

TIDES OF CARE

Jermo van Bijsterveldt | 5108934

Residential Care Farms for
People with Mild Intellectual
Disabilities

An architectural rendering of a modern residential care farm complex. The scene features a wide, light-colored paved path that curves through the space. On the left, there is a long, low building with large glass windows and a covered walkway. A person in a green shirt is walking along this path. In the center, a person in a blue shirt and brown pants is walking towards the viewer. To the right, there is a dark, angular building with a balcony featuring purple flowers. The overall atmosphere is bright and open, with a clear sky and soft shadows cast on the ground.

Tides of Care: Residential Care Farms for
People with Mild Intellectual Disabilities

TU Delft
18th of June 2025

Key words

housing, care farm, living on water,
mild intellectual disability, polder

Advanced Housing Design

AR3AD100

Chair

Prof.ir. D.E. van Gameren

Tutors

Ir. O. Klijn
Ir. R. Kuijlenburg
Ir. B.T. Haileselassie

Student

Jermo van Bijsterveldt
5108934

P R E F A C E

The graduation project “Tides of Care” explores the concept of a residential care farm situated on water, designed for people with a mild intellectual disability (MID). Although my project initially seemed to be heading toward the realm of artificial intelligence, I eventually reflected on where my true interests lie. I realised I was consistently drawn to the idea of water-based housing, an area I had already explored multiple times during both my bachelor’s and master’s studies at TU Delft. This theme aligned well with the context of our design assignment in Midden-Delfland: envisioning a future where polders face the threat of flooding.

The care-related aspect and the focus on people with MID were incorporated later in the process. My design site happened to be adjacent to an existing care farm, which inspired me to add a socially meaningful dimension to the project, one that has seen little research or exploration. My limited knowledge of housing within the care sector further fueled my curiosity, motivating me to integrate care needs with innovative water-based living solutions. In the end, people with mild intellectual disabilities, a group often disproportionately affected by the housing crisis in the Netherlands, also deserve a pleasant and future-proof living environment.

Through this project, I hope to spark new insights and provide inspiration to designers, care professionals, and (care) farmers. After all, designing is also about exploring and inventing, and I hope this graduation project contributes to this.

I would like to thank Brook Haileselassie (research tutor), Olv Klijn (architecture tutor) and Ruurd Kuijlenburg (building technology tutor) for their guidance throughout the year. Their guidance helped shape my project into a cohesive whole and encouraged me from the very beginning to step outside my comfort zone and embrace new challenges. And last but not least, I would like to thank my family as well for their honest opinions and support throughout the year.

TABLE OF CONTENTS

List of Figures	6
Abstract	10
Introduction	12
From institution to care farm	12
Isolation of care farm	14
Supply and demand of care farms	16
Flooded polders	20
Mild intellectual disability	22
Research question	24
Theoretical framework	26
Spatial quality	26
Mild intellectual disability	28
Quality of life	31
Methods	34
Literature review	34
Online survey	35
Interviews	36
Findings	38
Mild intellectual disability	38
Residential care farms	40
Summary	56
Living on water	58
Summary	83
Discussion	84
Conclusion	88
Reflection	90

References	94
Appendix	98
Appendix A: Online survey	98
Appendix B: Interviews	102
Appendix C: Affordability	114
Appendix D: Research diagram	116

Figure 1. Provinciale Zeeuwse Courant. (1970). *Newspaper article: 'Growing need for accommodation for the mentally handicapped: 'Vijvervreugd' is expanding again'*. <https://krantenbankzeeland.nl/issue/pzc/1970-11-07/edition/null/page/11>

Figure 2. Wolterbeek, J. (1990). *Sign at entrance of massive institution Vijvervreugd saying 'No unauthorized persons allowed'*. <https://digitaal.dezb.nl/beeldbank/detail/5945ffea-97d1-11e3-a405-9fb882b8b200/media/15495d81-bd14-fa37-4cf6-e20a2dfadc75?mode=detail&view=horizontal&q=wolterbeek%20vijvervreugd&rows=1&page=7>

Figure 6. ZUS [Zones Urbaines Sensibles], Flux, Sweco, & Urbanism, D. (2022). *Vision National Productive Park Delfland*. https://drive.google.com/file/d/1GD_KUmpgERUh3z9Y9YRDRQN14m6992K6/view

Figure 7. Lugard, A. (2024). *Our masterplan for Midden-Delfland*.

Figure 9. Lievegoed. (2022). *Nieuw Rijsenburg*. <https://www.lievegoed.nl/locaties/lievegoed-nieuw-rijsenburg/#:-:text=Op%20Nieuw%20Rijsenburg%20wonen%2020,vergroten%20en%20eigen%20keuzes%20maken>

Figure 10. Poelstra, S. (2023). *Artemis*. <https://bouwbedrijftuin.nl/projecten/woonzorgboerderij-artemis-warder/>

Figure 11. Hesselshoeve. (2023). *Hesselshoeve*. <https://www.hesselshoeve.nl/>

Figure 12. De Fochtel. (2021). *De Fochtel*. <https://defochtel.nl/begeleidwonen/>

Figure 13. Juutsom. (z.d.). *Juutsom*. <https://www.juutsom.nl/fotoalbum.html>

Figure 14. De Mare. (2019). *De Mare*. <https://www.instagram.com/zorgboerderijdemare/>

Figure 15. Lievegoed. (2022). *Exterior 'Nieuw Rijsenburg'*. <https://www.lievegoed.nl/locaties/lievegoed-nieuw-rijsenburg/#:-:text=Op%20Nieuw%20Rijsenburg%20wonen%2020,vergroten%20en%20eigen%20keuzes%20maken>.

Figure 16. Lievegoed. (2022). *Outdoor area with greenhouse*. <https://www.9graden.net/projecten/woonzorgboerderij-nieuw-rijsenburg>

Figure 17. Lievegoed. (2022). *Collective living space*. <https://www.lievegoed.nl/locaties/lievegoed-nieuw-rijsenburg/#:-:text=Op%20Nieuw%20Rijsenburg%20wonen%2020,vergroten%20en%20eigen%20keuzes%20maken>.

Figure 18. Lievegoed. (2022). *Hallway*. <https://www.lievegoed.nl/locaties/lievegoed-nieuw-rijnsenburg/#:-:text=Op%20Nieuw%20Rijsenburg%20wonen%20,vergroten%20en%20eigen%20keuzes%20maken>.

Figure 19. Lievegoed. (2022). *Private room with curtains*. <https://www.lievegoed.nl/locaties/lievegoed-nieuw-rijnsenburg/#:-:text=Op%20Nieuw%20Rijsenburg%20wonen%20,vergroten%20en%20eigen%20keuzes%20maken>.

Figure 20. Lievegoed. (2022). *Private room*. <https://www.lievegoed.nl/locaties/lievegoed-nieuw-rijnsenburg/#:-:text=Op%20Nieuw%20Rijsenburg%20wonen%20,vergroten%20en%20eigen%20keuzes%20maken>.

Figure 21. Poelstra, S. (2023). *Exterior 'Artemis'*. <https://bouwbedrijftuin.nl/projecten/woonzorgboerderij-artemis-warder/>

Figure 22. Poelstra, S. (2023). *Collective living space*. <https://bouwbedrijftuin.nl/projecten/woonzorgboerderij-artemis-warder/>

Figure 23. Poelstra, S. (2023). *Collective living space for other living group*. <https://www.mooinoord-holland.nl/mooinoord-holland-inzendingen/woonzorgboerderij-artemis-warder/>

Figure 24. Poelstra, S. (2023). *Floor plan of ground floor*. <https://architectenweb.nl/projecten/project.aspx?id=45282>

Figure 25. Hesselshoeve. (2023). *Exterior 'Hesselshoeve'*. <https://www.hesselshoeve.nl/>

Figure 26. Hesselshoeve. (2023). *New house*. <https://www.hesselshoeve.nl/>

Figure 27. Hesselshoeve. (z.d.). *Collective living space*. <https://www.hesselshoeve.nl/>

Figure 28. Hesselshoeve. (z.d.). *Private room*. <https://www.hesselshoeve.nl/>

Figure 29. Hesselshoeve. (2023). *Overview of 'Hesselshoeve'*. <https://www.hesselshoeve.nl/>

Figure 30. De Fochtel. (2021). *Exterior 'De Fochtel'*. <https://defochtel.nl/begeleidwonen/>

Figure 31. De Fochtel. (2021). *Private bedroom*. <https://defochtel.nl/begeleidwonen/>

Figure 32. De Fochtel. (2021). *Private living space*. <https://defochtel.nl/begeleidwonen/>

Figure 33. De Fochtel. (2021). *Private bathroom*. <https://defochtel.nl/begeleidwonen/>

Figure 34. De Fochtel. (2021). *Private living space*. <https://defochtel.nl/begeleidwonen/>

Figure 35. Juutsom. (z.d.). *Exterior 'Juutsom'*. <https://www.juutsom.nl/fotoalbum.html>

Figure 36. Juutsom. (z.d.). *Hallway*. <https://www.juutsom.nl/fotoalbum.html>

Figure 37. Juutsom. (z.d.). *Collective living space*. <https://www.juutsom.nl/fotoalbum.html>

Figure 38. Juutsom. (z.d.). *Collective living space*. <https://www.juutsom.nl/fotoalbum.html>

Figure 39. Juutsom. (z.d.). *Private room*. <https://www.juutsom.nl/fotoalbum.html>

Figure 40. De Mare. (2019). *Exterior 'De Mare'*. <https://www.instagram.com/zorgboerderijdemare/>

Figure 41. De Mare. (2022). *Collective living space*. <https://www.instagram.com/zorgboerderijdemare/>

Figure 42. De Mare. (2019). *Canteen*. <https://www.instagram.com/zorgboerderijdemare/>

Figure 43. De Mare. (2021). *Outdoor space for animals. 'De Mare'*. <https://www.instagram.com/zorgboerderijdemare/>

Figure 44. De Mare. (2023). *Private room*. <https://www.instagram.com/zorgboerderijdemare/>

Figure 46. Rohmer. (z.d.). *IJBurg (IJBurglaan / Brigantijnkade)*. <https://rohmer.nl/projects/waterwoningen-ijburg/#>

Figure 48. Cafa. (z.d.). *IJBurg (Cas Oorthuyskade)*. **Figure 38.** Rohmer. (z.d.). *IJBurg (IJBurglaan / Brigantijnkade)*. <https://rohmer.nl/projects/waterwoningen-ijburg/#>

Figure 49. Van de Biezen, B. (2017). *IJsbaanpad*. <https://www.hollandluchtfoto.nl/media/cdd3a6f5-692e-456d-9f9a-13d4d6699dee-amsterdam-luchtfoto-woonboten-langs-het-jachthavenpad>

Figure 50. Funda. (z.d.). *Schoonschip*. <https://www.funda.nl/meer-weten/wonen/schoonschip-amsterdam-duurzame-drijvende-wijk/>

A B S T R A C T

Since the late 20th century, there has been a significant rise in agricultural companies offering care services in the Netherlands, also known as care farms (van der Meulen et al., 2022). These farms emerged as a response to the large institutions that once housed people with disabilities, often isolating them from society in remote locations surrounded by barriers and fences. While care farms are typically situated in isolated areas, such as rural polders, their purpose is to use this isolation to help people with disabilities engage more actively in society (Elings & Koffijberg, 2022). By removing them from overstimulating environments, negative temptations, and bad friends who can pull them into crime, care farms provide a chance for these individuals to lead better lives. Currently, most care farms offer day care services but do not provide residential options, despite a growing demand for such services from different target groups and the care sector due to evolving care needs (Ferwerda & Hassink, 2015). Care farms prove to contribute successfully to the quality of life, social participation and self-reliance of various people in need of care (Hassink, 2022).

However, care farms situated in polders are facing a significant challenge due to climate change: water (ZUS et al., 2022). Increased rainfall and the need for water storage are prompting plans to flood polders, which could reduce agricultural and building land while creating abundant water. Building homes and providing care on water could become a vital additional income source for existing and future care farms, helping to alleviate pressure on the care sector. While the trend of living on the water has already gained traction among private individuals, it remains an underexplored concept within the care sector.

The largest target group of care farms and with 1.1 million people in the Netherlands a widely represented group, are people with a mild intellectual disability (Landelijk Kenniscentrum LVB, 2024). They can possibly be a well-suited group for living on water within a residential care farm setting. Therefore, this study aims

to explore the potential of a housing initiative on water for people with mild intellectual disabilities as part of a residential care farm.

To explore the potential of this concept, the research aims to answer the following question: What kind of spatial qualities can residential care farms provide for people with mild intellectual disabilities in a future with flooded polders? The study focuses on two types of case studies: residential care farms for people with MID and housing on water. Spatial qualities in both types of case studies are analysed through a combination of a literature review, an online survey, and interviews, with a strong emphasis on the perspective of the end users. These methods result in two sets of spatial qualities, which are then compared and evaluated in relation to the housing needs of individuals with a MID.

A residential care farm generally seems to meet the needs of people with MID well, such as creating a place where clients can retreat, living in a community and living in an isolated and natural environment. These qualities are also often mentioned by respondents (without MID) who live on water. The community feeling and the contact with nature are mentioned as major advantages on water. Respondents who live on water also clearly experience more freedom than on land, despite the small distance between neighbours. For residential care farms this could be a reason to realise homes on water, to possibly increase the sense of freedom among this target group. In general, however, living on water cannot directly meet the needs of people with MID that residential care farms do not or cannot meet. However, living on water could possibly provide creative design solutions to meet needs of people with MID in an alternative way, which is shown in the design project at the end of this report.

From institution to care farm

Care farms are agricultural businesses that provide care, shelter, therapy or guidance (Hassink & Ketelaars, 2003). The combination of agriculture and care has a long history. Around 1350, care was provided to people in need in a rural environment in Geel in Flanders (Elings & Koffijberg, 2011). In the Netherlands, small-scale projects were started over time as a protest against the massive institutions (Elings & Koffijberg, 2011). For a long time, various client groups, including people with intellectual disabilities, were hidden away in massive institutions. The first massive institutions in the Netherlands were established at the end of the 19th century and can often still be recognised by their isolated location in the woods, with fences and barriers. People were segregated, the institution was in charge and the professionals were often medically oriented (Kröber & De Gooyer, 2022). In 1961, Gofmann discussed the negative consequences of these institutions, such as oppression, dehumanization and being subordinated to the system. In the Netherlands, in 1976, Professor Ad van Genep was one of the first scientists to criticise living in a massive institution and the negative consequences this had for the quality of life of the clients (Kröber & De Gooyer, 2022). This happened, for example, in Vijvervreugd, a massive institution for people with intellectual disabilities in Middelburg that opened its doors in 1968 and was growing rapidly (Figure 1). Here, the people in an institution did not live, but were 'nursed' in wards in pavilions. At the entrance there was a large sign saying 'No unauthorized persons allowed' (Figure 2). In 1994, the University of Ghent conducted research in Vijvervreugd into the quality of care, which turned out to be seriously inadequate. 35 percent of the approximately six hundred residents of this institution had fallen through the bottom of care (Van Hove, 1995). At the end of the 20th century, public opinion turned against the massive institutions and extramuralization began: providing care outside the walls of institutions. There was a socialization of care, in which people are stimulated and enabled to participate in society (Elings & Koffijberg, 2022). More small-scale projects emerged,



Figure 1. Newspaper article: ‘Growing need for accommodation for the mentally handicapped: ‘Vijvervreugd’ is expanding again’ (Provinciale Zeeuwse Courant, 1970).



Figure 2. Sign at entrance of massive institution Vijvervreugd saying ‘No unauthorized persons allowed’ (Wolterbeek, 1990).

such as care farms, as a protest against the massive institutions. Among other things, the informal non-care context of the care farm and the ability to participate in a social community and 'ordinary life' are in stark contrast to the institution (Elings & Koffijberg, 2011).

Most care farms originated from an agricultural business that developed into a care farm (Elings & Koffijberg, 2011) (Figure 3). Some care farms are more focused on agricultural production, other care farms are more focused on care. At care farms focused on agricultural production, the number of clients is usually limited (maximum 6) and the clients are usually supervised by the care farmer. At care-oriented care farms, the number of clients is often higher and professionals from the care sector are also involved (Hassink & Ketelaars, 2003). The history of the development, the relationship between agriculture and care, size, nature of the supervision and activities differ per care farm. No care farm is the same (Hassink & Ketelaars, 2003).

Isolation of care farm

The first care farms in the Netherlands often offered space to clients with an intellectual disability (ZorgWelzijn, 2005). Although many target groups have been added recently, such as people with a psychiatric background, young people and the elderly, people with an intellectual disability are still the largest group that uses care farms (Hassink, 2022). A quality that emerges on the care farm among all the target groups mentioned is the isolated environment (Hassink, 2022). Although this isolation is a similarity with the institution of the past, isolation is used differently on the care farm. The institutions of the past used isolation as a means to remove clients from society, while the isolation of staying and working on the care farm often aims to restore the self-reliance of clients and to realise participation in society or the regular labor market (Elings & Koffijberg, 2022). Care farms are often situated outside built-up areas, in a rural area, at a greater distance from all the



Figure 3. An old farm barn that has been transformed into a residential care farm (own work, 2025).

temptations of the city, such as narcotics and bad friends. The physical space and isolation of the care farm give different target groups the opportunity to experience peace, avoid excessive stimuli and provide opportunities for meaning and reflection (Hassink, 2022). The different target groups that are often found on the care farm often have difficulty with stimulus processing, also known as sensory information processing. Many of these people experience too many stimuli in their daily lives, or too few stimuli. Problems with stimulus processing sometimes lead to them reacting strangely or differently to their environment. This stands in the way of a 'good life' for them (Landsman et al., 2020). It is important for these target groups to seek out the right stimuli. These positive stimuli can often be found in a quiet environment with natural sounds and smells and less nuisance from traffic for example (Ferwerda & Hassink, 2015). That is why day care and weekend stays for these care groups often take place on care farms, located in such isolated environments. The care farm appears to be a place where people with very different care needs feel at home and thrive. Care farms appear to successfully contribute to the quality of life, social participation and self-reliance of various care recipients (Hassink, 2022).

