 2023). This depends on the living situation and their age. This research complements the same definition regarding long-term as used by CBS, it refers to a minimum period of four years or longer.

Well-being; This comprehensive term indicates the physical, emotional, and mental satisfaction with one's life. This could be measured through material and immaterial contentment

Poverty; There are different types of poverty. Absolute poverty is when people live under the income limit and don't have enough money to provide for (healthy) food, housing, health care or attend school after the mandatory school period. Relative poverty points to the living conditions of one person relative to their environment. And lastly, social poverty is experienced when individuals can not participate in societal living due to insufficient money to engage in certain activities. This research will focus on relative and social poverty, as that is the issue the chosen target group experiences (Centraal Bureau voor de Statistiek, 2023).

Figure 5. Relation between research question, sub questions and output through methodologies. Own illustration.
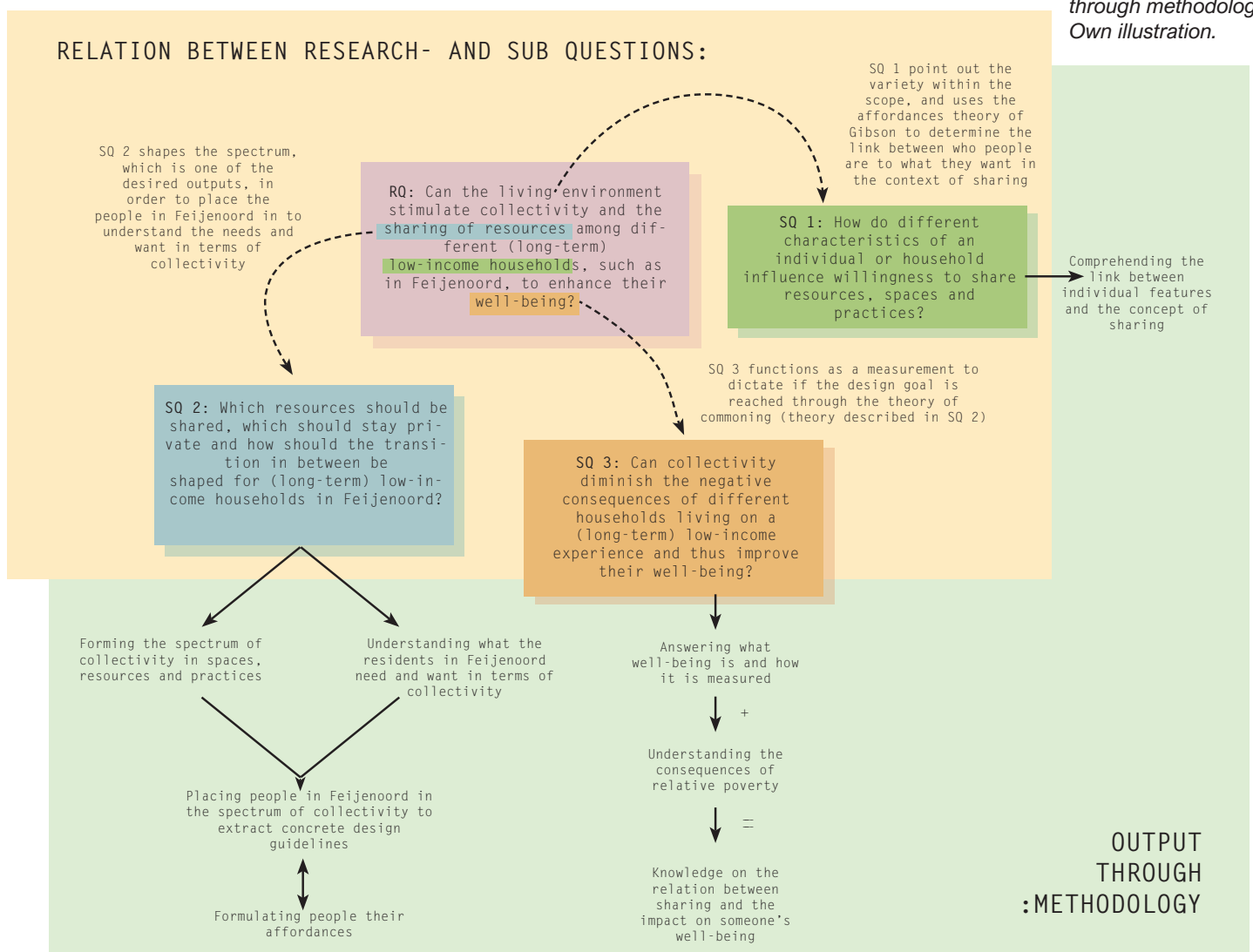
3.3. Methodology

