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Participatory approach in the design of urban green spaces.

A case study of Lervig park in Stavanger.

REZVAN SOLTANI MASTER THESIS URBAN PLANNING UNIVERSITY OF STAVANGER SPRING 2019



Figure 1. Lervig park workshop . (Nessa, 2019).

ABSTRACT

This thesis is focusing on participatory approach in the design of urban green spaces. The aim of this study is to apply the participatory method in a case study and demonstrate the feasibility and progress of this method. Definition of urban green spaces in this research has been clarified in the theory and the reason and benefits of considering and involving people in design of urban green spaces have been revealed.

To demonstrate the participatory process in the design of urban green spaces, Lervig park in Stavanger has been chosen as a case study. Since this park is not still built, it gives a good opportunity to start the design process from scratch. The process and methods which are applied in this thesis are based on three reference projects in national and international scales. These reference projects gave a coherent and clear understanding of progressing and implementing of the participatory methods in urban green spaces.

The primary materials of this thesis are provided by Urban sjøfront which run two workshops in January 2019. The design process and evaluating the design ideas are done based on those data. The result of this thesis is proposed in the form of a masterplan and the discussions of the strength and weaknesses of applying the participatory method which are usefull for the future studies.

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The soul of this thesis connected me to many people who made my way easier to walk through. Here I want to give them an extra thanks.

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Rezvan Soltani

Stavanger, 14 june 2019

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1. INTRODUCTION

BACKGROUND

STRUCTURE AND METHODS

1.1. BACKGROUND

This thesis examines the participatory method in the design of urban green spaces. Participation in planning has a perspective on “best possible plan”, to ensure good solutions that take into account everyone’s needs, facilitate that the interests can speak out, promote creativity and commitment, and provide a good basis for decision-making. The active role of the population in the planning and decision making is important for preserving common values and basic living conditions in a sustainable society (Kommunal on moderniseringsdepartementet, 2014).

This research concentrates on designing the urban green spaces which consider as the most important arenas in promoting the quality of life in the cities (Van Herzele & Wiedemann, 2003). However, national policies emphasize on densification in developing of urban structure which has a consequence of losing or reduction of urban green spaces (Halvorsen Thorén & Nordh, 2012).

Urban green spaces not only have positive environmental effects, but they provide physical and social contexts that improve people’s health and wellbeing. These provisions contain meeting places, cultural offerings, recreation, green spots, parks, walking and cycling paths (Bergem, Dahl, Olsen, & Synnevåg, 2018).

This study proposes the participatory method that helps in creating

urban green spaces where people desire to interact with. Since the qualities, restrictions, and scope of activities that people can experience in a green space, define the appreciation of those spaces by people, therefore the participatory method can lead to understanding people’s preferences in appreciation of urban green spaces.

Knowledge of the human experience is essential in design and planning processes and creating the environment where is based on human preferences, rather than the architect’s own style and taste (Halvorsen Thorén & Nordh, 2012). Understanding the people’s preferences helps to create a successful public place where meets people’s desire.

The main consideration and question that this research is trying to answer is as so:

How participatory approach can be implemented in the design of urban green spaces?

This main question is focusing on the process and the methods that help to develop an urban space by applying the participatory approach.

1.2. STRUCTURE AND METHODS

The very early step of understanding the importance of considering people's preferences in creating urban green spaces requires to study about the urban green spaces context and the importance of people's interaction with those spaces. Therefore the literature study has been done to find the answer to these questions:

- *What are urban green spaces?*
- *What is the importance of green spaces in the urban context?*
- *Why it is important to consider people's preferences in the design of urban green spaces?*

After that, the structure of this research got shape by the outcome of three reference projects that applied the participatory method in urban green spaces. The participatory method in the design of urban green spaces can be illustrated as so:

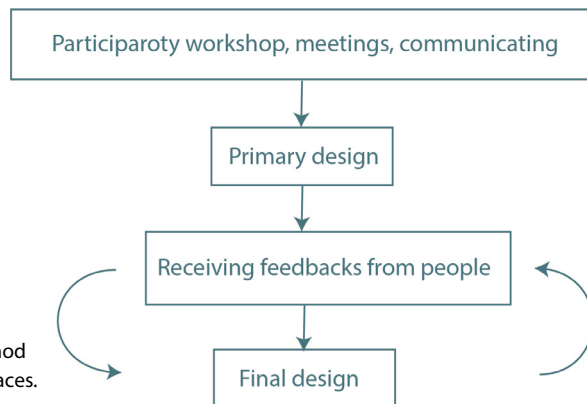


Figure 2. Participatory method in design of urban green spaces.

The most crucial step of this thesis was choosing a reliable case study which had the potential for applying the participatory method. It had to be an urban green space where people had the desire to participate in the design process. Therefore the case of Lervig park in the east of Stavanger has been chosen, where the Stavanger municipality is planning to develop an urban park by 2022.

The participatory process started with two workshops, one for the adults and one for the children, that were managed and run by Urban sjøfront in January 2019. In these workshops, people could design and develop their ideas for the future coming Lervig park. The data from those workshops made the foundation of the primary design proposals. After that, the design proposal presented to the people and the interests to receive the feedback and to understand the weakness and strength of those. The next step was to redesign and involve the comments and feedbacks and present a final proposal.