Supply and demand of care farms

In recent decades, the number of care farms and the number of people using them has increased significantly (Figure 4). In 1998, there were 75 care farms and in 2007 there were already 878 (Rommers et al., 2008). There are currently an estimated 1300 care farms (van der Meulen et al., 2022). The size and diversity of the client population makes it clear that there is apparently a great need for such facilities among the various target groups (Hassink, 2022).

However, existing care farms often only offer day care or overnight stays. In 2015, only about 200 of the then 1100 care farms in the Netherlands offered living on their farm, also known as residential care farms (Nieuwe Oogst, 2015). While there is a

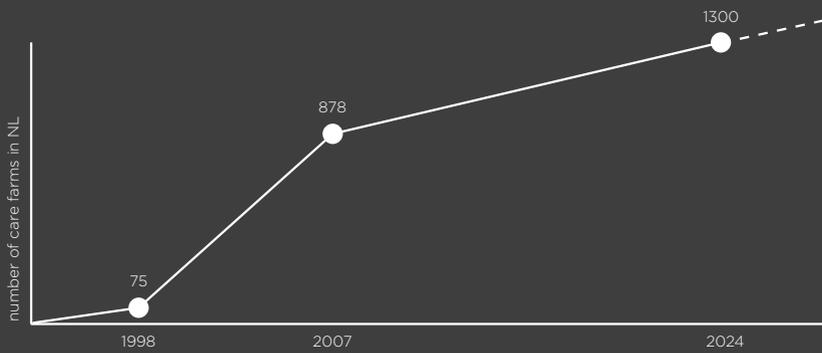


Figure 4. Number of care farms in the Netherlands (own work, 2025).

market for small-scale living on care farms, which can play an important role by offering housing (Ferwerda & Hassink, 2015). Clients and families of clients often ask about the possibilities of living on the care farm (Figure 5). Due to changes in care, the demand for residential farms is even increasing (Ferwerda & Hassink, 2015). Staying in a regular institution is only possible for clients who need 24-hour care nearby and/or who need supervision. This care falls under the Long-term Care Act (WLZ) that was introduced in 2015. As a result, many young people, for example with a mild intellectual disability or autism, are forced to stay at home and longer waiting lists have arisen.

Many people who work in care themselves also experience that the sector is becoming less and less attractive due to increased bureaucracy, high work pressure and relatively low wages (Ferwerda et al., 2011). In order to continue to attract staff, it is important that alternative, attractive forms of care become available, in which care farms can play an important role (Ferwerda et al., 2011).

With more residential care farms, it may be possible to meet the demand of various client groups and in many cases, the waiting list within the care sector can be shortened (Rommers et al., 2008). Who can provide for these residential initiatives varies. Farmers who do not yet have a care branch can start a residential initiative themselves, provide care or have it provided and in this way create an additional source of income. This can also contribute to keeping the countryside vital and liveable, despite the fact that the countryside may look different in the future (Ferwerda et al., 2011). Existing care farmers with sufficient space and possibilities can start a residential initiative themselves, or offer this space to third parties. For example, parent initiatives, fellow care farmers who do not have the means to realise housing themselves or care institutions can rent space from the care farmer to start a residential initiative (Ferwerda & Hassink, 2015).



Figure 5. *Living in the isolated and natural environment of a care farm (own work, 2025).*

Flooded polders

However, care farms situated in low-lying polders will face a major challenge in the future: water. Due to climate change, more frequent and heavier rain showers that lead to increased peak discharge will occur. The maximum capacity of the polder system will therefore be reached sooner, meaning that excess water will have to be stored elsewhere to prevent flooding. This requires a drastic change in the water system and an integrated approach (ZUS et al., 2022). ZUS, an interdisciplinary design agency, has developed a vision for Midden-Delfland in collaboration with TU Delft, among others, in which many polders will be flooded and will thus serve as water storage (Figure 6). In the own urban master plan, which builds on ZUS's plan in a more natural way, large parts of polders will also be flooded (Figure 7). It is expected that this approach will also be applied in other (low-lying) polders in the Netherlands. Not only because of the need to give water space, but also because keeping polders dry artificially is not sustainable and leads to an untenable situation (ZUS et al., 2022).

The question is what flooded polders do to existing and future care farms, including in Midden-Delfland. Moving care farms to cities such as Delft and Rotterdam does not seem to be a solution. There is already little space in cities, and the isolated, natural environment and space of the care farm is a quality that must be preserved (Hassink, 2022). Moving care farms to any non-flooded polders in the area is an option, but for existing care farmers a potentially expensive and drastic option. At the same time, it is also not possible to say with certainty that these polders will remain dry in the future. Locating care farms exclusively in higher areas, such as in the east of the Netherlands, is not desirable in terms of accessibility and the drastic change for both clients, families of clients and farmers. It is very likely that owners of existing care farms and future initiators who want to start a care farm want to continue living in their familiar environment. In addition, flooding polders will create a shortage



Figure 6. Vision National Productive Park Delfland (ZUS et al., 2022).



Figure 7. Our masterplan for Midden-Delfland (Lugard, 2024).

of building and agricultural land, while water will be available in abundance. It is possible that starting a residential initiative on the water could even offer advantages that are currently unknown. It is therefore important to investigate the possibilities for living on water in care farms, so that care farms and people in need of care also have a future in areas such as Midden-Delfland.

It is unknown why care farms and the care sector in general have not yet explored the option of living or providing care on water. Several studies have shown that the mere sight of water has a calming effect. What could happen if you let people in need of care live on water? There has been increasing interest in living on water for some time among individuals without a need for care, which is also resulting in an increase in the number of homes on water (Figure 8). It is possible that the care sector still sees too many bumps in the road when it comes to living on water, such as the costs, safety risks, unsuitable locations and other practical considerations.

Mild intellectual disability

Living on water is not suitable for all people in need of care. For many target groups, such as people with psychiatric complaints, physical disabilities and elderly people with dementia, water can actually be a danger (E. Emmink, personal communication, 2024). A target group that could live on water are people with a mild intellectual disability (MID) (E. Emmink, personal communication, 2024). People with MID do not need to be protected against themselves in relation to water and can often swim normally (E. Emmink, personal communication, 2024).

People with MID have a lower IQ and significant limitations in their cognitive development and in their adaptive skills, also known as social adaptability (Landelijk Kenniscentrum LVB, 2024). In the Netherlands, an estimated 1.1 million people have MID (Landelijk Kenniscentrum LVB, 2024). People with intellectual disabilities, which includes MID, are also the largest group that



Figure 8. *Floating homes in IJburg, Amsterdam (own work, 2025).*

uses care farms (Hassink, 2022). Of the 954 care farms currently affiliated with the Federation of Agriculture and Care, 753 care farms already provide care to people with intellectual disabilities (Federation van Landbouw en Zorg, 2025). This amounts to 4 out of 5 care farms.

Due to the reduced risks of living on water for people with MID and the large representation of this group at care farms and in society in general, this study focuses on people with MID.

Research question

The combination of the need for residential care farms, water related challenges and people with MID as an important and safe target group lead to the research question:

What kind of spatial qualities can residential care farms provide for people with mild intellectual disabilities in a future with flooded polders?

Subquestions:

- What effect do flooded polders have on existing and future care farms situated in polders?
- What are the spatial qualities and practical experiences of existing residential care farms for people with mild intellectual disabilities?
- What are the spatial qualities and practical experiences of living on water, and how does that differ from living on land?

What kind of spatial qualities can residential care farms provide for people with mild intellectual disabilities in a future with flooded polders?

Research question

Spatial quality

People with MID in the context of a residential care farm might need some specific spatial characteristics that meet their needs, that could possibly be found in housing on water. A relevant and important question is when a spatial characteristic becomes a spatial quality. Everyone perceives space in a different way and there is a variability in the definition of spatial quality among different cultures, also at the smaller scale within the house (Rapoport, 1970). Spatial quality involves values and ideas of the good life held by different groups and only becomes a meaningful concept when related to definitions of space use (Rapoport, 1970). This does not rule out the possibility that there are universal rules that spatial quality must comply with, which are independent of the zeitgeist and cultures (Rapoport, 1970).

The complexity of the concept of spatial quality is also evident from other literature. Foreign literature often uses concepts that are related to the concept of spatial quality (Janssen-Jansen, 2009). For example, 'Quality of life' stands for social values that arise in the interaction between people and the use of space. 'Living environment quality' stands for both the physical and social components of the living environment and includes natural values, environmental values, recreation, social cohesion, mobility, health, education and safety (Janssen-Jansen et al., 2009).

In 1982, the Ministry of Housing, Spatial Planning and the Environment used a thousands-year-old classification by the Roman architect Vitruvius (+- 85-20 BC) to define spatial quality. Vitruvius defined the architectural quality of buildings as the coherence between *utilitas* (use and functional qualities), *venustas* (beauty, authenticity) and *firmitas* (solidity, solidity). Nowadays, people also talk about the use value, experience value and future value respectively (Janssen-Jansen et al., 2009). Use value is about the functionality of a living environment and therefore focuses on the users, the social dimension. A building and living environment must be practical and functional, primarily for the

users. Experience value is about beauty, the artistic dimension. A living environment must be pleasant and recognisable. Future value is about strength and rigidity, the technological dimension. It is also about sustainability, adaptability and transferability to the next generation (Van der Voordt, 1998).

Spatial quality is a concept that indicates the relationship between space and human user, in which the concept of value is central, which means that users at a specific location at a specific time assign a value to space (Janssen-Jansen et al., 2009). The valuation is at least partly subjective, as it is strongly linked to personal preferences, zeitgeist, culture and location. However, some literature states that objective criteria can be set for the assignment of value, which is also done with the 'Bouwbesluit' in the Netherlands for example. However, the requirements mentioned in the 'Bouwbesluit' are often ultimately based on a subjective value, which is set as the applicable standard at a specific time (Janssen-Jansen et al., 2009).

Architects and urban designers often appear to have a different definition of spatial quality than users. Designers often prefer denser and urban spaces for example, whereas in many cultures users prefer low density housing (Rapoport, 1970). Architects often tend to design a larger living area and smaller kitchens, whereas users, particularly the working class, prefer to eat in the kitchen. Similar differences can be found regarding bathroom size, bedroom size, relation between the entry and the living room and corridors (Rapoport, 1970). This phenomenon still appears to be the order of the day. The spatial quality that is valued by architects often does not match the intended target group, which usually wants many square meters and many rooms (Van Gameren, 2018). This means that the architect's promise that something has spatial quality is questionable, since the user may experience this differently.

Since spatial quality can not be seen separately from social, cultural and psychological factors involved in the man-environments interaction, it is as an architect important to gain insight from the users. Spatial characteristics can only become spatial quality if users can thrive in them.

Mild intellectual disability

In this case, the users are people with a mild intellectual disability. People with a mild intellectual disability (MID) have a lower intelligence, with an IQ score between 50 and 70. However, in the Netherlands, people with an IQ score between 70 and 85 who have (serious) additional problems can also use the care for people with MID (Landelijk Kenniscentrum LVB, 2024). That is why this study assumes an IQ between 50 and 85 when talking about people with a mild intellectual disability.

However, the intelligence level is only part of the story. This target group also has a limitation in adaptive skills, which means that a person cannot meet what is expected for the calendar age and their own culture in general (Landelijk Kenniscentrum LVB, 2024). Reduced adaptive skills are divided into three types: conceptual skills (reading, writing and arithmetic), social skills (communicating and solving social problems) and practical skills (personal care and using public transport).

A mild intellectual disability occurs during the developmental period up to about the age of 22 and is therefore not the result of an accident, for example. These people are often unrecognisable, because people with an intellectual disability are often good at concealing their disability. Society often asks more of this target group than they can actually handle, which hinders their social functioning, causes loneliness and debts lurk (Nationaal Kenniscentrum LVB, 2024).

Furthermore, people with MID often find it pleasant to have a chat, although they often have difficulty making contact (Voss et

al., 2017). They do not like noise in the neighbourhood. Some also appear not to have enough to do at home, for example because few people come to visit. They do not like being alone either.

It is often the care or support that influences the housing of this target group. It is therefore advocated to pay more attention to domestic and social skills in the guidance of young people with an intellectual disability in order to promote independence and living in the neighbourhood (Voss et al., 2017). It is very important for the (independent) living of people with an intellectual disability to have a safety net in the form of a social network or professional support (Voss et al., 2017).

In addition, there are other housing needs that often occur among people with MID, specifically among young people with MID. For example, this target group must have sufficient control over the temperature, sight, sound and smells in the home (De Weerd, 2015).

Furthermore, there must be meeting places both inside and outside to stimulate social interaction. A nearby communal facility with supervision can also help with this, so that social interaction is also sought outside of one's own residential building. In addition to a view of greenery or nature, a view of liveliness on the street is desirable (De Weerd, 2015).

The home must also provide sufficient sense of safety and privacy. Residents must be able to see who is at the front door. The option to completely darken the home is desirable. In addition, the target group must be able to isolate themselves with the supervisor for a private conversation (De Weerd, 2015).

The possibility to make a home their own is also an important aspect, which contributes to positive self-esteem (De Weerd, 2015). There should be space for practicing hobbies. Window sills in front of the windows are often used to place personal

belongings. Space to receive people is also important for some. Fully enclosed spaces are less desirable, such as a bathroom without a window. A private garden is not always necessary, because it is often not maintained and the residents do not have the patience for it or do not take responsibility for it. The balcony and the home should offer space to place plants (De Weerd, 2015).

In addition, young people with MID should have the opportunity to perform general and household daily activities in the home themselves, so that they can learn the associated practical skills, which can help in the process of learning to live independently. Supervision and stimulation from the supervisors can help with this (De Weerd, 2015). For example, a private washing machine is desirable in this respect. This target group often forgets to ventilate the home. Mechanical ventilation could help with this. At the same time, having to open windows and doors could contribute to the learning process.

The design of the home should also take overstimulation into account. Overstimulation by the use of colour and materials should be prevented, because autism occurs frequently among people with MID. Shiny materials, busy colour patterns, bright and dark colours and bright white walls are disadvantageous, while plain, light colours and wood and natural tones are positive (De Weerd, 2015). Furthermore, the home should not be directly connected to busy, communal areas because of the noise pollution. Noise pollution by mechanical insulation is also a point of attention. Noise pollution within a communal area can also be disruptive. Separating the television room might be a solution here. The home should also be able to be closed off, because this is seen as their resting place and their own territory. Sufficient storage space is also desirable, which ensures less visible clutter and therefore less overstimulation (De Weerd, 2015).

Quality of life

As mentioned earlier, a concept that is often used instead of spatial quality is quality of life (Janssen-Jansen, 2009). Quality of life stands for social values that arise in the interaction between people and the use of space (Janssen-Jansen, 2009). The World Health Organization (WHO) defines quality of life as “an individual’s perception of their position in life in the context of the culture and value systems in which they live and in relation to their goals, expectations, standards and concerns” (WHO, 2024).

Quality of life is a complex theme that is not easy to measure, because it is based on both objective circumstances and subjective experiences of the individual. Quality of life is formed by everything that the life of the individual consists of, and has to do with different time frames: the past, the present and the future. This is therefore a theme that applies to many different fields of work, such as architecture, but also health care and anthropology.

In 1995, the WHO developed a quality of life assessment instrument called WHOQoL-100. QoL stands for “quality of life”. WHOQoL-100 consists of 100 questions about the individual’s perceptions of their health and wellbeing over the past two weeks. Responses to questions are on a Likert scale of 1-5, with 1 being “disagree” or “not at all” and 5 being “completely agree” or “strongly” (WHO, 2024). The questions cover, besides general quality of life and health, six domains of quality of life: physical capacity, psychological, level of independence, social relationships, environment and personal beliefs .

However, this measurement instrument is comprehensive and includes questions that are not directly related to architecture or communities. How people experience and assess their lives is not only determined by architecture or their direct living environment, but also by their contact with family and friends, self-image and the availability of financial resources, for example. By possibly

removing questions that are not related to architecture or the direct living environment from this list, an incorrect picture of the quality of life is created according to the WHO and the result is not reliable. That is why this measurement instrument from WHO is not used in this study, even though this measurement instrument has been widely researched and tested and created in collaboration with other institutions and countries.