In the initial phase of the research, the primary source of information will be a **literature review** aimed at gaining insight into Feijenoordwijk, its inhabitants and its spatial context. This will largely be based on municipal reports in order to understand the local dynamics. In addition, the research will focus on collecting data related to long-term low-income households, poverty and the negative effects of living in such conditions. All information gathered will be analysed through a specific theoretical framework to ensure that the research remains focused on key issues and maintains a clear, structured direction.

Secondly, another method that will be used in this research is **the mapping of the site**. Feijenoord will be analysed through different lenses in order to gain a better understanding of the neighbourhood. For example, to see where there is already an exchange of resources, or where there are communities and where there are not. There will also be **fieldwork** in the area, talking to people about their housing needs and their willingness to share resources, and making sketches of people and their environment. One of the tools that will be used in the area is to present different scenarios of communal living and shared spaces to the locals. This is done with the awareness that many people have not thought about specific sharing and community practices. By proposing different situations within these themes, it will be easier for people to think about what they want and need in this context. Gathering and collecting spatial information will enhance the understanding of the neighbourhood and aims to identify areas where resources are actively shared and where sharing is avoided.

Besides this method, **interviews** will also be held with various experts to understand the existing issues and their complexity. Through face-to-face conversation, existing data can be validated and a flexible setting provides the opportunity to ask more site-specific questions. But this is also done to understand the topics of collectivity and poverty better in and outside a design context. In addition, by analyzing **case studies** of community projects in comparable urban environments with residents of similar socioeconomic backgrounds, key architectural elements can be identified as essential to achieving the design objectives. This information will be organized into a spectrum of collectivity, providing a clear range of potential interventions. Ultimately, the needs of Feijenoordwijk's residents will be positioned within this spectrum to determine which characteristics are most relevant and effective for this specific context.

Lastly, making **storylines** as an output of the collected information and establishing it on these findings, will allow the research to talk about the important topics it is already discussing. This method is a way of accessing and representing different levels of experience related to non-linguistic dimensions (S. Pink, 2017). Visualizing the everyday life of the target group through observed existing patterns and the desired design outcome portrays a story that makes the information gained more manageable for me, the participants, and the reader which will ultimately help in understanding the final design.