The results show that the participatory process is an absolutely feasible and applicable process in developing public spaces. It helps to understand local people's demand and needs in creating a space where people would like to interact with. This process, however, is time-consuming and longer than the usual developing process, and to encourage people to participate in all stages is challenging, but possible.

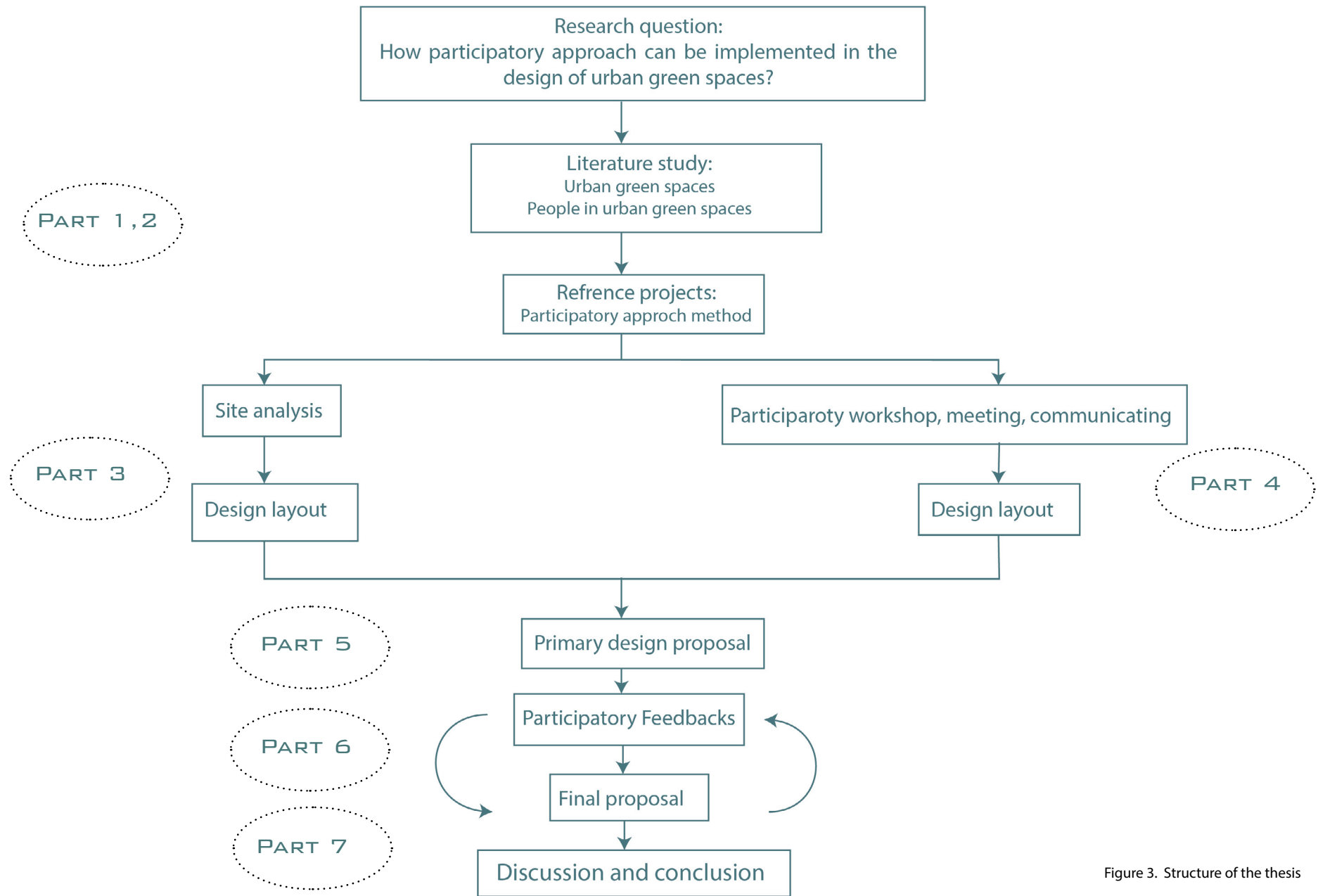


Figure 3. Structure of the thesis

2. URBAN GREEN SPACES

DEFINITIONS OF URBAN GREEN SPACES

VALUE OF URBAN GREEN SPACES

2.1. DEFINITIONS OF URBAN GREEN SPACES

In this research, it was important to clarify what it is meant by urban green space and how it is possible to differentiate its character with other greenery contents. For this purpose, It has been done a wide literature study which helped to come to a concrete definition of urban green spaces.

Then it has been modified a model of urban green spaces based on the literature, to show the limitation and criterias of these spaces. Furthermore, the value and importance of urban green spaces for the environment and human being have been described.

European urban atlas defines the urban green spaces as all the greenery which have the recreational application and have a minimum of 0.25 ha area and 10 m width. It includes gardens, zoos, parks, castle parks, the suburban natural area and forests spreading to the urban zones (*European commission, 2012*).