Therefore, an alternative approach was sought that focused on the impact of architecture and living environments on the quality of life of residents. A UK-based charity, called The Quality of Life Foundation, recently produced a report, intended for community groups, housing associations and architects, among others, that identifies how the built environment influences people's quality of life. In this report, called "The Quality of Life Framework", quality of life is understood as: first health and its social determinants, secondly an individual's physical, social and psychological wellbeing and thirdly social impact, which refers to the effect that an individual organisation or project has on the long-term health and wellbeing outcomes of individuals and communities (The Quality of Life Foundation, 2024). The Quality of Life Framework, the foundation's recent report, highlights six key themes that demonstrate improvements that can ensure that homes and communities actively provide a better quality of life for everyone: a sense of control, health equity, connection to nature, a sense of wonder, getting around and connected communities. Within these themes, scientifically substantiated recommendations is given with the aim of increasing the overall quality of life. This framework is therefore not yet a measuring instrument such as the WHO questionnaire, but it does have the potential to be the basis for a new measuring instrument, which is explained in the methods section.

Since there is a particular demand among people with MID for residential care farms, and the option and urgency of living on water has not yet been explored by the healthcare sector, this study serves as an exploration of the spatial qualities residential care farms can provide to people with MID in a future with flooded polders. Various methods will be used for this exploration.

Literature review

A literature review is conducted to discover the spatial qualities and practical experiences, according to architects, owners and residents, of a number of existing residential care farms that house people with MID. The residential care farms are selected based on information that could be retrieved digitally. The first source is the internet article 'Hoe ontwerp je een woonzorgboerderij? Balanceren tussen een warm thuis en een robuuste zorgomgeving', written by Andrea Prins, who visited two residential care farms for people with MID, together with the architect. The article provides a unique insight into life on the residential care farm for people with MID, the spatial qualities and the architect's perspective. It concerns the following two residential care farms: Nieuw Rijsenburg and Artemis.

The report 'Beschermd Buitenleven: Vijf zorgboeren over wonen op zorgboerderijen', written by Reina Ferwerda and other researches of Wageningen University, is about care farmers that offer small-scale living who tell about their experiences and the spatial qualities and shortcomings for their residents with MID. This was the only report that could be found that specifically addresses residential care farms and their spatial qualities, according to people who actually live and work there, rather than from the architect's perspective. It concerns the following four residential care farms: Hesselshoeve, De Fochtel, Juutsom and De Mare. It should be emphasised that every residential care farm is different and the results cannot be generalised. These results serve solely as a contribution to gain more insights regarding spatial qualities of residential care farms for people with MID.

Online survey

Considering a future with flooded polders and a high demand for housing, it is important to do research on living environments on water and their spatial qualities as well. Little research has been done on living on water so far and examples of residential initiatives on water as part of a care farm or care in general do not seem to exist yet. In this study, living on water refers to the proximity of water. This can be in the form of a houseboat, house barge or house ship.

Data is collected on the quality of life of people who live on water (without MID) by means of an online survey, to gain insight into the human experience of living on water and explore the spatial qualities behind it. Five locations with floating homes in Amsterdam are selected for conducting the online surveys with residents of floating homes, which differ in living arrangement, configuration and connection to the street on land. More than a quarter of houses on water in the Netherlands are located in Amsterdam, with a number of floating residential neighbourhoods that are (internationally) known for their innovation or unique characteristics. It concerns the following five subgroups in Amsterdam: Stadhouderskade, Schoonschip, IJsaanpad and 2 locations in IJburg.

The online surveys are conducted by a stratified sample by putting notes through the letterboxes of all residents of floating homes in the five selected locations. These notes contain a link and QR code to the online survey and ask to share this information with all residents in the same household. By conducting surveys in this way, everyone has an equal chance to complete the survey at their own chosen time. If the residents were to be rung at their door to take surveys or to physically hand over the link to the online survey, not everyone would be home and therefore not have the same chance to complete the survey. In that case, the respondents would be selected based on the time of the visit. It is also expected that this would have reached a smaller audience.

The entire online survey is in Dutch, so that the accessibility and the number of responses among the mostly Dutch-speaking residents is as high as possible. The survey consists of 64 closed questions, which are answered by filling in a 5-point Likert scale (Appendix A). In fact, each question must be filled in twice on the 5-point Likert scale: once for the current living situation on water and once for the last known living situation on land. In this way, the differences that residents on water experience between living on land and living on water can be discovered. Residents who indicate that they have always lived on water are not included in the results of the online survey. All closed questions are about the quality of life of residents and are based on scientifically substantiated recommendations in the Quality of Life Framework and divided over six key themes. These questions were self-made and can therefore not be used to calculate a quality of life score. The questions in the survey are about the general quality of life and spatial qualities behind it and not purely about water. However, questions that apparently have no relation to living on water can sometimes be indirectly related to living on water. With this survey alone it is not possible to determine with certainty which trends are caused by the water itself. The online survey is therefore a correlational study and not an experimental study. The aim of the online survey is to establish trends and spatial qualities. It is possible that similar trends can be found between the various residents and subgroups, despite the great diversity of external factors.

Interviews

Multiple interviews are conducted with the residents living on water in the selected subgroups. This involves a heterogeneous research population, in which the residents belong to different categories or subgroups.

A select sample is used for in-depth research into a few cases in the population, in which generalisation is not necessary. In qualitative research, such as conducting in-depth interviews,

statistical generalisability is not relevant. Conducting interviews will continue until theoretical saturation is reached, which means that the answers to the interview questions no longer yield new information. In that case, enough people have been interviewed to make valid statements based on the interviews.

The interview consists of nine open questions (Appendix B). During the interview, it can be decided to go deeper into certain aspects or to spontaneously ask new questions out of interest. However, the goal remains to get an answer to each of the nine pre-set open questions and explore spatial qualities of living on water. These interviews with residents living on water could be described as spontaneous and semi-structured. Some questions are prepared, but the residents are chosen randomly by chance encounters in front of their homes and ringing some doorbells.

Besides interviews with residents living on water, more interviews, not related to living on water, are conducted. To explore the spatial needs, characteristics and challenges of people with MID, an semi-structured expert interview with a social worker will be conducted. This social worker has more than 25 years of experience with people with MID and their living environments, not necessarily residential care farms.

Another semi-structured expert interview will be conducted with an experienced care taker of people with MID in a residential care farm, who wants to stay anonymous. The residential care farm is therefore called 'X' in this report. Also this interview serves as an exploration of the spatial needs and characteristics of people with MID, but in this case more specifically in the context of a residential care farm.

Mild intellectual disability

In order to find out more about people with MID, an expert interview was conducted with Els Emmink, a social worker working at care organisation FRION who has specialised in this target group for more than 25 years and therefore has a lot to do with this target group in practice. MID varies greatly from person to person and depends very much on the indication, because this target group consists of many different indications. One person only needs limited guidance (VG1), while another person needs intensive guidance, care and behavioural regulation (VG6) for instance. However, there are a number of similar characteristics and spatial needs to be found between people with MID.

People with MID have several similar characteristic features and challenges. This target group often needs help finding and keeping a job. They also often need help starting up their day by making a weekly agenda, together with their caretaker. They are often unfamiliar with socially desirable behavior. An example that is mentioned is borrowing sugar from the neighbours 100 times a day and not understanding that is socially undesirable (E. Emmink, personal communication, 2025). They are easily influenced and do not quickly experience what is right and wrong. They do not have a social antenna to realise that something is wrong. They are often used as a means for real criminals, because they can be somewhat naive (E. Emmink, personal communication, 2025). They are often addicted, which means they need money and are used as errand boys. Sometimes they also start dealing to get more money to buy drugs. This is also partly because they often live in an apartment building where there is less social control. In the city, bad friends who keep them in these problems are always around them. In the countryside, this is often less present, because there are fewer people there who know which people to pick. Missing a social antenna could be a reason why they do not always feel part of society, while there is a great need among this target group to belong somewhere and to integrate (E. Emmink, personal communication, 2025).

They often want to live with people without disabilities as well to create more self-esteem. Since they often feel confined and limited, they also seek freedom. Most people with MID can take their bike and go into town independently, some even have a driver's license. During the day, they often go to day care or work (at the social workshop or even a "normal" job).

Although every person with MID has personal preferences, similarities in their spatial needs can be found. People with MID have a great need for their own place, a place where they are able to retreat and rest. They like to seek peace and quiet, because they are often overstimulated, mostly because of sound stimuli. They often settle for a chair on their balcony. There is no need for a large private outdoor space. A communal space should optically be spacious and seem to be larger than it is. Besides these spatial needs, they have no direct interest in the design and character of architecture. Their feelings are more basic and instinctive (E. Emmink, personal communication, 2025).

Furthermore, questions were asked about the residential care farm in general and why this would or would not be good for people with MID. People often come to care farms for daytime activities, because of the nature and animals. Living on a care farm can be a solution for people who are poorly motivated to do something (E. Emmink, personal communication, 2025). The peace and quiet and presence of animals at the farm could work. People with mild intellectual disabilities and animals almost always have something in common. With daytime activities on a care farm, they are more likely to treat the neighbourhood more politely and are more aware of nature conservation. If one person starts, the rest will follow. This can be a positive stimulus to remain polite. In the city, there is often more negative group behaviour and they are less polite to the environment. Natural stimuli, such as quacking ducks and whistling birds, are good stimuli for this target group. Working together with neighbours will stimulate positive group behaviour.

Residential care farms

This chapter discusses a number of case studies: existing residential care farms that have people with MID as their target group (Figure 9, 10, 11, 12, 13, 14). These case studies originate from internet articles, literature and a conducted expert-interview.



Figure 9. Nieuw Rijsenburg (Lievegoed, 2022).



Figure 10. Artemis (Poelstra, 2023).



Figure 11. Hesselshoeve (Hesselshoeve, 2023).



Figure 12. De Fochtel (De Fochtel, 2021).



Figure 13. Juutsom (Juutsom, z.d.).



Figure 14. De Mare (De Mare, 2022).

Residential care farm 'Nieuw Rijsenburg'

Residential care farm Nieuw Rijsenburg in Driebergen has a separate two-storey residential building in which two residential groups with 24-hour supervision are housed, each of ten people with a mild to moderate intellectual disability. Each residential group has its own entrance, living room and a staircase to the upper floor. The spaces are tailored to varying needs: the private room, the sensory room (a room where clients can relax and train their senses) and the collective living room. Only the staff can open the doors between the residential groups.

Many clients have a wooden nameplate next to their private door with the instruction 'Knock, wait for my YES'. The private door gives access to their 25 square meter private room with shower and toilet. They can decorate their room themselves, often with the help of their parents. Each room therefore looks different. The architects have done this so that the residents can make the place as much their own as possible. In practice, it appears that the residents often have the curtains drawn in their own room, despite the expansive view, as if they want to banish the outside world (Prins, 2023). The residents themselves refer to it as their 'den', in a positive way. The view from their own room apparently makes them a bit restless. British architect and psychologist Bryan Lawson explains that this occurs more often with (psychological) patients, who often react particularly sensitively to their environment (Prins, 2023). The care farmers and architect tried to create a familiar and harmonious environment, in which they learn to increase their own independence and make their own choices. By caring for various animals, growing own vegetables and doing all the other work outside, residents experience the changing seasons up close.



Figure 15. Exterior 'Nieuw Rijsenburg' (Lievegoed, 2022).



Figure 16. Outdoor area with greenhouse (Poelstra, 2022).



Figure 17. Collective living space (Lievegoed, 2022).



Figure 18. Hallway (Lievegoed, 2022).



Figure 19. Private room with curtains (Lievegoed, 2022).



Figure 20. Private room (Lievegoed, 2022).

Residential care farm 'Artemis'

At residential care farm Artemis in Warder, 18 clients with an intellectual disability live in two separated small-scale residential groups of 9 people. There is a spacious kitchen between the two living rooms, where working in the kitchen is part of the daily activities. The clients all have access to a private room of 18 square meters. There were also two studios of 35 square meters built under a high barn roof on the second floor, which seemed great for their clients in advance. However, the manager has difficulty finding residents with an intellectual disability who can handle this larger studio. According to the manager, the isolated location on a separate floor scares off people who like to encapsulate themselves and many find such a large space uncomfortable. They cannot "fill" the space psychologically (Prins, 2023).

The collective yard has a vegetable garden, woodworking shop and farm animals. There is also a square where residents can meet each other. During the day, the location offers day care on the farm. Residents help with animal care, growing vegetables and maintenance work.

Yaike Dunselman, architect-director at 9graden, who designed this residential care farm, indicates that as a designer of a residential care farm, you move between two opposites. On the one hand, it is about a homely, familiar atmosphere, on the other hand, about practical considerations and the prevention of too many stimuli. What negative stimuli are, differs per client. Negative stimuli can be, for example, too much space, minor damage to a wall, too loud acoustics. According to Dunselman, sound-absorbing materials are very important. The design is therefore about finding a balance between activity and rest, which in the care farms they designed translates into an alternation of open and closed spaces, both on the yard and inside. The employees benefit from transparency, the clarity that is necessary to offer residents a safe environment.



Figure 21. Exterior 'Artemis' (Poelstra, 2023).



Figure 22. Collective living space (Poelstra, 2023).



Figure 23. Collective living space of other living group (Poelstra, 2023).

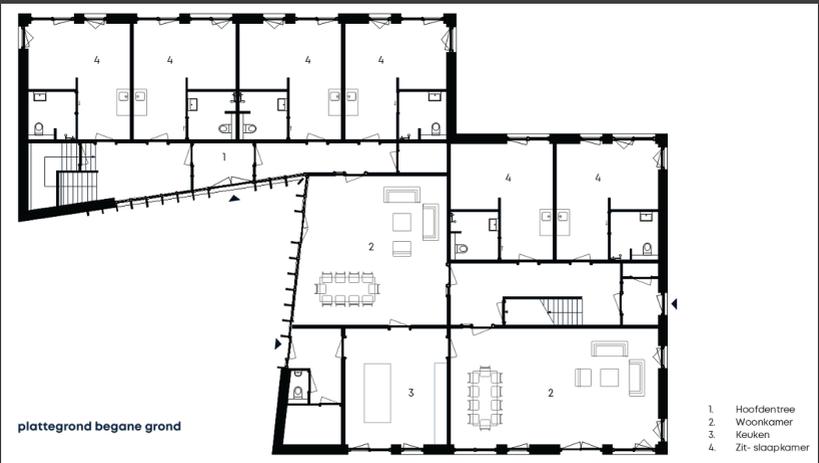


Figure 24. Floor plan of ground floor (9graden architectuur, 2022).

Residential care farm 'Hesselshoeve'

At the Hesselshoeve residential care farm in Wapse, 5 young adult participants with a mild intellectual disability who follow a supervised living programme live here in the back house, which has been converted into apartments under own management. When entering the care location, a large hall can be found. There are two apartments on the ground floor, which are fully equipped with their own facilities and a private terrace. Upstairs are three more apartments with their own facilities (Ferwerda et al., 2011).

Downstairs is a communal, spacious, fresh and colourful room with a spacious kitchen and a sitting area for relaxation. This communal space is also accessible to the care farmer and his family. In order to limit the impact on the private life of the farming family, the apartments are physically separated from the rest of the house by an internal wall and outside by a hedge (Ferwerda et al., 2011).

In the summer, the sliding doors can be opened to enjoy the terrace, adjacent to the large vegetable garden. The yard also gives space to various small animals, such as chickens, birds, rabbits, goats and pigs. The large heated barn consists of various machines for working with wood. A screened space functions as an atelier.

Recently two more detached houses have been added, making room for two more residents with MID.



Figure 25. Exterior 'Hesselshoeve' (Hesselshoeve, 2023).



Figure 26. New house (Hesselshoeve, 2023).



Figure 27. Collective living space (Hesselshoeve, z.d.).



Figure 28. Private room (Hesselshoeve, z.d.).



Figure 29. Overview of 'Hesselshoeve' (Hesselshoeve, z.d.).

Residential care farm 'De Fochtel'

13 adults of 18 years and older with an intellectual disability or psychosocial problems live on residential care farm De Fochtel in Fochteloo. Within this environment the care farmers focus on promoting self-reliance, by combining the formation of self-direction with a clear, safe and structured day. If possible, the care professionals guide the residents to far-reaching independence.

All residents have a private living room with shower and toilet. There is also a shared living room where they can meet. Every day, they cook and eat together. The farm family has more privacy because clients no longer come into their own home. Before, clients always ate at the family's kitchen table and stayed after eating. Nowadays, cooking and eating takes place in the clients' collective living area. The owner had seen this at another care farm in the area (Ferwerda et al., 2011).

The clients who live on the farm benefit from a quiet environment with lots of space and peace. The temptation to go out on the street is absent. They seek the conviviality on the farm or go specifically to activities outside the farm.

The owner had not had good experiences with men and women who live together. Living is different from daytime activities, because there is less supervision and jealous behavior and irritation quickly arise if men and women live combined, according to the owner. Daytime activities preferably take place outside the farm, to prevent residents from being together 24 hours a day. Furthermore, during an earlier renovation they had sitting-bedrooms, but in retrospect a functional separation would have been better. Separate sitting and sleeping rooms have now been built on the hayloft (Ferwerda et al., 2011).



Figure 30. Exterior 'De Fochtel' (De Fochtel, 2021).



Figure 31. Private bedroom (De Fochtel, 2021).



Figure 32. Private living space (De Fochtel, 2021).



Figure 33. Private bathroom (De Fochtel, 2021).



Figure 34. Private living space (De Fochtel, 2021).