3.4. Design Goal

This research aims to conduct through the mentioned methodologies a set of design guidelines, Figure 6 illustrates the whole process described in the past chapters. One of the outputs is a spectrum of collectivity, differencing from sharing to private spaces, resources and practices. Eventually, by producing this spectrum it is meant to put the needs and wants of the residents of Feijenoord in this measurement to determine which level of collectivity should be persuaded. This could be in the shape of concrete residential needs and design guidelines that could later be complemented by a design. These guidelines will help decide which interventions should be applied throughout the neighborhood on different scales. However, because collectivity is the main focus and the base of the output, it leaves a lot of space for the rest of the design to shape this intervention into multiple sorts of ideas.
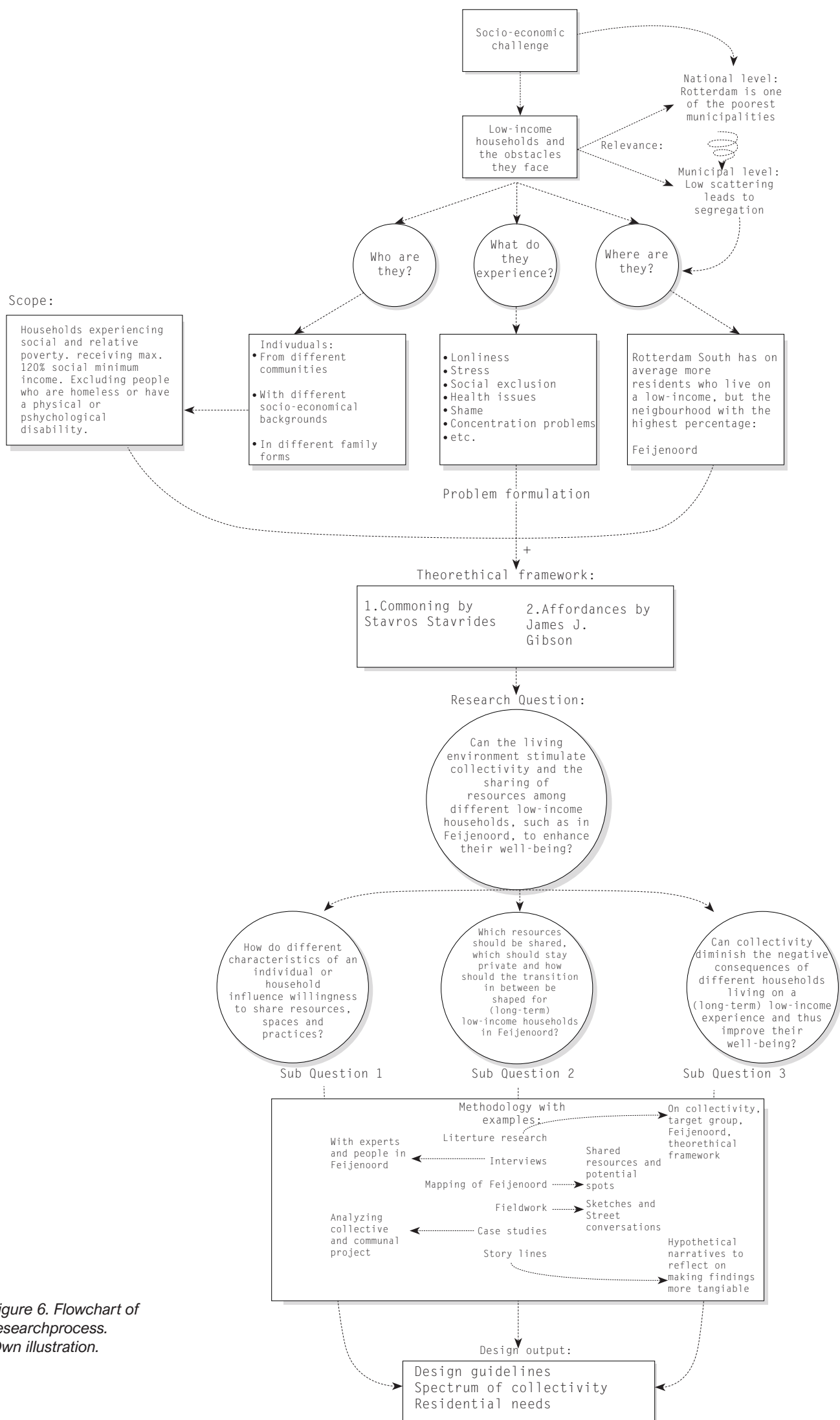
Socio-economic challenge

National level: Rotterdam is one of the poorest municipalities

Low-income households and the obstacles they face

Relevance:

Municipal level: Low scattering leads to segregation

Who are they?

What do they experience?

Where are they?

Scope:

Households experiencing social and relative poverty. receiving max. 120% social minimum income. Excluding people who are homeless or have a physical or pshychological disability.

Indivuduals:
• From different communities
• With different socio-economical backgrounds
• In different family forms

• Lonliness
• Stress
• Social exclusion
• Health issues
• Shame
• Concentration problems
• etc.

Rotterdam South has on average more residents who live on a low-income, but the neigbourhood with the highest percentage:

Feijenoord

Problem formulation

+

Theorethical framework:

1.Commoning by Stavros Stavrides

2.Affordances by James J. Gibson

Research Question:

Can the living environment stimulate collectivity and the sharing of resources among different low-income households, such as in Feijenoord, to enhance their well-being?

How do different characteristics of an individual or household influence willingness to share resources, spaces and practices?

Which resources should be shared, which should stay private and how should the transition in between be shaped for (long-term) low-income households in Feijenoord?

Can collectivity diminish the negative consequences of different households living on a (long-term) low-income experience and thus improve their well-being?

Sub Question 1

Sub Question 2

Sub Question 3

Methodology with examples:

On collectivity, target group, Feijenoord, theorethical framework

With experts and people in Feijenoord

Literture research

Interviews

Shared resources and potential spots

Mapping of Feijenoord

Fieldwork

Sketches and Street conversations

Analyzing collective and communal project

Case studies

Story lines

Hypothetical narratives to reflect on making findings more tangiable

Design output:

Design guidelines
Spectrum of collectivity
Residential needs

Figure 6. Flowchart of researchprocess. Own illustration.

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