Mahmoudi Farahani & Maller (2018) describe the urban green spaces as publicly owned and accessible open spaces within urban areas that all or part of it is covered by significant amounts of vegetation. This includes Parks, woodlands, nature conservation areas, gardens, and sports fields.

Rogaland county doesn't specify the urban green spaces from other

green structures, but points out the recreation areas in municipality level as all the parks, walking routes and paths, green outdoor areas, green rest areas, nature conservation areas, forests, cultural landscape and other natural areas which are traffic free (*Rogaland fylkeskommune, 2017*).

Norway's Environment agency (2014) classifies the green spaces as "green structure" which is defined as "The weave of large and small natural areas in the cities". These includes green paths in building area, parks, play areas, cemeteries, avenues, and other constructed green spaces.

Norway's Environment Agency also divides the green spaces by their functionality, scale, and accessibility into 3 groups. "Large recreation area", "Small green area" and "Green corridors". The large recreation area has a distance of 1-0.5 km from the housing and includes varied types of vegetation, lightning and resting areas.

Small green area has a distance of 200 m from housing and should have a minimum area of about 5 da. It could be a nearby park, a playground or a green social place. Green corridor holds a distance of 500 m from dwelling and connects the green spots to each other. The width of green corridors must be about 30-50 m with a varied of vegetation. The asphalt coating is not allowed in this area (*Norge Miljødirektoratet, 2014*).

Directorate for Nature Management classifies the public green areas as “public park area”, “Large recreational area” and “green corridors” which each of them contains different functions, scales, and access distance (Direktoratet for naturforvaltning, 2003).

| Public Green Spaces | | | |
|---|---|---|--|
| | Public park area, big playground | Large recreational areas, parks | Green corridors |
| Directorate for Nature Management recommendations | 5 daa area and max 200 m distance from the residence. | A green area where you can walk a trip of approx. 2 km with 500 dis. from the residence | 30-50 m width and max 500 m dist. from residential |
| National policy guidelines for children and younger's interests in the planning | Neighborhood: 1,5 daa in 150 m from residence. Big playground: 5 daa area and max 200 m dis.from the residence. | | |
| Norway's Environment Agency | A distance of 200 m from housing and a minimum area about 5 daa. It could be a nearby park, a playground or a green social place. | A distance of 0,5 -1 km from the housing, includes varied types of vegetation, lightning and resting areas. | distance of 500 m from dwelling, connects the green spots to each other. The width of green corridors must be about 30-50 m with a varied of vegetation. |

Figure 4. Current standards for public green spaces. (Direktoratet for naturforvaltning, 2003).

From the literature, these criterias have been brought out to make a concrete understanding of Urban Green Space's contents:

- A green area of about 5000 m² or more.
- It is located within urban areas.
- It is traffic free.
- It is and publicly owned.
- It is accessible by walking in a maximum distance of 500 m .
- It is an open space.

- It Includes playgrounds.
- It includes social zones.
- It includes cultural or natural reserves .
- It has recreational application.
- It is covered by significant amounts of vegetation.
- It is facilitated for walking and physical activities.

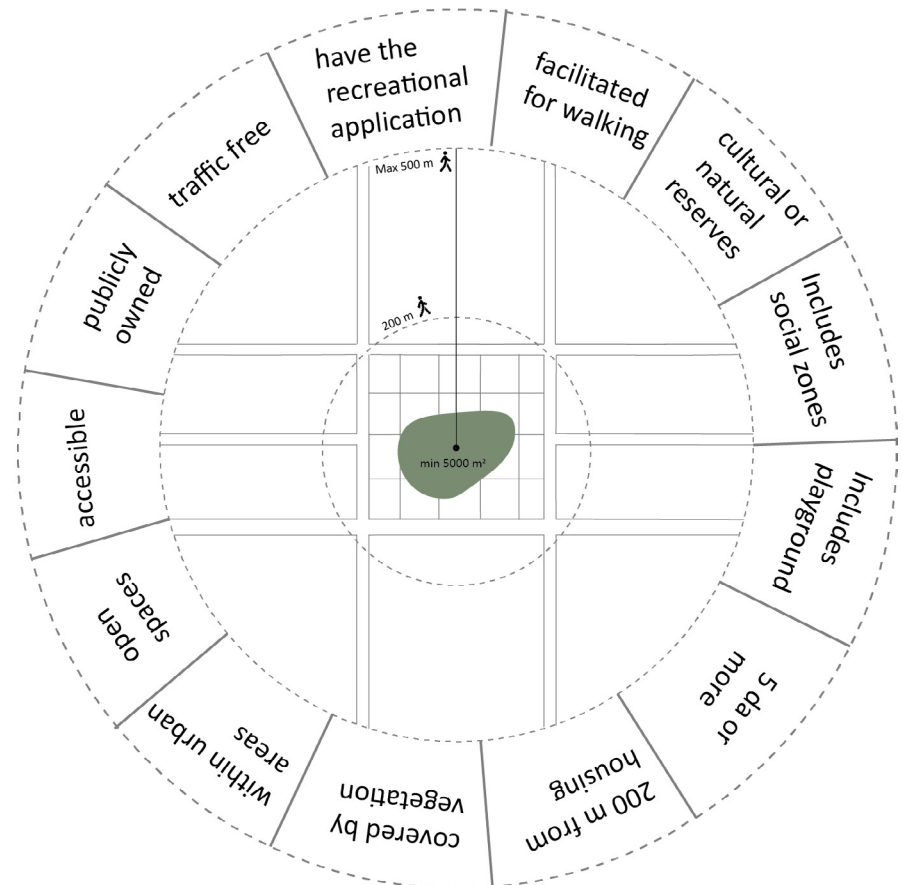


Figure 5. The proposed model for urban green space.