Residential care farm 'Juustom'

10 young people with a mild intellectual disability, with or without a psychiatric disability, live at residential care farm Juustom in Waterlandkerkje. They live in a newly built barn with one large space of 35 x 15 x 12 metres. Inside there are 14 rooms with private bathroom facilities, which offer space for 10 living places (one of which is part-time) and four guest places. The building is equipped with several work and recreation rooms, a canteen, a sports room, a large kitchen and two communal living rooms. Space is also offered to, for example, parent associations from the neighbourhood, which promotes social cohesion. Because the housing requirements can differ considerably per target group, all internal walls are non-load-bearing. In the event of changing circumstances, the room layout can therefore be adjusted relatively easily in the future. For example, a living area of 18m² is sufficient for people with a mild intellectual disability, while a client with severe physical disabilities needs a room of 25m². The care farmers themselves live 5 kilometers away from the farm and work shifts, just like the other employees. They strive for a warm and family-like living environment in which appropriate guidance programs are offered from a professional approach (Ferwerda et al., 2011).



Figure 35. Exterior 'Juutsom' (Juutsom, z.d.).



Figure 36. Hallway (Juutsom, z.d.).



Figure 37. Collective living space (Juutsom, z.d.).



Figure 38. Collective living space (Juutsom, z.d.).



Figure 39. Private room (Juutsom, z.d.).

Residential care farm 'De Mare'

At residential care De Mare in Westervelde live 6 participants with very diverse indications: psychological care needs, intellectual disability, burn-out and trauma. They are mainly highly sensitive people. They can always call someone for night care. In practice, they never use that. The fact alone that they can call makes them feel calm and just sleep through.

They initially wanted to build apartments at the farm, but the clients indicated that they did not need a large apartment. There is also a communal living room and kitchen, which is a problem-free zone. In this space, the agreement is that you do not talk about your problems. Outside hangs a burden basket, like the Indians also used. You only discuss your problems at certain places and times, which is their starting point. That provides a lot of clarity and peace. Residents learn in this way that they should not put their burdens on other people's shoulders (Ferwerda et al., 2011).

The farm family's own children also sometimes take clients out. However, protecting the private space of the farm family is important to guarantee some privacy and peace. This is something the farm family really had to learn.

Here too, living on the residential care farm creates employment. She sees the main strength of living on the farm as living and working in one place. Living at the care farm offers people structure. There is a strong demand for residential places for care recipients, who often seek a combination of living and working. For care farm De Mare, the opportunity arose to create residential space. This has created a much more stable situation in which there is less turnover among care recipients. There are plenty of places for day care, but there is still a great need for residential places (Ferwerda et al., 2011).



Figure 40. Exterior 'De Mare' (De Mare, 2019).



Figure 41. Collective living space (De Mare, 2022).



Figure 42. Canteen (De Mare, 2019).



Figure 43. Outdoor space for animals (De Mare, 2021).



Figure 44. Private room (De Mare, 2023).

Residential care farm 'X'

Residential care farm 'X' wanted to remain anonymous in this report, but was willing to cooperate with the research. The information from residential care farm 'X' comes from a physical visit and an expert-interview with one of the care takers. The interview shows that the residents of this residential care farm need their own place where they can retreat, in their own room. This residential care farm has relatively large private rooms of 55 to 65 m², which seems to work well here. Some of these homes have two floors, with a small living room with a kitchenette downstairs and sleeping upstairs. These homes also have a small garden, bordering a larger communal garden. The residents are often only found in their room to sleep or watch a series on television. They keep the key to their front door in a kind of installation room next to the communal living room, so that they do not have to keep the key with them all the time and are less likely to lose it.

The residents can often be found in the communal living room with a homely atmosphere, which is also what they need. They often sit here when they see care takers or other residents and they cook and eat together. The residential group therefore functions as one big family. The central living room that is cozy with a wood stove in the winter, the chill room and the spacious hallway are among the spatial qualities of this residential care farm. The residents also specifically chose a farm because of the low-stimulus environment, which is also seen as a spatial quality.

The communal laundry room and day care at the workshop in the same building appear to work well. However, the design could have had more separate spaces for storing, to store games, equipment and bicycles for instance. Access to the residents' front doors by scanning a card would also be useful, as keys break off quickly. They also have an attendance board at the main entrance, so firefighters and caretakers know who to look for in case of an emergency.



Figure 45. Sketch of ground floor plan (own work, 2025).

Summary

The spatial characteristics identified, perceived as positive by residents with MID according to stakeholders of the residential care farms analysed, provide an overview of spatial qualities of these residential care farms:

- a living group of 6 to 15 residents
- a physical separation between different living groups
- a living group with an own large entrance hall
- a living group with a collective living space and kitchen (possibly as a problem-free zone, creates clarity and peace, do not disturb others with your problems)
- a physical separation of residents and farm family to protect privacy
- a transparent environment to provide clarity for staff, so they can offer residents a safe environment
- an alternation of open and enclosed spaces, both outside and inside
- a quiet, low-stimulus environment with space and peace; residents actively seek out conviviality on the farm or outside
- a familiar and homely environment, like a large family home
- a private room of 18 to 25 m²; a larger private room up to 65 m² is possible, but then a physical separation between living and bedroom
- a flexible lay-out (with non load-bearing internal walls)
- the possibility to darken the private room and avoid the open view with curtains
- a small private outdoor space
- sound-absorbing materials to prevent overstimulation
- (outdoor) space for animals
- enough storage space (for games, tools, bikes)
- a vegetable garden
- a sensory room
- a space to practice hobbies (woodworking, art)
- a space for people from the neighbourhood to enhance social cohesion

Living on water

To answer the research question, it is essential to explore not only the spatial qualities that residential care farms provide for people with MID, but also the spatial qualities of living on water. Once the spatial qualities of living on water are understood, a design can be developed that brings together the care farm, the intended target group, and the water-based environment in a cohesive spatial concept.

For this part of the research, living on water, 5 subgroups with homes on water were visited in Amsterdam: IJburg (Brigantijnkade / IJburglaan) (A), IJburg (Cas Oorthuyskade) (B), IJsbaanpad (C), Schoonschip (D), Stadhouderskade (E). The visit to these locations led to two types of results: the answers to the online survey on the one hand, and the answers to the interviews on the other.



Figure 46. IJburg (Brigantijnkade / IJburglaan) (Rohmer, z.d.)



Figure 47. Nicolaas Witsenkade / Stadhouderskade (own work, 2025).



Figure 48. IJburg (Cas Oorthuyskade) (Cafa, z.d.)



Figure 49. IJsbaanpad (Van de Biezen, 2017).



Figure 50. Schoonschip (Funda, z.d.)

Online survey

The online survey was completed by 73 people. The respondents were also asked to fill in some information about themselves (Figure 51). The results of the 64 closed questions are shown in six diagrams, divided over the six key themes from the Quality of Life Framework.

For each closed question of the online survey, the difference between the average given answer for living on water and the average given answer for living on land is calculated. For example, if the average given answer for living on water was a 4, and the average given answer for living on land a 2 (on a 5-point Likert scale), then there is a 100% difference between living on water and living on land, in favor of water. The exact percentage is not relevant, but it tells something about the trends that are being attempted to be discovered. Which quality of life aspects stand out? The diagram is divided into two parts, the red part on the left means in favor of land, and the blue part on the right means in favor of water. The further an answer is away from the middle, the greater the difference between living on land and living on water, purely based on the opinions of the 73 respondents who participated in the online survey. The following pages show six diagrams, divided into the six key themes of the Quality of Life Framework, with the average responses to the total of 64 closed questions.

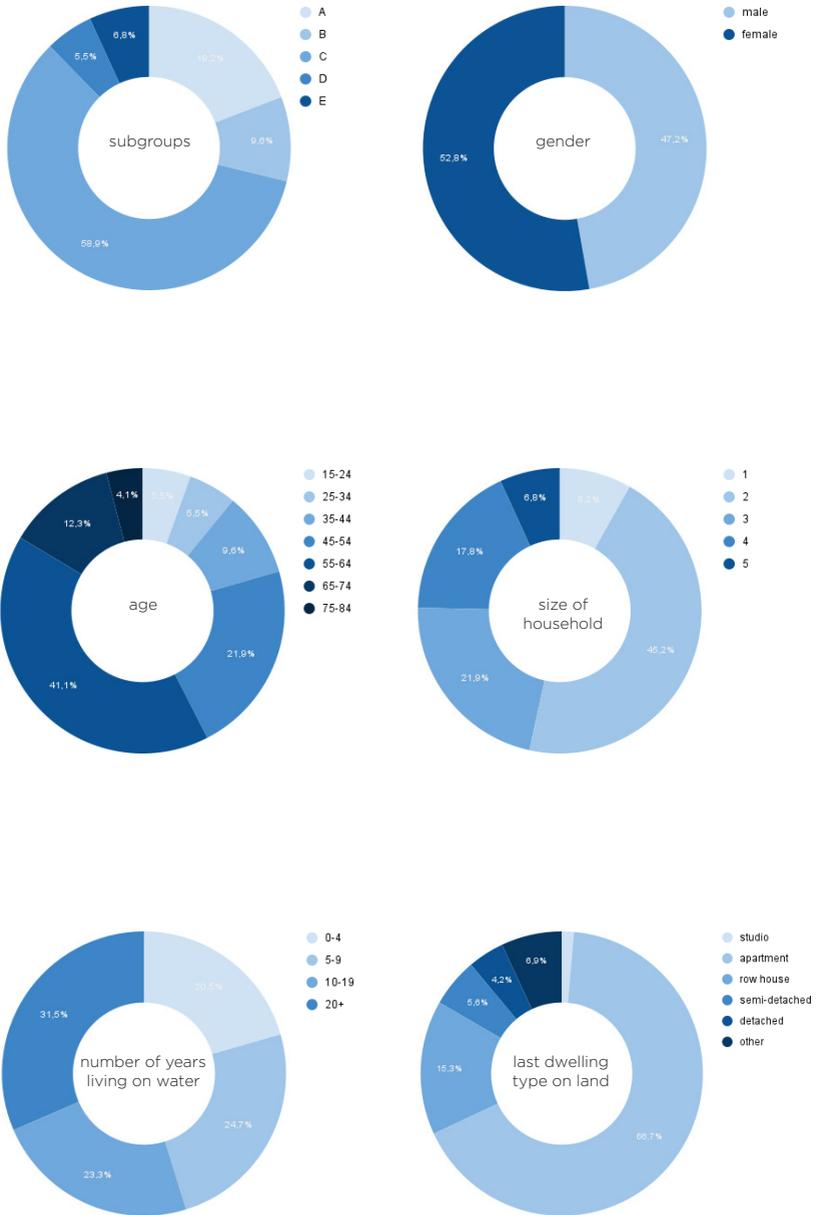


Figure 51. Data about the respondents of the online survey (own work, 2025).

Within the quality of life theme 'a sense of control' it is noticeable that residents on water experience many more opportunities to improve the neighbourhood and to discuss local problems with other residents, compared to their old living situation on land (Figure 52). The sense of safety is experienced as comparable between living on land and living on water, both inside and outside the home. Apparently, these residents do not see the water as something dangerous. Furthermore, the green spaces in the neighbourhood of residents on water are seen as more accessible and residents on water experience more opportunities to adapt their home to changing needs in the future.

A SENSE OF CONTROL

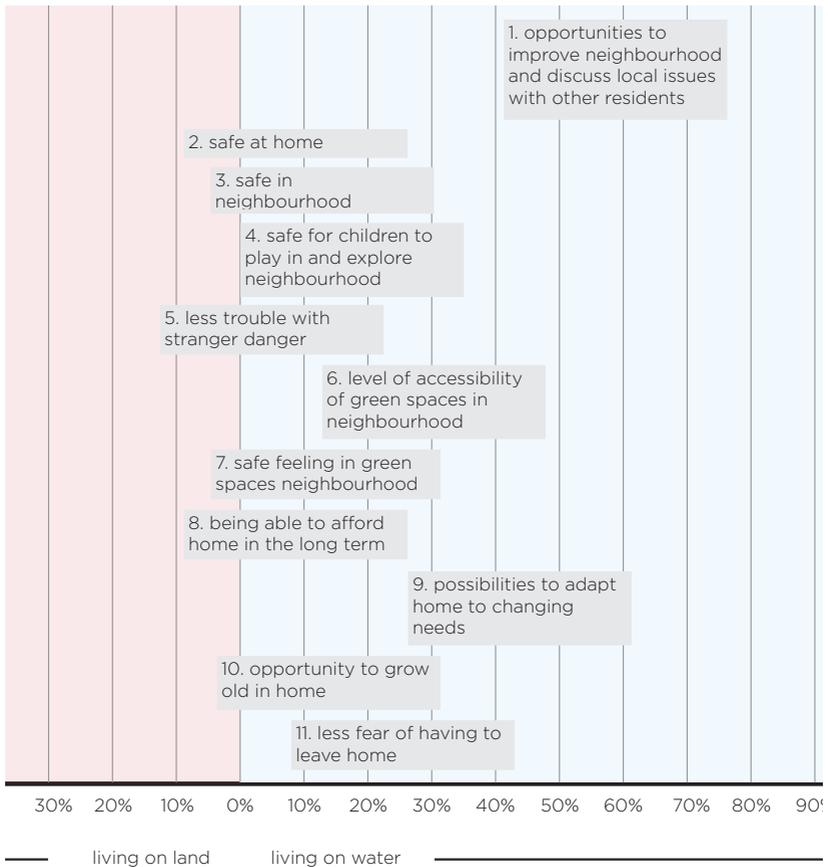


Figure 52. Average answers from respondents of online survey within the theme 'A sense of control' (own work, 2025).

Within the quality of life theme 'a sense of control' it is noticeable that residents on water experience many more opportunities to improve the neighbourhood and to discuss local problems with other residents, compared to their old living situation on land (Figure 53). The sense of safety is experienced as comparable between living on land and living on water, both inside and outside the home. Apparently, these residents do not see the water as something dangerous. Furthermore, the green spaces in the neighbourhood of residents on water are seen as more accessible and residents on water experience more opportunities to adapt their home to changing needs in the future.

A SENSE OF CONTROL

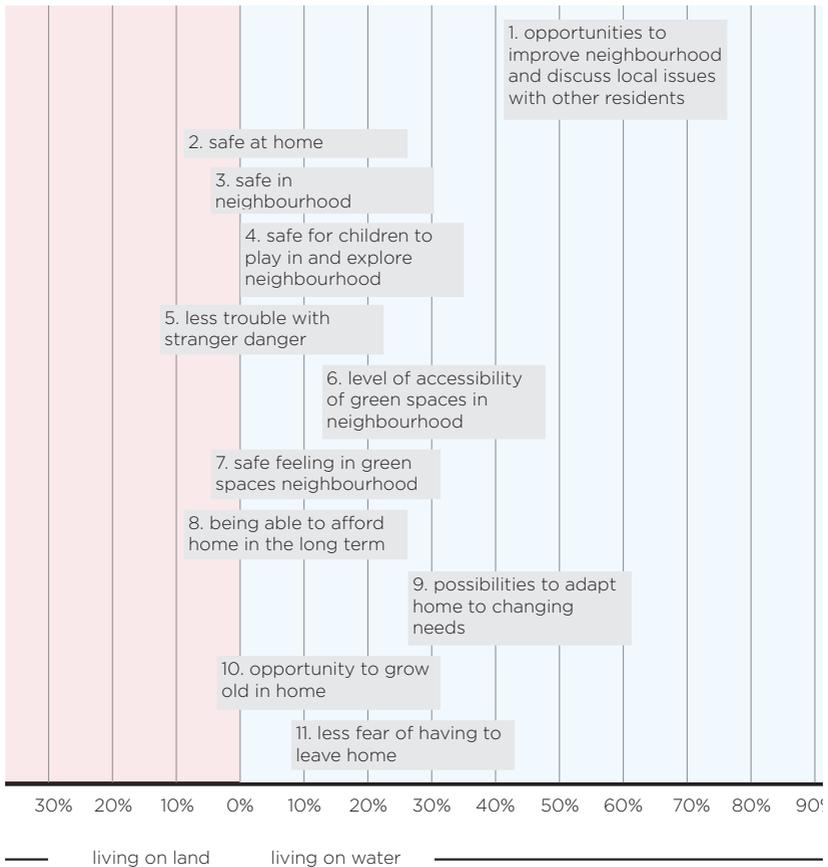


Figure 53. Average answers from respondents of online survey within the theme 'A sense of control' (own work, 2025).

Within the quality of life theme 'a sense of control' it is noticeable that residents on water experience many more opportunities to improve the neighbourhood and to discuss local problems with other residents, compared to their old living situation on land (Figure 54). The sense of safety is experienced as comparable between living on land and living on water, both inside and outside the home. Apparently, these residents do not see the water as something dangerous. Furthermore, the green spaces in the neighbourhood of residents on water are seen as more accessible and residents on water experience more opportunities to adapt their home to changing needs in the future.

A SENSE OF CONTROL

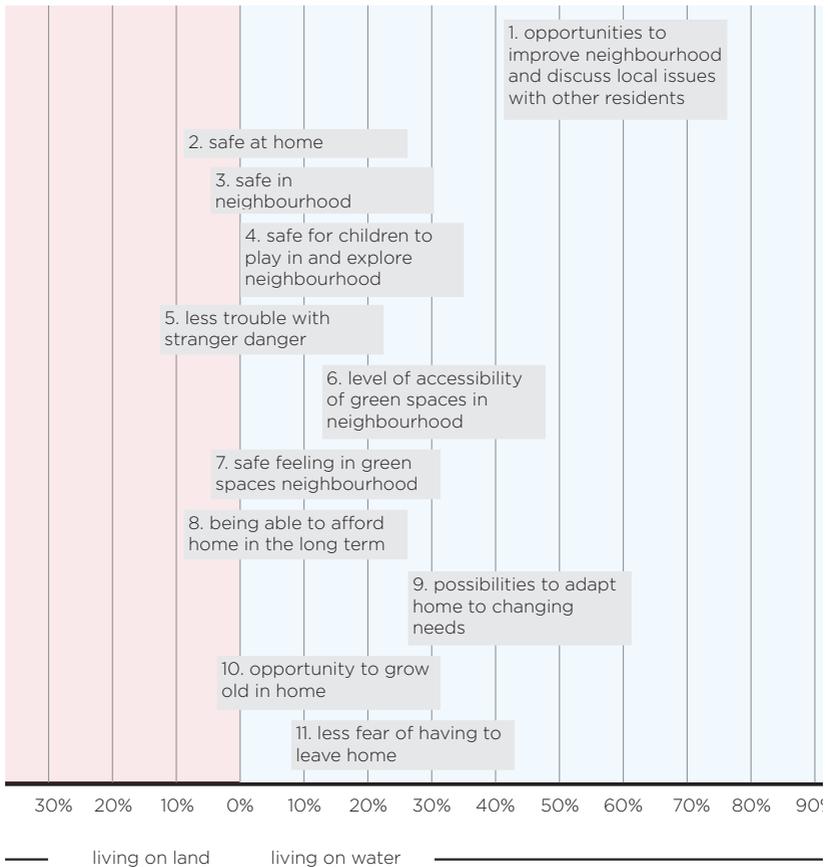


Figure 54. Average answers from respondents of online survey within the theme 'A sense of control' (own work, 2025).

Within the quality of life theme 'health equity' a number of things stand out. In homes on water more mould and moisture is experienced than on land, which may be related to the moist environment of the water (Figure 55). On the other hand, residents on water perceive more space, both inside and outside. The humidity, amount of daylight and sound insulation are also experienced as better when living on water. These aspects of course largely depend on the home design and also depend on the previous home on land, but there seems to be a certain trend. A neighbourhood on water is also experienced as more quiet and offers more opportunities to grow your own food.

HEALTH EQUITY

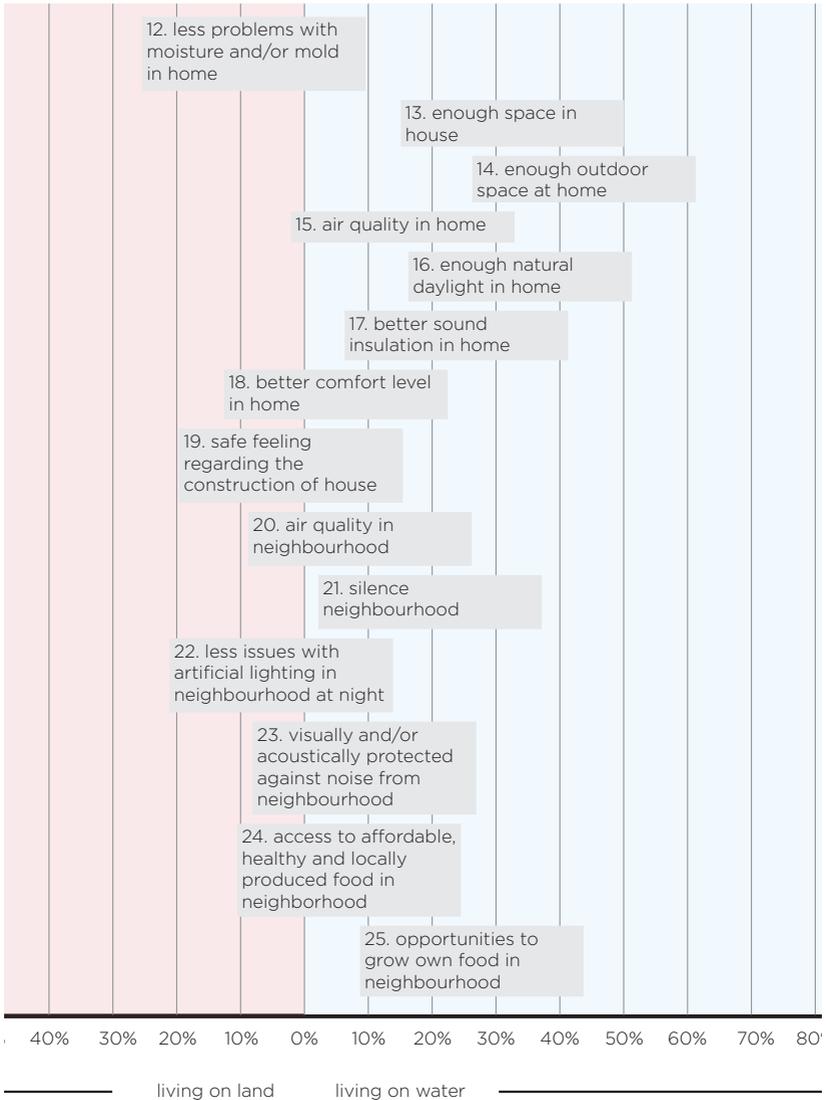


Figure 55. Average answers from respondents of online survey within the theme 'Health equity' (own work, 2025).

Within the quality of life theme 'connection to nature' it is noticeable that many answers are in favour of living on water, which is in line with the expectation. The biggest difference is the feeling of connection with the water (Figure 56). While living on water does not necessarily mean that you also feel connected to the water, this appears to be the case for these residents. Almost everyone feels strongly connected to the water. Since they have been living on water, they also feel strongly connected to nature in general, they hear more natural sounds, they experience more biodiversity in the environment and their senses are positively stimulated.

It is also noticeable that the residents in the area work together much more to live sustainably. This appears to be the case in all locations studied, despite the different history of origin and populations. However, a home on the water is only seen to a limited extent as a home that is more resistant to climate change. Living on water purely because of the rising sea level and increasing flooding problems does not appear to be the main reason for choosing this type of housing.

CONNECTION TO NATURE

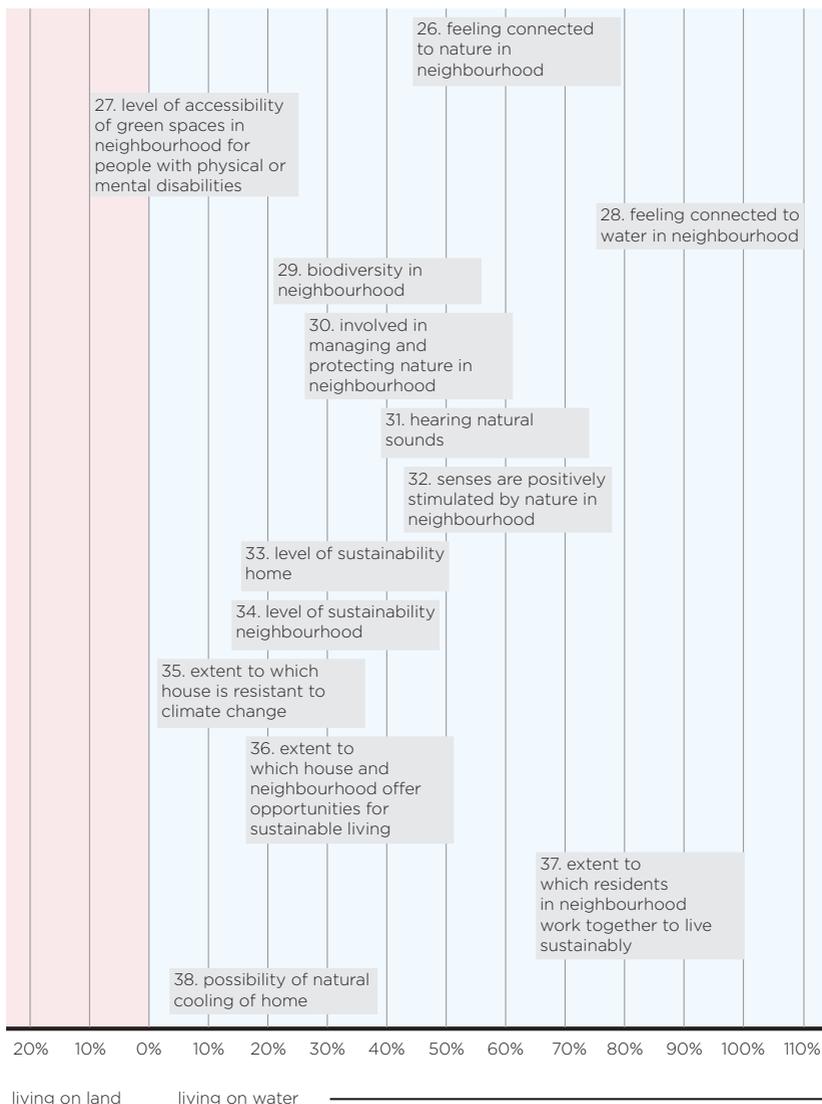


Figure 56. Average answers from respondents of online survey within the theme 'Connection to nature' (own work, 2025).

Within the quality of life theme 'a sense of wonder' few differences appear to be experienced between living on land and living on water (Figure 57). Residents on water are slightly more often satisfied with the design and character of the home and the neighbourhood, which is in line with the previous answer within the theme 'a sense of control' that they also experience more possibilities to adapt their home to changing needs.

A SENSE OF WONDER

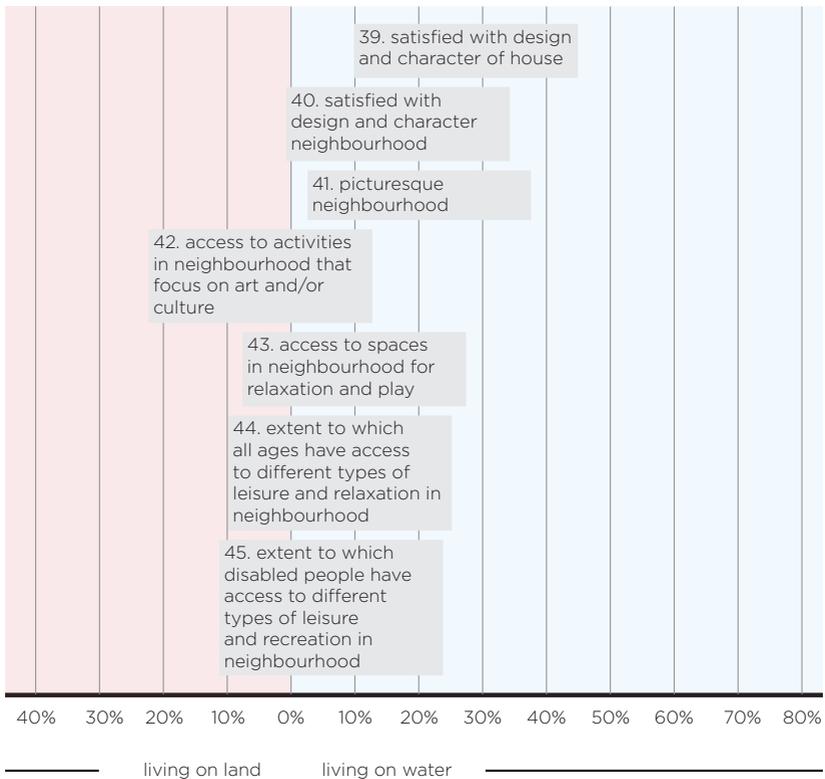


Figure 57. Average answers from respondents of online survey within the theme 'A sense of wonder' (own work, 2025).

Also within the quality of life theme 'getting around' few differences seem to be experienced between living on land and living on water. The differences are too small to draw conclusions. However, it seems that residents on the water are somewhat more dependent on the car, which is mainly due to the location (Figure 58).

GETTING AROUND

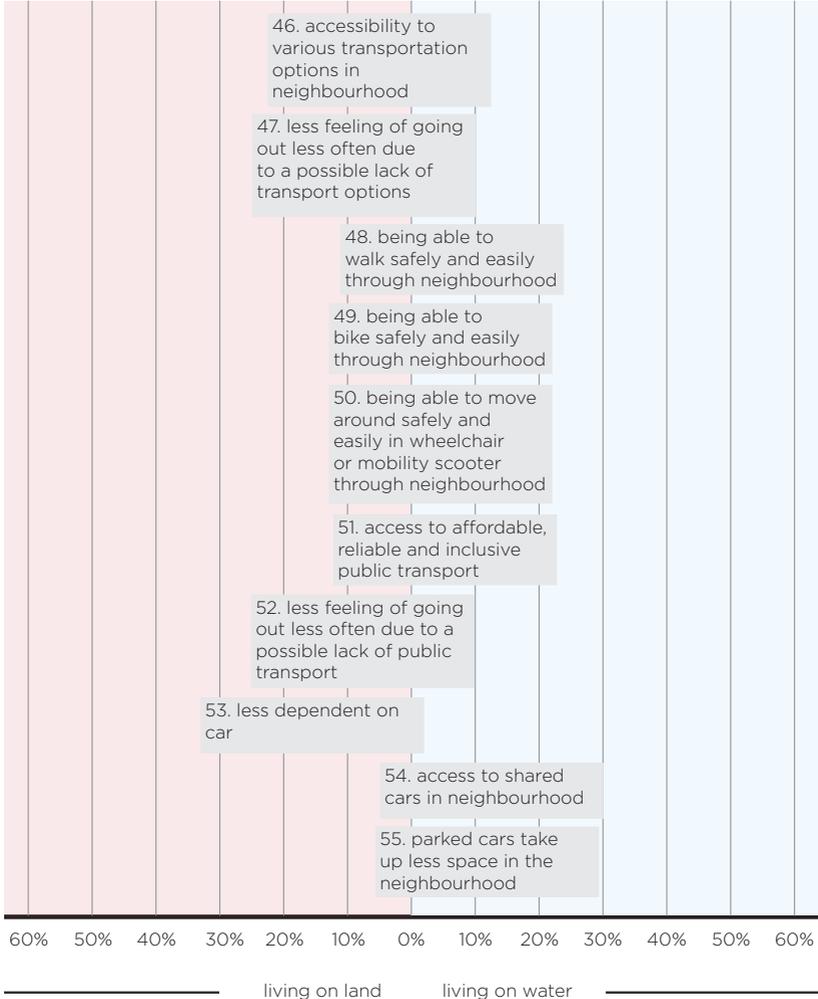


Figure 58. Average answers from respondents of online survey within the theme 'Getting around' (own work, 2025).

Within the quality of life theme 'connected communities', there appear to be very large differences in some aspects between living on water and living on land. According to these residents, the sense of community is much greater on the water, there are more opportunities to build relationships, more activities are organised and volunteer work is more common (Figure 59). Residents also feel less isolated on the water. On land, on the other hand, slightly more diversity is experienced and access to (commercial) facilities is better, although the differences in these areas are small.

Why residents on water feel more connected to the neighbourhood cannot be deduced from these results, just like all other answers to the closed questions in the online survey. In order to gain more insight into the 'why' behind the answers, residents were also asked to answer two open questions.

CONNECTED COMMUNITIES

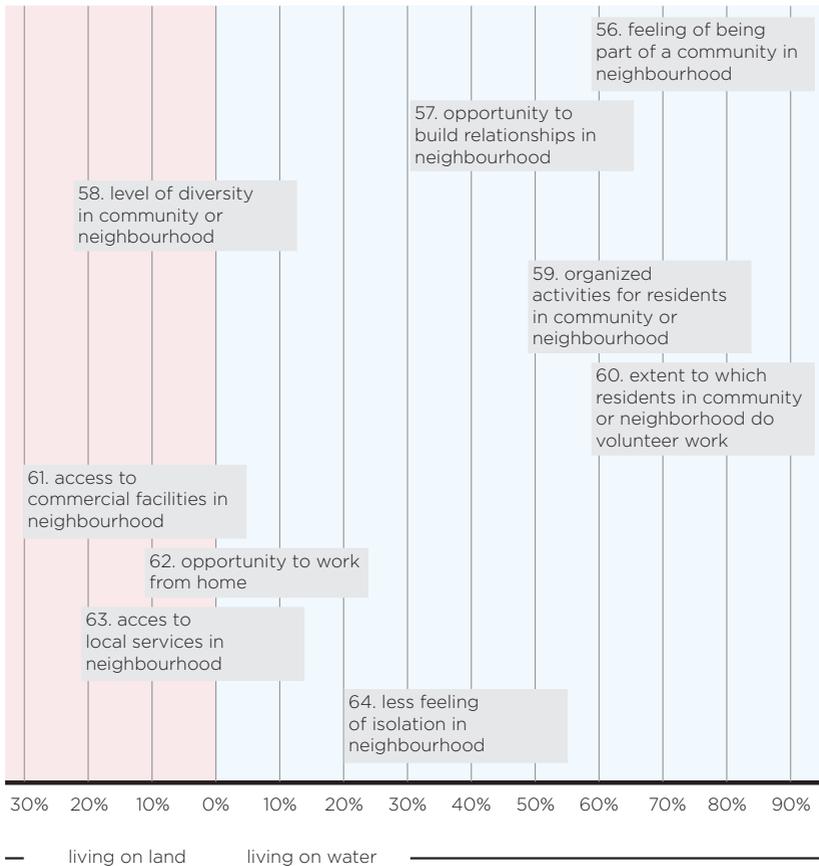


Figure 59. Average answers from respondents of online survey within the theme 'Connected communities' (own work, 2025).