2.2. VALUE OF URBAN GREEN SPACES

Besides all the environmental benefits of green spaces such as positive effects on ecosystem services, improving microclimate, reducing air pollution, mitigating noise and biodiversity conservation (Mahmoudi Farahani & Maller, 2018), they influence human wellbeing significantly. Mahmoudi Farahani & Maller (2018) explain that green spaces demonstrate the quality of life in urban areas and provide a variety of benefits for both physical and mental health and wellbeing.

Contact with the green spaces helps to relaxation and restoration, enhances social capital, healing, evidence of mental health, improves functioning of the immune system, develops fitness and reduces obesity (WHO Regional Office for Europe, 2016).

This research has focus on urban green spaces which can invite people to physical and social interaction. It is important to create green spaces that comply people's need. To promote public health by exposing them to the greenery, it is also important to facilitate the neighborhood green areas so that people could walk or do other physical activity within the green spaces. Investigations show that Norwegian prefer walking in the outdoor area rather than other physical activity. To improve physical activities it is important to invest in planning and implementing green infrastructure in urban area. (Nordh, Vistad, Skår, Wold, & Bærum, 2017)

Other values of green spaces such as aesthetics, cultural heritage, social interaction and so on, could influence the attribute and preferences of people which is important in plan making (Ives & Oke, 2014).

Parks and open green spaces serve as meeting places, where people can experience nature and season variation, place identity and affiliation, as well as being physically active (Norge Miljødirektoratet, 2014).

3. PEOPLE IN URBAN GREEN SPACES

PEOPLE'S PERCEPTIONS AND PREFERENCES

PEOPLE'S PARTICIPATION IN PLANNING AND DESIGN

PARTICIPATORY APPROACH IN REFERENCE PROJECTS

3.1. PEOPLE'S PERCEPTIONS AND PREFERENCES

To create a successful urban green space where people would like to spend the time, it is important to have knowledge about the local people's demands. As green spaces are deliberate to promote citizen's quality of life, then people's point of view and their interaction with the green spaces have a significant effect on meeting green spaces. Variety of qualities specifies whether the green space is enough appropriate and satisfying to inspire people to spend the time there or not (Van Herzele & Wiedemann, 2003).

Appropriate design is one key factor for an urban green space to be either thriving or failed. In an investigation around the improvement of urban green spaces, people desired the proper "design" over other measures to achieve a successful green space. A good design will meet the people's demand, it is successful and it will face less management's difficulties (Dunnett, Swanwick, & Woolley, 2002).

To encourage people to meet green spaces and be physically active, it is necessary to raise the quality of the space as people desire. Gehl (1971) describes three types of outdoor activities in public areas. "Necessary activities" means going to school, to the work or waiting for the bus which one must be done in daily life.

"Optional activities" include all types of recreational, health and physical outdoor activities and "Social activities" contains all social

interactions in the outdoor environment. Gehl explains that necessary and social activities have little correlation with the quality of the physical environment, however, the optional activities are highly affected by that. It means that people, for instance, will rather choose to go or not to go to a green space if the quality of that is not acceptable.

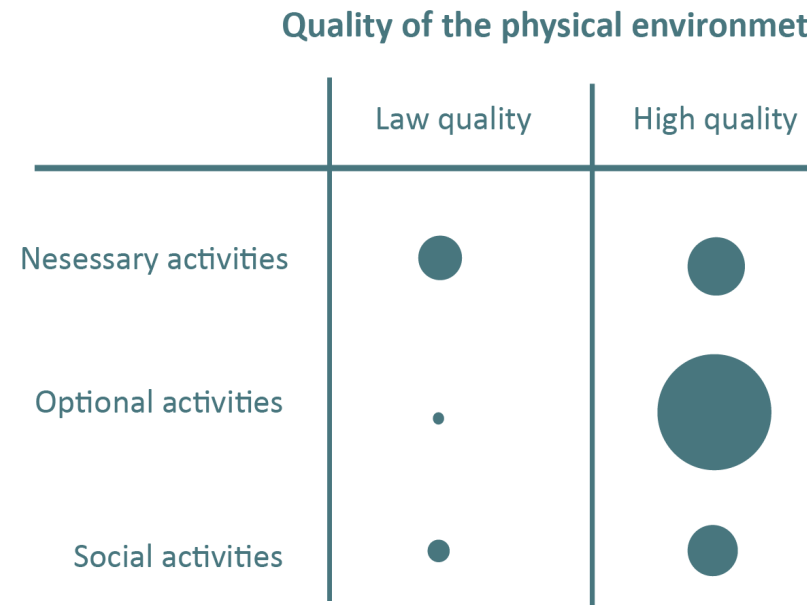


Figure 6. The context of outdoor activities and outdoor quality. (Gehl, 1971).