Based on the answers to the 64 closed questions, the hypothesis arises that residents on the water have a better quality of life than on land and should therefore be happier. At the end of the survey, the respondents were asked to formulate an answer themselves whether they are indeed happier and whether they would recommend living on water.

The open question 'Are you happier since you have been living on water and why is this or is this not the case?' was answered by 60 respondents (Figure 60). 46 respondents answered with a 'Yes' or a similar term (such as 'yes indeed', or 'much happier'). 4 respondents did not answer the question directly, but their answer seemed to lean towards 'Yes', because they only mentioned argument in favor of water. 8 respondents answered with 'Equal' or a similar term (such as 'not substantially' or 'not necessarily happier'). 2 respondents answered with 'No'.

The respondents also told why they are happier since they are living on water. To discover the most important reasons, the amount of times a word or concept has been mentioned was counted. If respondents mentioned a word more often in their answer, the word is only counted once. Most respondents mention the increased contact with nature (13), freedom (11), contact with neighbours or community feeling (10) and (outdoor)space (8). Other reasons included beauty (5), contact with outdoors (4), swimming (4), water (4), less nuisance from neighbours (4), peace (3), facilities of the city (2), daylight (2) and living on ground floor (2).

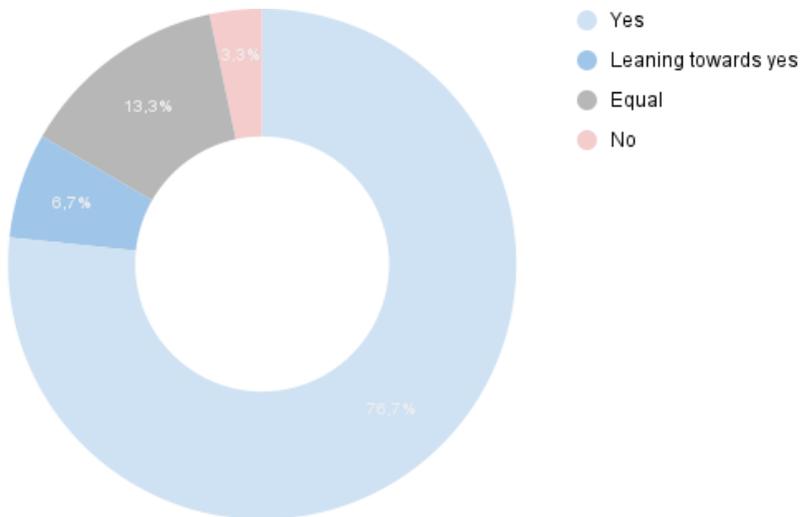


Figure 60. Answers on the question 'Are you happier since you have been living on water and why is this or is this not the case?' (own work, 2025).

The open question 'Would you recommend others to live in a home on water and if so, what are the 3 most important arguments for you?' was answered by 62 respondents (Figure 61). 36 respondents answered with a 'Yes' or a similar term (such as 'certainly' or 'yes certainly'). 16 respondents did not answer the question directly, but their answers seemed to lean towards 'Yes' because they only mentioned arguments in favour of living on water. 8 respondents gave a doubtful answer by setting conditions ('Yes, provided that...') or indicated that it is not for everyone. 2 respondents answered with 'No'.

The respondents also told why they would recommend living on water. To discover the most important reasons, the amount of times a word or concept has been mentioned was counted. If respondents mentioned a word more often in their answer, the word is only counted once. Most respondents mention the increased freedom (23) and contact with nature (21). Respondents also mention water (13), contact with neighbours or the community feeling (11), less nuisance from neighbours (8), peace (8), more (outdoor)space (6), swimming (6), beauty (4), daylight (3), contact with outdoors (1) and facilities of the city (1). Downsides of living on water are more costs (6), more regulations (4) and more maintenance (3).

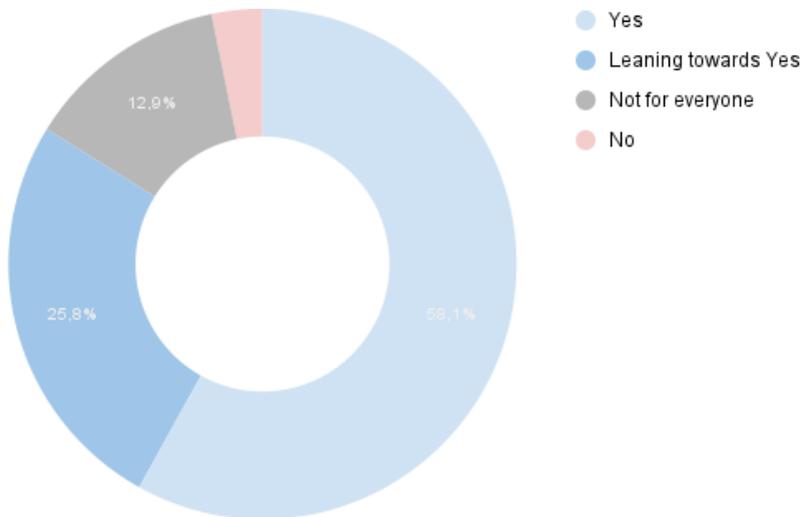


Figure 61. Answers on the question "Would you recommend others to live a home on water and if so, what are the 3 most important arguments for you?" (own work, 2025).

Interviews

Twelve interviews have been conducted with residents of the subgroups (5 from IJsbaanpad, 3 from Schoonschip, 2 from IJburg (Brigantijnkade / IJburglaan) and 2 from Stadhouderskade). All interviews can be found in Appendix B. These interviews provide more insight into the reasons for living on water and the spatial qualities hidden behind this.

Respondents have very different reasons for living on the water. Where for one it was an affordable option in the 70s, another came for the peace and quiet. Climate change was also mentioned as a reason. Some respondents also indicate that they live more sustainably and are more concerned with the climate in general since living on water. Many respondents also simply thought it was fun to live on water.

What respondents like most about the design of a house on water is bringing the outdoors inside, the spatial layout, and the view of the water all around. Sitting outside on the terrace and sleeping in a cool bedroom below the water level is also experienced as pleasant. Areas for improvement mainly lie in construction-related matters, such as building details, the swaying of the house in strong winds, maintenance and insulation.

Respondents would, like the respondents of the online survey, recommend living on water. It gives freedom, you can jump in the water and do other water sports from your home. They feel more connected to their environment. However, maintenance must be taken into account.

Respondents also experience much more contact with their neighbours since they live on the water. They share a lot with each other, are always there for each other and even take care of each other. The increased sense of community has various reasons. At Schoonschip this is mainly because the project was developed together, whereby many things also go wrong, which

creates a bond. At other locations it is described as a small village. There is a small distance between the houses, but enough distance, which means that neighbourly disputes occur less often. Residents on water also have common interests, which created a bond as well.

Summary

The spatial characteristics identified, perceived as positive by respondents living on water, provide an overview of spatial qualities:

- connection with outdoors
- (roof) terrace
- daylight
- open views
- surrounded by water
- easily adaptable
- spacious rooms
- more connection between spaces
- no direct neighbours, but still closeby
- village configuration
- cool bedrooms
- moveable house
- climate resistant
- living ground floor, better access

To answer the research question, various topics were discussed and various methods were used. Ultimately, it was about gaining insight into spatial qualities, which is a broad concept and difficult to measure. Literature shows that spatial quality ultimately always falls back on the subjective interpretation of social, cultural and psychological factors and that architects often have a different definition of spatial quality than users. That is why it is important to put the user first, which was attempted in this study by consulting existing literature on the one hand, and by conducting an online survey and interviews on the other. Existing knowledge is combined with new insights.

For case studies of residential care farms, existing literature was largely consulted and a physical visit was made once. The existing literature used was also based on interviews conducted by the authors. This was a reliable method for obtaining information about the case studies. Some information was sometimes outdated, but could be updated fairly easily by visiting the website of the residential care farm. Most case studies originate from a study by Wageningen University from 2011, which is considered reliable. On the other hand, information obtained from the case studies can not be directly generalised, as each residential care farm is unique. Nevertheless, similarities can be found between the various case studies, which all have people with MID as their target group, which makes it plausible that these similarities occur more often in a comparable context.

While research has already been conducted in the field of residential care farms and people with MID, this is less the case in the field of living on water. That is why no literature was consulted on this subject, but an online survey and interviews were conducted, in which the experience of the user is central. The online survey showed trends, answers that differ so much between the living situation on water and on land, despite the different backgrounds of the respondents, that it is assumed that this is not just a coincidence. These trends already revealed a

number of spatial characteristics that are experienced as positive, and could therefore be designated as spatial quality. In order to further investigate these spatial aspects, further questions were then asked by means of open questions and interviews with random residents. 73 people living on the water in the selected locations completed the online survey, which does not mean that the results can be generalised. However, certain trends and striking answers are plausible, also because they often meet expectations. All residents who received the note with the invitation also had the opportunity to participate in the study. The personal data show that the respondent population is very diverse in terms of age, living experience and household size. At the same time, most respondents previously lived in Amsterdam and it is plausible that people who currently live on water are positive about their living situation, which influences the results of this study. The 12 interviews were conducted with random residents and show comparable answers. After these 12 interviews it was found that more interviews would not quickly yield new information and theoretical saturation was reached.

The results regarding residential care farms for people with MID are mostly in line with literature from the theoretical framework. For example, the literature addresses the desire of this target group to have privacy, but at the same time be able to seek social interaction. In the residential care farms analysed, this is expressed by a combination of small private rooms and larger collective living spaces. The residents must have control over their own lives and benefit from spatial solutions that support a low-stimulus environment, which is evident from both the literature and the results. The presence of spaces to practice hobbies and the absence of a large private outdoor space also corresponds with the literature. On the other hand, the literature also addresses technical aspects of the home, which are not mentioned in the results but are not rejected either.

In addition, several literatures show that spatial quality is often interpreted differently by an architect than by the user. This is also evident from the results several times, in which, for example, it is indicated that the care farmer has difficulty finding residents who would like to live in a larger private room. This mismatch does not appear in the results of people living on water, which is probably because these residents were often involved in the design of the home or have sufficient opportunities to adapt the home to their wishes.

Ultimately, this study explores a concept that does not yet exist, namely a residential care farm for people with MID in a flooded polder. In order to make this exploration possible, an attempt was made to create an overview of the spatial qualities of both the residential care farm and homes on water. While the spatial qualities of the residential care farm have already been tested in practice against the wishes of the user, a person with MID, this is not the case for living on water. The design project in the second part of this report therefore attempts to also use the spatial qualities of living on water in a way that matches both the residential care farm and the needs of the target group. However, it cannot be determined with certainty which spatial qualities are actually spatial qualities, as this is difficult to measure and is person-specific. For a follow-up study, more research could therefore perhaps be done into measuring spatial quality and how this can be tested more broadly among people with MID.

A residential care farm generally seems to meet the needs of people with MID well, such as creating a place where clients can retreat, living in a community and living in an isolated and natural environment. These qualities are also often mentioned by respondents (without MID) who live on water. The community feeling and the contact with nature are mentioned as major advantages on water. Respondents who live on water also clearly experience more freedom than on land, despite the small distance between neighbours. For residential care farms this could be a reason to realise homes on water, to possibly increase the sense of freedom among this target group. In general, however, living on water cannot directly meet the needs of people with MID that residential care farms do not or cannot meet. At most, some qualities of the residential care farm can be slightly strengthened by living on water, but this cannot be proven at this moment. Given the needs of the people with MID, living on water does not directly have an added value regarding the spatial qualities compared to the spatial qualities of residential care farms. However, living on water could possibly provide creative design solutions to meet needs of people with MID in an alternative way. The design exploration shows for instance the role water can play in separating sleeping and living, the residents and the farm family and creating unique outdoor spaces at different heights.

R E F L E C T I O N

Looking back over the past months, I feel that, despite a difficult start, I have now found an approach that truly works for me. Leading up to P1, I explored a range of research themes and initially proposed a project related to AI. However, after receiving feedback from my mentors, and agreeing that the proposal lacked coherence, I realized that the topic did not genuinely interest me and was not well-aligned with the studio's themes. Following P1, I shifted my focus to researching and designing homes on water, a subject that I found much more engaging. Until P2, my project centered around water-based living, with a particular focus on people with mild intellectual disabilities (MID) as a target group. However, during P2, it became clear that there was a missing connection between the water-living concept and target group, which I also understood. As a result, I was asked to demonstrate this link more clearly during my retake.

In preparation for the retake, I fully focused on my research and the substantiation of why I am doing an exploration of people with MID on water, as part of a residential care farm. I began by grounding the project in the perspective of care farms and the needs of this target group, then explored how living on water could support these needs. This shift in focus helped me see the project from a new perspective and resulted in a more integrated research and design process. Since P2, I've developed a clearer approach by combining insights from different methods, interviews, an online survey, literature, and design work. I think that the chosen methods worked for my purpose, but only once I could clearly articulate the relationships between the various elements. Through this process, I learned the importance of taking an integrated approach from the start rather than hoping loosely connected ideas will eventually come together. I also came to understand the value of choosing a topic that genuinely excites me, built around themes I am motivated to explore.

My graduation project investigates the potential for water-based living for people with mild intellectual disabilities in the

rural setting of care farms. The Midden-Delfland region already hosts several care farms, which offer a positive alternative for people with MID by removing them from overstimulating urban environments and providing meaningful work and community. These farms contribute to quality of life, social participation, and independence. However, most care farms do not currently offer housing, despite increasing demand from both the target group and the care sector. Housing on care farms could also play a role in maintaining a vibrant countryside, especially considering future scenarios like those proposed in the ZUS plan, which envisions large-scale flooding of polders in the Netherlands. This creates an opportunity to explore new forms of dwelling on water. My design focuses on young adults with MID who are learning to live independently while participating in daytime activities on the farm or in nearby cities. This aligns well with the studio's objective of rethinking living, working, and learning as a cohesive system.

Through research, I have identified important spatial qualities for both floating homes and care farms. For instance, people with MID often need their own private space to retreat and may feel anxious when exposed to too much visual stimulus in their private space, such as wide-open views. My design responds by creating private rooms below water level with smaller windows. Additionally, flexibility is important due to changing care needs. Maintaining the privacy of the care farmer is another key factor, with clear separation between their living space and that of the residents. Including a sensory room is also beneficial. From the water-living side, people without disabilities report higher well-being thanks to the connection with nature, daylight, terraces, and a sense of community, spatial qualities I have adapted to meet the needs of people with MID.

I believe my method of combining different research techniques and inputs has worked well. While I initially struggled to bring everything together, I eventually managed to tie the elements back to the core research question, which provided clarity

and direction. Assessing how transferable my results are is challenging. The design is tailored to a specific context: a specific existing care farm and a planned restructured landscape with fluctuating water levels. However, I see value in the project as a conceptual exploration that demonstrates new possibilities, also with regard to the inclusion of a sometimes vulnerable or forgotten target group in society. As flooding and the need for water storage become more common, farmers may need alternative income models. This design could serve people needing care in natural environments who currently lack such housing options. My proposal aims to address these issues sustainably and spatially. For example, I reduce material use by keeping private spaces compact yet comfortable, and I highlight how water can serve multiple roles, from the climate concept of the dwelling to creating distinct living zones above and below the waterline. I hope this exploration contributes inspiration for integrated, future-oriented environments where care, work, and living can coexist in rural contexts.

Elings, M., & Koffijberg, M. (2011). *Effecten van zorglandbouw: wetenschappelijk onderzoek naar de meerwaarde van zorgboerderijen voor cliënten*. <https://library.wur.nl/WebQuery/wurpubs/406879>

Federatie Landbouw en Zorg. (2025). *Zorgboerderij zoeken*. <https://www.zorgboeren.nl/zorgboerderijen>

Ferwerda, R., & Hassink, J. (2015). *Wonen op de zorgboerderij: Dag en nacht profiteren van de kwaliteiten van de boerderij* (pp. 2-6). Wageningen UR. https://www.zorgboerenoost gelderland.nl/downloads/factsheet-wonen-op-een-zorgboerderij_807.pdf

Ferwerda, R., Teenstra, E., & Roest, A. (2011). *Beschermd buitenleven: Vijf zorgboeren over wonen op zorgboerderijen*. Taskforce Multifunctionele Landbouw. https://www.zorgboeren.nl/images/Documenten/Beschermd-wonen_TMFL1_2011.pdf

Hassink, J. (2022). *De kracht van de zorgboerderij: welke kwaliteiten vinden deelnemers belangrijk?* <https://www.zorgboeren.nl/images/kwaliteitskader/de-kracht-van-de-zorgboerderij-welke-kwaliteiten-vinden-deelnemers-belangrijk.pdf>

Hassink, J., & Ketelaars, D. (2003). *De bodem onder de zorgboerderij : naar een onderbouwing van de heilzame eigenschappen van een zorgboerderij*. <https://library.wur.nl/WebQuery/wurpubs/338622>

Hove, G. van. (1995). *Rapport m.b.t. een 'second opinion' over de kwaliteit van zorg binnen de Cluster Verstandelijk Gehandicaptenzorg Walcheren*. Interne Ortho-agogische rapporten, nr. 4. Gent: Vakgroep Orthopedagogiek, 1995

Janssen-Jansen, L., Klijn, E.H., & Opdam, P. (2009). *Ruimtelijke kwaliteit in gebiedsontwikkeling*. Geojournal.