In order to have a green structure which provides attractive outdoor and physical activities, It is important to have knowledge of the population's use of areas and of preferences and demands of users (Norge Miljødirektoratet, 2014). Preferences and perceptions for green spaces is different from one place to another. people in Denmark (Coeterier, 1996) may have different preferences for green

spaces than people in Sweden (Grahm, 1991) or Korea (Lee & Kim, 2015). It is mostly because of cultural, environmental and social differences. Perceptions and preferences are related to each other and are about how users interact with space. While preferences are based on comparing two or more places. Perceptions indicate the feeling and impression one gets from an environment. People may not prefer to use green space if they don't have a positive perception on it. This applies even for accessible and available green spaces (Mahmoudi Farahani & Maller, 2018).

There is a close relationship between perceptions, preferences, individual characteristics and green spaces. Perceptions are affected by social, cultural, natural, safety, accessibility, and functional aspects. However different types of activities like recreational, exercise, children playground, Pet walking, socializing and restoration are factors which influence the preferences.

Individual characteristics like age, gender, cultural background, and ability status have a direct impact on perceptions and preferences of green spaces. (Mahmoudi Farahani & Maller, 2018)

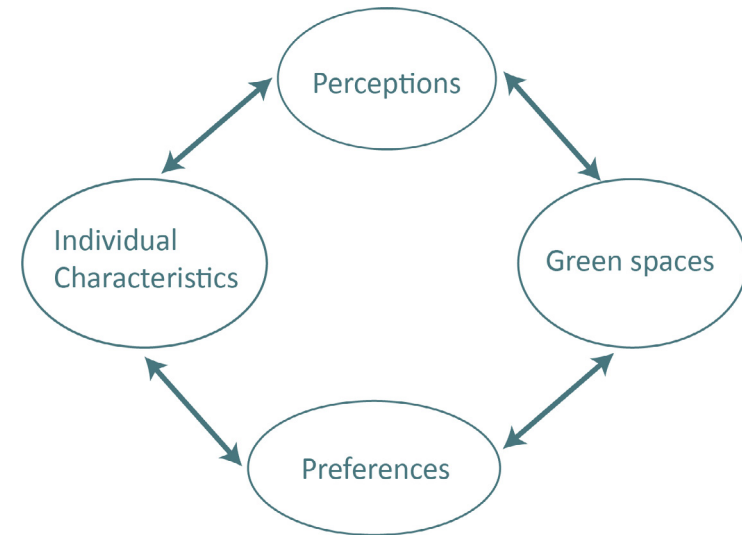


Figure 7. Framework of perceptions and preferences for green space. (Mahmoudi Farahani & Maller, 2018).

3.2. PEOPLE'S PARTICIPATION IN PLANNING AND DESIGN

One of the main goals of urban green spaces is to motivate people to be socially and physically active. Manzo & Perkins (2006) believe that participation in planning and decision making leads to more place attachments, place identity, sense of community, and social capital which promote the development of physical, social, political, and economic aspects of the community. Place attachment will motivate the residents to act collectively to preserve, protect, or improve their community which is a positive consequence of participation (Manzo & Perkins, 2006).

There is different grades of participation in planning and design of public places. The grade of citizen's participation in planning was illustrated in Arnstein's ladder in 1969. In levels 1 and 2 of the ladder citizens have no participation role. In levels 3, 4 and 5 citizens have this chance to be heard and get informed by those in power but they do influence the decisions. In levels 6, 7 and 8 the grade of negotiation, power, and impact decrease significantly to the highest level of citizen control (Meyer, 2011).

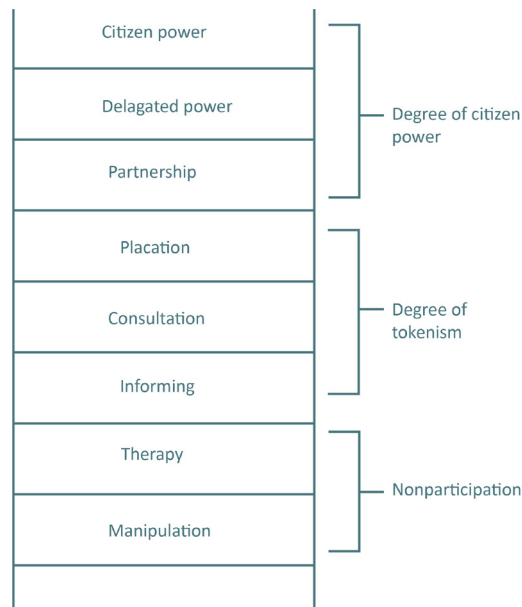


Figure 8. Arnstein's ladder for citizen's participation in planning. (Meyer, 2011).