Landelijk Kenniscentrum LVB. (2024). *Over LVB - Landelijk Kenniscentrum LVB*. <https://www.kenniscentrumlvb.nl/over-lvb/>

Kröber, H., & De Gooyer, W. (2022). *Gaat de gehandicaptenzorg weer terug naar de instituten?* Sociale Vraagstukken. <https://www.socialevraagstukken.nl/rubrieken/essay/de-gehandicaptenzorg-op-zn-retour/>

Landsman, J. A., Fokkens, A. S., Wijnker-Holmes, B., & Werkman, M. F. (2020). De sensatie van een goed leven bij autisme en een verstandelijke beperking. *Prikkeltijdschrift*. <https://prikkeltijdschrift.nl/2020/09/19/de-sensatie-van-een-goed-leven-bij-autisme-en-een-verstandelijkebeperking/>

Prins, A. (2023). *hoe-ontwerp-je-een-woonzorgboerderij-balanceren-tussen-een-warm-thuis-en-een-robuuste-zorgomgeving*. <https://www.dearchitect.nl/281747/hoe-ontwerp-je-een-woonzorgboerderij-balanceren-tussen-een-warm-thuis-en-een-robuuste-zorgomgeving>

Nieuwe Oogst. (2015). *Stijgende vraag wonen op zorgboerderij*. *Nieuwe Oogst*. <https://www.nieuweoogst.nl/nieuws/2015/11/07/stijgende-vraag-wonen-op-zorgboerderij>

Rapoport, A. (1970). The Study of Spatial Quality. *Journal of Aesthetic Education*, 4(4), 81-95. <https://doi.org/10.2307/3331287>

Rijcken, T. (2005). *Floating neighbourhoods as they were and will be; why dwellers would want to live on water* [Journal-article].

Rommers, J. M., Hassink, J., Ferwerda, R. T., & Elings, M. (2008). Toekomst voor de zorgboerderij. Neventak met hoogste inkomen. *V-focus*, 5(1), 12-13. <https://edepot.wur.nl/38176>

Schoonschip. (z.d.). *Schoonschip - Amsterdam*. <https://schoonschipamsterdam.org/en/>

The Quality of Life Foundation. (2024). The Quality of Life Framework 2.0. In *QOLF*. <https://www.qolf.org/framework/>

Van der Meulen, H., Jager, J., de Jong, D., Stokkers, R., Venema, G., & Vijn, M. (2022). *Kijk op multifunctionele landbouw: Omzet 2007-2020*. (Rapport / Wageningen Economic Research; No. 2022-037). Wageningen Economic Research. <https://doi.org/10.18174/568136>

Van der Voordt, DJM. (1998). Architectuur en woonzorgvoorzieningen. In D. J. M. van der Voordt, R. van Eck, A. Geurtsen, A. Janzen, & J. Visser (Eds.), *Praktijkhandboek bouw en beheer: Wonen met zorg voor ouderen* (pp. 199-206). Bohn Stafleu van Loghum.

Van Gameren, D. (2018). 'Anyone Can Build New Houses': Interview with Gert Jan te Velde, VanSchagen Architecten. *DASH / Delft Architectural Studies on Housing*, 9(14), 38-43. Retrieved from <https://journals.open.tudelft.nl/dash/article/view/5067>

Van Lindert, C., Brandsema, A., Dellas, V., & De Jonge, M. (2018). *Ontmoetingen tussen sporters met en zonder een verstandelijke beperking*. Mulier Instituut.

Voss, H., Boeije, H., Van Hees, S., Meulenkamp, T., & Oldenkamp, M. (2017). *Mijn eigen stekkie: woonbeleving van mensen met een verstandelijke beperking*. NIVEL. <https://www.narcis.nl/publication/RecordID/publicat%3A1003236>

Waterwonen. (z.d.). Immaterieel Erfgoed. <https://www.immaterieelerfgoed.nl/nl/waterwonen#:~:text=Naar%20schatting%20wonen%20er%20in,zorgen%20voor%20elkaar%20normaal%20is.>

WHO (2012). *WHOQOL*. <https://www.who.int/tools/whoqol>

Waterwonen. (z.d.). Immaterieel Erfgoed. <https://www.immaterieelerfgoed.nl/nl/waterwonen#:~:text=Naar%20schatting%20wonen%20er%20in,zorgen%20voor%20elkaar%20normaal%20is>.

WHO (2012). *WHOQOL*. <https://www.who.int/tools/whoqol>

ZUS [Zones Urbaines Sensibles], Flux, Sweco, & Urbanism, D. (2022). REDESIGNING DELTA NATIONAL PRODUCTIVE PARK DELFTLAND

Appendix A

Online survey

General questions:

- What is your age?
- What is your gender?
- Where on the water do you currently live?
- How long have you lived in your current home on the water?
- How many people are in your household (and what are they yours)?
- What type of home did you last live in on land?
- What city (and street) did you last live in on land?

64 closed questions (answered on 5-point Likert scale):

1. How many opportunities do you have to improve your neighborhood and discuss local issues with other residents?
2. How safe do you feel in your home?
3. How safe do you feel in your neighborhood?
4. How safe is it for children to play in your neighborhood and explore your neighborhood?
5. How much do you suffer from ‘stranger danger’ in your neighborhood, the idea that all strangers could potentially be dangerous?
6. How accessible are the green outdoor spaces in your neighborhood?
7. How safe do you feel in the green outdoor spaces in your neighborhood?
8. To what extent do you think you will be able to afford your home in the long term?
9. Do you have the ability to adapt your home to changing needs?
10. Do you have the opportunity to grow old in your home?
11. Are you afraid of having to leave your home?
12. Do you suffer from damp and/or mould in your home?
13. Do you have enough space in your home?
14. Do you have enough outdoor space near your home?

15. What is the air quality like in your home?
16. Do you have enough natural daylight in your home?
17. How is the sound insulation in your home?
18. What is the comfort level (not too hot or too cold) in your home?
19. Do you feel safe with regard to the construction of your home?
20. How clean is the air in your neighbourhood?
21. How quiet is your neighbourhood?
22. How much trouble do you have at night from artificial lighting in your neighbourhood?
23. Are you visually and/or acoustically protected from noise from the neighbourhood?
24. Do you have access to affordable, healthy and locally produced food in your neighbourhood?
25. Do you have the opportunity to grow your own food in your neighbourhood?
26. How connected do you feel to nature in your neighbourhood?
27. How accessible are any green spaces in your neighbourhood for people with a physical or mental disability?
28. Do you feel connected to water in your neighbourhood?
29. What is the biodiversity like in your neighbourhood (both plants and animals)?
30. Are you involved in managing and protecting nature in your neighbourhood?
31. Do you hear natural sounds, such as birds singing and running water?
32. Are your senses positively stimulated by nature in your neighbourhood?
33. How sustainable is your home?
34. How sustainable is your neighbourhood?
35. How well is your home resistant to climate change?
36. Do your home and neighbourhood offer you the opportunity to live sustainably?
37. Do residents in your neighbourhood work together to live sustainably?

38. Can your home be cooled naturally (by shade or natural ventilation, for example)?
39. Are you satisfied with the design and character of your home?
40. Are you satisfied with the design and character of your neighbourhood?
41. Do you find your neighbourhood picturesque?
42. Do you have access to activities in your neighbourhood that focus on art and/or culture?
43. Do you have access to spaces in your neighbourhood where you can relax and play (can be anything: slide, sports, have a drink, take a walk)?
44. Do all ages have access to different types of leisure and relaxation in your neighbourhood?
45. Do people with disabilities have access to different types of leisure and relaxation in your neighbourhood?
46. Do you have access to different transport options in your neighbourhood (walking, cycling, public transport, car)?
47. Do you feel that you go out less often due to a possible lack of transport options?
48. Can you move around your neighbourhood safely and easily on foot?
49. Can you move around your neighbourhood safely and easily on a bicycle?
50. Can you move around your neighbourhood safely and easily in a wheelchair or mobility scooter?
51. Do you have access to affordable, reliable and inclusive public transport?
52. Do you feel that you go out less often due to a possible lack of public transport?
53. Are you dependent on a car?
54. Do you have access to car sharing in your neighbourhood?
55. Do parked cars take up space in your neighbourhood?
56. Do you feel part of a community in your neighbourhood?
57. Do you have the opportunity to build relationships in your neighbourhood?
58. How diverse is your community or neighbourhood (age,

cultural backgrounds, disabilities)?

59. Are there activities organised for residents in your community or neighbourhood?
60. Do residents in your community or neighbourhood do volunteer work?
61. Do you have access to shops, cafés, pubs, offices, workplaces etc. in your neighbourhood?
62. Do you have the opportunity to work from home?
63. Do you have access to local services (community centre, education-related facilities, care, digital services) in your neighbourhood?
64. Do you feel isolated in your neighbourhood?

Final questions:

- Are you open to a short interview at a later date, with a number of in-depth open questions?
- If you answered 'Yes' to the previous question, or would like to receive the results of the survey at a later time, you can fill in your contact details below (telephone number/email address/house number). The results of this survey will remain anonymous.
- Are you happier since you have been living on the water? What is or is not the reason for this?
- Is there anything else you would like to say?
- Final question: Would you recommend others to live in a floating home and if so, what are the 3 most important arguments for you?

Appendix B

Interviews

1. Why did you decide to live on the water?

- Climate change, Amsterdam water city, idea of a shared neighbourhood attractive
- Something that seemed nice to me, project came my way
- Always wanted to live on the water, studio around the corner. Location, but also community, doing more together, taking care of each other, sustainable appealed to us, being more involved
- No neighbour, and for partner water view. Was the best option in Amsterdam.
- This was simply for sale, special neighbourhood, was not looking for a house on the water
- He went canoeing through the canal, saw a houseboat and thought: this is much nicer
- Was looking for a house, heard at school that a houseboat was available, not consciously, brother also had a houseboat, so not so strange, 22 years ago, price lower than an apartment in Amsterdam
- In terms of peace and quiet, you are still in the city, separate neighborhood, very nice in the summer, boats, swimming, and space, when my parents bought this it was not expensive yet, and they could build a pretty big house here
- Partner lives here, was the only affordable one in Amsterdam for his partner, I did not have the need to live on the water in advance, but looking back I do
- Grew up in Amsterdam, accidentally went to live on a houseboat, no more contact noise with neighbors. This was cheaper, have lived here for 40 years
- Housing shortage, not necessarily because of water, you could be on a waiting list in Aalsmeer
- As a student in 1975, that was an affordable and available option, and it felt natural

2. What do you think is the nicest or best part of the design of your floating home?

- Bringing nature outside into the house, different from an apartment, animals
- Lots of light, small rooms on 3 floors, but everything is connected
- The view in all directions of the water, large living space, bought from an architect who had designed for himself. Has lived here for 1.5 years now.
- View, silence, feels like she is in nature, not in the city
- Roof terrace, feels like a holiday home. Jump into the water from the roof terrace. Bedroom downstairs in concrete box, below the water line, stays nice and cool in the summer
- Terrace and view of the water
- Contact with outside
- In late summer, sit on the terrace and watch boats sail by
- Terrace, the whole boat, the space, 135 m²
- Freedom of living, built 28 years ago, before that steel chalk, was nice but too small and maintenance. You can do and leave what you want, windows closed, no one is bothered. Water noise especially at festivals, speakers on the ground vibrate. This is a village, people take each other into account.
- Beautiful view
- Slightly crooked interior walls so that it does not look like a box of blocks, and French doors opening onto the water

3. What do you think is the worst part of the design of your floating home or would you have liked to see it differently?

- A lot of premature equipment, not yet fully developed, still in the development phase
- Actually no disadvantages, some construction details perhaps, just that pole 5cm to the left etc, place solar panels on it later (instead of during the construction phase) problem, nothing is standard here, everything is difficult
- Daylight now goes to the lower floor (in a concrete box), make walking glass from (trampoline) net, downstairs

would be an apartment, always students in the house. Was trampoline first, signature for shipping business. Also budget. But glass so that it is better insulated in terms of sound on the lower floor. In the neighborhood, good attention was paid to sight lines, both in the house and the neighborhood. Architects consulted with neighbouring houses to have as little view as possible, all consulted, but view of water

- House wobbles in wind, doors rattle. Sometimes a bit scary because of storm. A few times a year, depends on the direction, mainly from the south (towards open water, on the other side there is construction that blocks the wind more)
- Maintenance, not normal pipes, really a pump. Many more flies and mosquitoes and therefore spiders. Outside quickly gets dirty, due to spider droppings.
- Insulation, costs a lot of energy to keep warm, but we are working on it
- From 1997, so first generation of 2-storey houseboats, neighbour architect of houseboats, less of a shoebox, more connection between different spaces. Only simple design, also bound to your plot size, no possibility of expansion
- Boats in the summer that sail past quickly, house moves then, no enforcement, is also not safe if a child is in the water. Doors that rattle or slam shut.
- Maybe retroactively, under the entire boat a hold, 1m10 high, if that were 30cm higher, if the box were deeper, would be nice, kind of attic, we have 4 children
- Insulation, is old now, technically speaking. Hallway made too narrow, doors could not open (solution: sliding doors for example), technically improved over the years
- Infrastructure, gone every 10 years, 1989, 2004, a woman slipped and almost drowned due to emergency jetty at Olympic stadium. Houseboat so oh yes we can just tow that
- No good floor insulation

4. What advice would you give to other people who are considering living in a floating house?

- You really have to want it, living here has many advantages, pay close attention to children (for safety on the water, so they don't drown), more maintenance, paint every 5 years
- I would recommend it, make sure you have a number of places where you can add weight, because you don't know the weight distribution in advance, it also changes sometimes. Green roof with a lot of rain much heavier, without rain much less heavy. Floor is always a bit crooked. Sliding doors move/slide in a northwesterly wind.
- Yes, so much more connection with nature, suddenly cormorant with fish in front of the window in between while cooking, fish in its beak, swans. Also do their best with floating gardens, facilitate brooding birds. Agreement with the municipality to maintain the quay, make it pleasant for hedgehogs and animals. More happens here. Also like water sports, kayaking, jump into the water daily (they until October), share a small boat with 10 families
- Enjoy it. Doing different things to be able to live on water, takes time and a bit of money. Different from a country house. Maintenance. Water pump.
- Would recommend it, the benefits outweigh the maintenance and thinking, it's worth it. It also increases in value. Unique houses. All owner-occupied houses, sometimes rented out. You can see that people with kids are sometimes afraid
- Would recommend it, feeling of freedom, always feeling like you're on holiday
- Yes, one of the neighbours used to live on the Stadionskade, he recommended it. It helps that you have a place on the outside.
- Yes, different but very nice throughout, is also very Dutch
- Yes, definitely, from May to the end of September a real camping feeling, very cosy, very nice atmosphere. Freedom, you have neighbours, but also no neighbours, because you live on an individual boat. No contact noise, football club the worst. If someone is drilling you can hear it, certainly on this jetty, it is because of the water, but more noise from planes

- Yes, definitely, if you could afford it, we could not afford it now
- Definitely, more freedom than in the average house on land. He is from Aalsmeer, much more freedom there. Lived here for 48 years. Prospect that he would go back. Biggest disadvantage is the municipality of Amsterdam, green idiots, I do have a green heart
- I would definitely recommend it. Just do it.

5. How is the contact with the neighbours since you live on the water and is this different from living on land?

- Yes, neighbours are good friends, a real village, who wants to eat with us? community driven, built together, but also comes from water, your freedom ends with my freedom, negotiating with neighbours, not doing and letting what I want
- Yes, but also because we developed it together, was a vague dream. Taking 5 years to find a place. Different for people who came later perhaps. Because of water, things often go wrong. Leaks, flooding. Broken non-return valve, water came in, house started to sink. Solved with submersible pump.
- Yes, maintain the VVE jetty together, common area further on in the neighbourhood in concrete container, house above that. A semi-detached house would have been fine too, you really have to like each other, share a lot.
- More contact with neighbours than in an apartment. Waterbuurtapp. A neighbor asks in the group app if someone has seen their surfboard, she sees surfboard floating by in the water
- Much more contact with neighbors, previously an apartment in Amsterdam. Even became good friends with neighbors, houses are separate from each other. Sharing, neighborhood chat, does anyone have a pressure washer? It's like a small village. Especially because they are detached houses, so less neighborhood quarrels. On land it would probably have the same effect. Small distance, but a bit of distance.
- Is about the same, still a lot of contact with neighbors.

Here coincidentally more with neighbors on shore, but also with the other houseboats, still creates a bond because of community interests

- Knows everyone from your jetty, and everyone from the neighborhood by sight. Have almost all the keys to all the houses on this jetty, trust, 1 neighbor makes an appointment for a sewer pump, you don't even have to be home. Also Easter breakfast, summer dinner on the jetty, neighborhood BBQ.
- Grew up on the water, group app with the rest of the jetty, a lot of contact with each other, in Denmark (lived on land for 6 years) it was different
- I think so, have been living here for quite a long time, I have lived here for 15 years now, partner 27 years
- Yes, it is a village, group app, first scream for help, then call 112, neighbors are there first
- Contact is reasonable. In Aalsmeer contact was better. Here it used to be Jan with the cap, now Kees with the tie. They don't come to the neighborhood party. Had their own association here to make dredging go better. In the permit they say the place is fixed, but if necessary, we will drag you. Gives a bit of uncertainty
- Good contact with a number of neighbours. I have lived on the water since I was 18 so I can't really compare it to living on land. But my impression is that it does create a bond to live together on boats at a quay.