In Norway however, there is a higher level of participation following Farner (2008). His participation stairs model determine the grade of citizen's participation from the lowest level, "Public access", to the

highest level of "Self-determination". In this model public involvement starts in very early steps in the form of information and communication. However, this level of participation does not seem to have efficient effects on final decisions until the highest level of participation namely "Co-determination" and "Self-determination" (Farner, 2008). The Planning and Building Law (Plan-og Bygningsloven) determines the participation as individuals and groups right to participate and influence the public investigation and decision making. This means that the population of society help to plan their future.

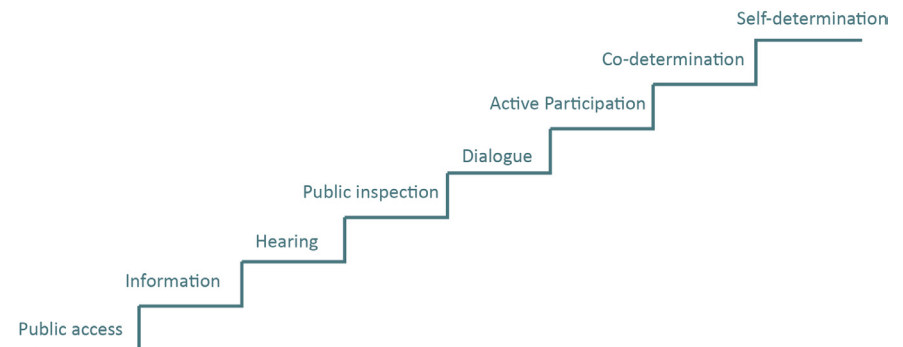


Figure 9. Farner's Participation stairs model in Norway (Farner, 2008).

Participation in planning process has a perspective on "Best possible plan", to ensure good solutions that take into account everyone's needs, facilitate that all interests can speak out , promote creativity and commitment, and being an arena for democratic participation in communities and provide a good basis for decision-making.

Participation is a fundamental prerequisite for local democracy and gives the population the opportunity to participate and contribute to better planning. The active role of the population in the planning and decision-making process is emphasized as important for preserving common values and basic living conditions in a sustainable society (*Kommunal og moderniseringsdepartementet, 2014*).

All groups of society who consider as users of a public place should have this opportunity to bring their ideas and desires in planning. Francis & Lorenzo (2002) emphasize that children and youth's interest in participation in urban planning have been increased among the decision makers and designers as well. Implementing a children's idea in the design of urban area makes it a more friendly and sustainable and better place for the children (*Francis & Lorenzo, 2002*). Participation will enhance the effectiveness of governance by improving the environmental quality of decisions. Participation on the decision has positive effects on environmental interests, provision of "lay" knowledge, development of innovative solutions, development of locally adjusted solutions, awareness raising among stakeholders, accommodation of interests and conflict resolution, the openness of the process and inclusion of veto players, perceived fairness of the process and social capital building (*Rydin & Pennington, 2010*).

Myer (2011) presents a variety of participatory planning and design methods including:

- focus groups
- study circles
- public forums and workshops
- newsletters, websites, blogs
- social media
- lectures and performances
- soliciting knowledge from advocates of non-participants
- story-telling
- including "photo-voice"
- graphic recording of conversations such as "mind" maps
- mapping
- exercises and community tours

Myer (2011) also defines a process for the participatory design which can apply to a variable range of public open spaces includes urban green spaces:

- Define the goal
- Choose the level of participation
- Manage expectations
- Invite participation
- Train and orient participants
- Create the design
- Evaluate and document the results

3.3. DISCUSSION AND CONCLUSION

The theory presents a definition of urban green spaces. This definition still seems to be indistinctive, vague or unclear for many urban planners. Do all the greenery in an urban base consider as urban green spaces?

The importance of clarifying this definition for this study is to understand which green areas people can use as socially, physically and health-promoting contexts, and which one is applicable to be developed by the participatory approach. Hence criteria like traffic free, located within urban areas, publicly owned, includes social zones and so on which are mentioned detailed in theory, define the characteristics of urban green spaces.

The most important consideration of this study is to create an urban green space where people would like to interact. Why is it important to increase the interaction of people with green spaces? The theory describes that green spaces not only have a positive effect on the climate, but they promote the social, physical and health in current urban contexts.

The question is how is it possible to increase people's interaction with green spaces since following Gehl (1971) these activities are optional and people are not obligated to do them. One solution is to ask them what they want and what they prefer?

People's preferences are affected by many factors like climate, culture, knowledge, gender, age and so on. A factor that is favored in Norway, may not be preferred in south Korea. This demonstrates the importance of knowledge about local people and their preferences in creating urban areas.

The level of people's participating in urban planning is different from one theme to another. In Norway however, the participatory approach is more applicable in early steps of the decision-making process rather than the higher level of the participatory stairs.

This study will demonstrate the applicability of using the participatory approach in the higher level of the participatory stairs. People will express their preferences in urban green spaces and they will evaluate the results. This type of planning and decision making is not common in the current urban planning process and this study will show the strength and weaknesses of applying this approach.