6. Do you feel more connected to your environment and are you outside more often?

- Yes, in the water in the morning, lots of children swimming in the summer
- Yes, more outside. You experience the transitional weather much more. Wind, rain, sun. Nature is closer. More attention for urban nature. Floating jetty came loose during a storm. But not scary at home during storm.
- Yes, also a lot more maintenance. Remove green deposits,

shall we screw again? Playground, maintain city garden. She likes maintenance, renovated and converted 3 houses herself. Not planning on leaving here. Maybe a lift, small adjustments to be able to go up and down. Sublet with someone who takes care of them in exchange until reasonable when they are older. Let someone live in who then takes care of them. 3 generations moved in here further on, who all have their own place, 2 on 1 box. With loss of retirement homes, people have to take care of each other. Mother in Rotterdam, thought about letting her live here. Often sit on roof terrace, in the summer often boats pass by, roof terrace less view

- More outside, more space to sit outside. But garden would also be nice, so that dog can pee.
- More outside, walk a lot more. Born in the city center, afraid to miss the hustle and bustle, but love the peace now.
- More outside, terrace but also on the street
- Absolutely, Roof terrace, below a raft. Before that an apartment with a small balcony.
- Not necessarily outside anymore, brother does play football in the neighborhood
- Yes we do sit outside easily, when the weather is a bit nice
- Yes definitely, downstairs apartment from the east was a dark house, I only noticed what the weather was when I was outside
- Being outside went downhill. He is a bit of a scrounger. Very nice allotment garden nearby where he spent a lot of time. Floating raft with nature here. A bit of freedom with what they live here. Jan with the tie wants everything spick and span.
- So it's hard for me to compare because I've lived on the water my entire adult life.

7. How has living in a floating home changed your idea about living and climate resilience? Have you started looking at the climate differently?

Off-grid, same principles

- Developed to build ecologically and socially sustainable homes, showing that it is possible. Super energy-efficient, heat pump, energy is continuously shared, 1 energy connection, only in extreme cases energy from shore. Winter shortage, summer over.
- Climate neutral, fantastic, learned a lot and became aware of climate problems. Always busy with it, but more here. No more buying new clothes, car goes out the door as soon as she no longer goes to mother. She is a guide and shows people around here, from all over the world, also companies, also received European subsidies. Smart grid pilot will expire in 2026, think of an alternative, also look at costs. Also sell and settle energy to each other, but now too small to extend. With knowledge, but that company (Spectrol) has gained that knowledge here. Also look at green print on schoonschip.org
- Lower energy consumption, level A. No gas inside. Seeing the water level change is fun. In 1 year you can have 2, but also 6 major storms. We really feel the climate change and weather patterns. Lived here for 3 years now
- Quay is being adapted, for bees. In the immediate vicinity yes. A bit more sceptical about our own influence (Western influence). China and India, for example, make a much greater contribution to climate change.
- Is more a picture of the times, more as a joke of when water rises, you rise with it. When the wind blows, the houseboat rocks a bit. But too big to really rock. Lived here for 27 years now. Once you live on a houseboat, you don't leave it anymore. It's just really nice to live there, very enthusiastic. You only see families with children who need more space move.
- Solar panels, seriously considered heat pump, 30,000 euros, new double windows HR++, most homes connected to gas here
- Yes, had many storms, partly due to climate change, you notice that you start moving, neighborhood is reasonably

climate-conscious, also have discussions, what they want to do as a neighborhood for the climate, also watch out for children in the neighborhood

- More concerned with climate yes, also more in the news, you get older and wiser. Not necessarily because of floating home, less trouble with water than when you live on land
- Yes just as much as anyone else, occasionally trouble with fireplace in neighborhood, but those people do have solar panels. Jetty used to be lower in terms of buildings, is now more of an alley, smoke lingers, is well communicated between neighbors, houseboat association, neighborhood parties
- Yes, been involved with it through association since 2000. Became a neighborhood councilor in southwest, advocated a lot for green events, make objections to conspicuous buildings, now it is exaggerated, refugee problem that is allowed, green area to hell. Now offices, no vision as an architect there.
- Yes, I think that floating homes can provide a solution to a number of problems, especially with strongly fluctuating water supplies.

8. Do you have ideas about how the government can make living on the water more attractive?

- Free up space on the water, repeat a district further away, it is not much more expensive, but it does invest time, we live in an individualized society
- Yes, they should do it, but it should not be at the expense of nature on the water, land already built up, cultivated
- They should do it, more freedom. Everyone has been able to design their own house, it had to be energy neutral, solar panels, sedum roof, list of building materials. Local sourcing or better to get from Scandinavia? If you let 1 architect design everything, you get a district like in Nijmegen, uniformity. Show your own initiative here. It is also funny, sometimes also a Pippi Longstocking house.

- People are more interested in living on the water, but not many places in Amsterdam. More space needed.
- Pay leasehold, strange regulations. You can buy it off in perpetuity, but it is actually 50 years. He pays 4000 euros leasehold per year. Part work, part living, rule. Hustle to find out. And make it cheaper, you buy a house but not the land.
- Make zoning plans easier, houseboat was equated with caravan. Houseboats are now luxury. Can be a solution for housing shortage and climate. Romance of living on the water.
- I don't think they want to make it more attractive, in Amsterdam the number of moorings of 2200 remains the same, precario tax, other 2 houseboats versus leasehold. Here 1000 euros, versus 10,000 euros per year. Architectural freedom used to be, now no more. A lot of insulation required, previously free of building regulations, now all kinds of requirements.
- No, I don't really have any ideas
- Few mortgage providers, standard format on the internet, houseboat doesn't fit into the standard spiel, they have to come up with separate things, separate app or website with more specific questions, they don't want to. Only ING still has a houseboat mortgage, I think it's still cheaper than a house in Amsterdam South, mooring costs 6 tons or so
- Mortgage is a problem. Mooring fees are getting more and more expensive, insurance is expensive anyway, because of high risk, in fact almost never happens. You feel the wind, but no real problem, mooring things outside the house, jetty belongs to the municipality, maintenance could be better. Wallenkant is sinking enormously. Boats that are deep in the water suffer from it. Can no longer walk in the garden otherwise it will sink into the water. If you take it as a garden you don't have to pay
- Promote areas, make use of them, free up more space on water, put arks there! Had to make water, at the expense of parking. Fantastic opportunity for residents. There is green

in the heart, now it is all built up.

- A clear arrangement per municipality on how the leasehold/ precario is arranged so that the boat occupant is assured that he can remain moored.

9. Do you feel happier since you live on the water? What do you think is the reason for this?

- I believe so, not dependent on the environment, but sharing with each other really gives happiness in life
- Yes, house fantastic, happy with my own home. Biggest plus is community, even more than water
- Yes! Happy with the view, wave to everyone, know everyone, kids from school immediately jump into the water. Fits together. Marketplace for our neighborhood. Exchanging clothes. "Where is Ava? She has to eat at home" you see in the group app, and then you suddenly see Ava running around. Children life jacket for swimming certificate, children get their swimming certificate earlier, is encouraged. Taking initiative, being open to others, working together like this, then you are open to new neighbors. Started with a group of friends, everyone asked their own friends to join. Neighborhood are really friends. If she needs something, everyone is on the doorstep. She used to have 1 set of neighbors in the East. Many self-employed people live here. Many documentary people, architects. Watching movies. Asks for pioneer spirit. Tried to build 5 social housing units, but they don't know who will be in that house. Here are owner-occupied houses, no deadweight, you have to speak to them, it is said at the sale. She also introduced herself to the club at the members' meeting. Doesn't miss the garden, she is good at digging herself.
- Yes, compared to the previous situation. Quieter than the previous apartment in De Pijp, was quite busy. Feel the wind in my face. Feels like coming home when I cross the bicycle bridge, a kind of relief. In the summer, children in the water everywhere, a real holiday neighbourhood.

- Yes, definitely, water is more connected to nature, but also contact with neighbours, brother lives next to the jetty, but also the space. Is a lot of money, but per m2 than in the city
- Fortunately stayed. Started together, because of freedom and living here is just very nice
- Yes, when you come home you immediately feel like you are on holiday, dive into the water in the evening, sail into town by boat
- Yes, I think so, it is mainly because of the city, I don't know if it has much to do with the house itself, I lived in Denmark before
- Partner can't remember, since marriage ended, I do since I live on a houseboat, it is really nicer than in a regular house, it is really a fact. Most trouble with a south-westerly wind, it must be blowing hard. The biggest blow is upstairs, that's where they live, paintings can blow against the side. Little maintenance, paint the frames, but also with a regular house
- Yes, definitely, they all go out between so many planks, we will continue to live here as long as we can. Adjustments as they get older, a lift
- Yes, there is nothing wrong with it, the shoemaker sticks to his last, able to saw legs from under the chair. Busy with leasehold. One of uncertainties, idea of we can pick them
- I'm very happy on the water.

Appendix C

Affordability and financial feasibility

People with MID (hereinafter referred to as clients) usually receive a distribution (WIA or Wajong) and therefore have little to spend. With the distribution, the client pays a personal contribution to the CAK (a government agency) for the Wlz (Long-term Care Act). The Wlz entitles the client to long-term care, which is necessary to live in a residential care farm, for example. With the Wlz annual budgets are paid out to the care institution, if homes of the residential care farm are rented by the care institution and which also arranges the care. These annual budgets can differ per client, because clients can have different indications, based on the extent to which they need guidance, care and/or behaviour regulation (Figuur X). The annual budgets that the care institution receives can vary from €45,490 to €107,230 per client. With these annual budgets, the care institution must pay for almost everything for the client: rent, food, staff and furnishings.

BUDGETS CARE FARMS RECEIVE PER CLIENT WITH INTELLECTUAL DISABILITY 2025
incl. budget for rent, food, staff and furnishing

Living with some support	1VG	€45.490
Living with support	2VG	€53.836
Living with support and care	3VG	€61.367
Living with support and intensive care	4VG	€67.355
Living with intensive support and intensive care	5VG	€85.895
Living with intensive support, care and behaviour regulation	6VG	€80.778
(Private) living with very intensive support, care and behaviour regulation	7VG	€107.230
Living with support and full care and nursing	8VG	€94.506

A care farmer, care institution or other initiator of housing at a care farm has two options:

1. Buy a building or rent/buy land and build a building.
2. Rent a building

According to the social worker that has been interviewed, this is very possible if you see what the budgets add up to.

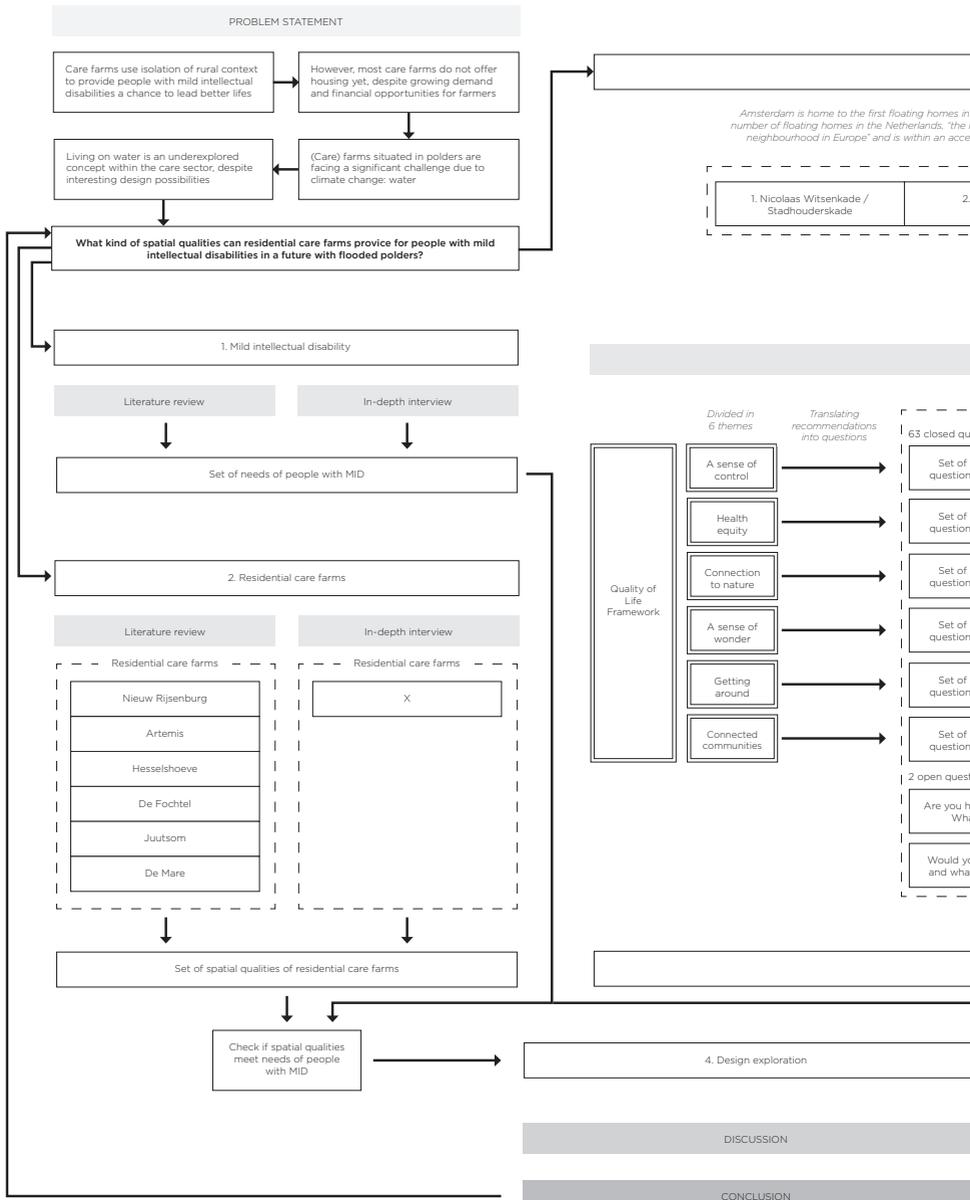
It is therefore less relevant whether the homes are affordable for the clients, since the rent is paid by the care institution. A more important question is whether the annual budgets add up to enough for the care institution to pay for everything. This depends, among other things, on the costs of realizing homes on the water.

Building a water home is about 10 to 15 percent more expensive, but developing on water is cheaper (Olthuis, 2021). The development costs are the construction costs of the building and buying the land. That is one price together. But buying the land is now eliminated. The land is water and could possibly be rented. The entire price is therefore reduced, making development on water cheaper. The costs of a floating, and relatively small, semi-detached house designed by Olthuis are around €195,000. In terms of costs, this seems reasonable. In addition, the costs per client could be even lower if multiple clients could be housed here. Of course, other costs must be added to this, such as renting water, perhaps from the care farmer.

A residential care farm could therefore be seen as a commercial enterprise that earns money by housing and caring for people. However, more research is needed to get a better overview of the financial feasibility.

Appendix D

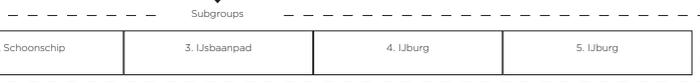
Research diagram



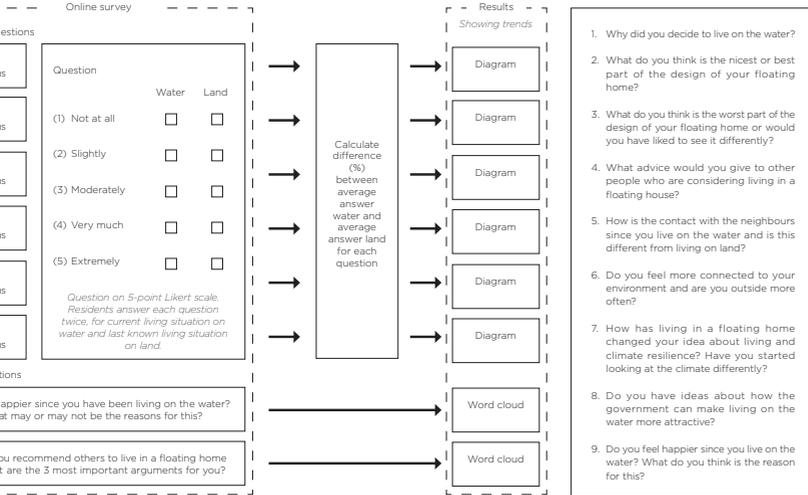
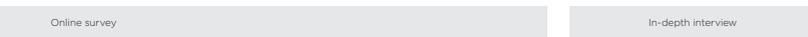
3. Living on water

In the Netherlands, 25% of the total most sustainable floating residential stable distance for this research

Subgroups are carefully selected based on their (expected) influential differences, such as dwelling type, community living, configuration and private and collective jetties and their connection with the land, within the urban environment



Residents of floating homes who have lived on land before



Set of spatial qualities of living on water

Check if spatial qualities meet needs of people with MID