3.4. PARTICIPATORY APPROACH IN REFERENCE PROJECTS

In this part, three different cases from different parts of the world have been studied which all of them were designed and developed by participatory planning and design approach and all of them are related to urban green spaces. These projects have a clear and coherent participatory process where people have had a significant and central role in proposing functions, concepts, and ideas for developing the spaces. These cases will give a comprehensive view and understanding of the process and the methods of dealing with the participatory approach in design and developing urban green spaces.

1. INTERNATIONAL CHILDREN'S PARK, WASHINGTON

International children's park is a 0.2-acre neighborhood park which is located in the Chinatown-International District at Washington and was developed in the 1970s (Hou, 2008).

THEME

The park was suffering by lack of use which was due to poor visibility into the park and deficiency of flexibility for programming. In 2007 department of Landscape Architecture, the University of Washington in collaboration with WILD and Friends of International

Children's Park developed a participatory program to involve the local people and children in different ages to improve this quality of this local park.

PARTICIPATORY STAGES

The students applied different participatory methods and integration-al workshops such as visual survey, park design buffet and photovoice interview for adults as well as workshops for the children. The visual survey is a method where people can score the pictures that include the items that they desire to have on their public places. Design buffet also is a method where participants can collect their favorite materials and make a simple collage or model out of it on a map to show how they want the public spaces to look like.



Figure 10. Some pictures from participatory workshop for adults and children (Hou, 2008).

PARTICIPATORY PREFERENCES

The results of the workshops got documented and a list of the preferences got prepared which could help the designers to come with good solutions and ideas in design. These preferences divided into Program activities and program elements and children's preferences.

Program activities

- Socializing
- Places for dating and socializing
- Play area
- Sitting and walking zones

Program Elements

- Play equipment
- Lawn/grass (for multiple uses)
- Attractive planting: trees and flowers
- Lighting (for security)
- Culturally expressive elements

Children's preferences:

- Dragon
- Rocks
- Climbing trees
- Catching bugs
- Family play

PRIMARY DESIGN

The students did the spatial analysis to get a basic knowledge of the site. Then they divided into the 5 different groups and developed 5 different concepts based on their data of site analysis and participatory workshop. These conceptual proposals contain masterplans, 3D models and sections to illustrate their ideas. (Hou, 2008).

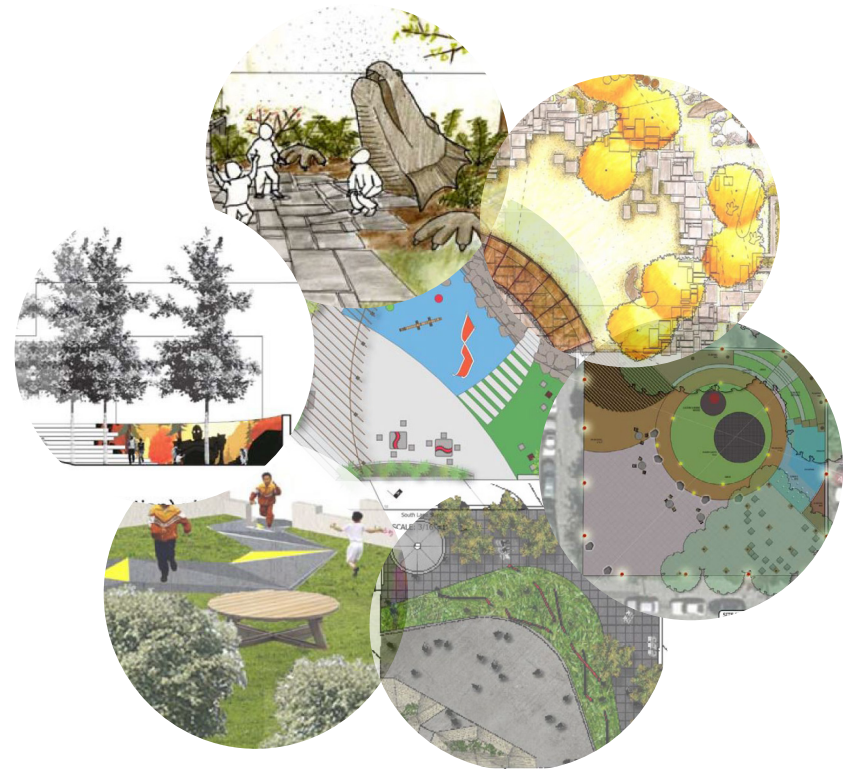


Figure 11. Some of the conceptual design proposals (Hou, 2008).

PARTICIPATORY FEEDBACK

The second participatory approach is getting feedback on design ideas. People and professionals got invited in an open house to comment and vote the ideas and express their preferences about each concept.

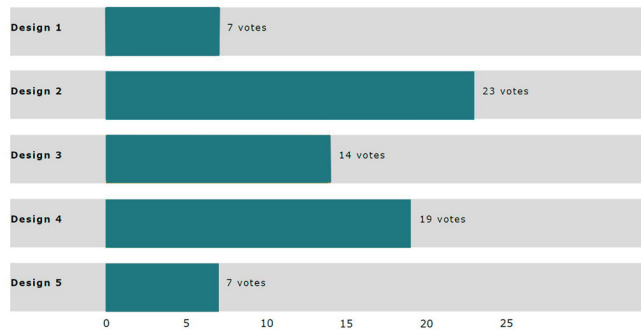


Figure 12. Results of participatory feedback (Hou, 2008).

FINAL DESIGN

The students developed and improved their idea into 3 new concepts which were based on feedbacks and comments. These alternatives got presented to the professional developer for further process.

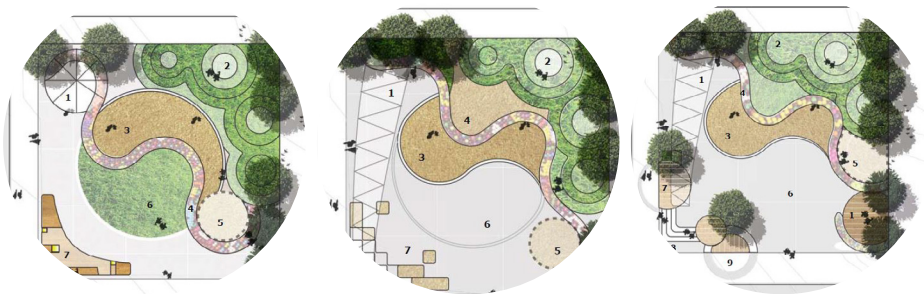


Figure 13. The alternative designs based on participatory feedbacks (Hou, 2008).

2. TELEKI SQUARE , BUDAPEST

Teleki square is one of Budapest's oldest urban squares, located in one of the city's extremely deprived neighborhoods. It has an area of 14 000 m² and became rehabilitated by a Ujirany landscape architect group who applied the participatory process to design the area (Ujirany, 2013).

THEME

Teleki square is one of the most successful urban spaces revitalization examples in Budapest which took advantage of a community-based planning process. In 2013 the square transferred from a useless and left urban place to a vital, lively green place which assumes as an important neighbourhood park today (Faurest, 2016).

PARTICIPATORY PROCESS

The purpose of the participatory process was to involve the residents in the design and creating their own neighborhood park. The series of workshops during 10 weeks had been run and they were open for all the interests to come and express their promises and ideas. In addition, social media like the facebook page of Teleki Square served as a communication method to firming the interaction between the people and the designers. (Ujirany, 2013).

PARTICIPATORY PREFERENCES

People wanted a multifunctional green area where they could use it all over the year. They wanted a public area for all the ages and groups of users where it offers different activities like:

- Playground for different ages
- Event place
- Dog park
- Day time forum
- Green areas with flowerbeds
- Reading zone



Figure 14. Participatory workshop in Teleki square (Architectforum.eu, 2013)

PRIMARY DESIGN

The conceptual design idea took place of the triangular shape of the square which became divided by the paths and created different rooms and spaces for required functions and activities in the workshop (Landezine, 2015).

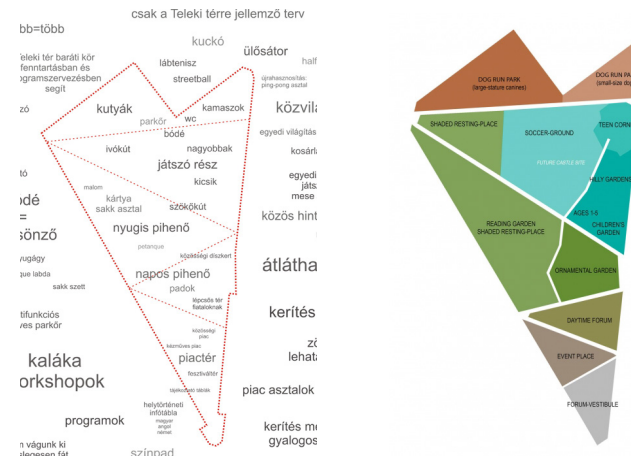


Figure 15. The preference map on the left and the conceptual design on the right (Architectforum.eu, 2013).

PARTICIPATORY FEEDBACK AND FINAL DESIGN

The community planning process occurred in 12 meetings over two months and it was a close engagement of neighborhood teams to come with the final design proposal. The feedback process happened parallel during the whole design process.



Figure 16. The final masterplan on the left and the completed square on the right (Architectforum.eu, 2013).

3. VERDENSPARK IN OSLO

Verdenspark is located at Alna district in Oslo and it is one of the Norway's parks which was developed by the participatory method. In 2008 a cooperation between the state and the municipality of Oslo aimed to improve the environment and living conditions in Groruddalen and improving the green area was one of the initiatives (Voldstad, 2009).

THEME

Overall strategies for the area promise included “developing the appropriate meeting places”, “working for attractive, safe and inclusive living contexts” and “developing local management and local engagement”.

PARTICIPATORY PROCESS

The designers and planners used the “Participatory learning and action (PLA)” method in order to allow the people to influence the process, facilitate equal dialogue, creating space for exchanging views, talking, listening and prioritizing, . In this method, the planner arranged various meetings with people of different ages and background to obtain information, ideas, and suggestions to develop the park. The participants could design, talk or discuss the ideas freely (Voldstad, 2009).

The main goal of participation through this approach was:

- Facilitating equal dialogue
- Creating space for exchanging views, talking, listening and prioritizing
- To allow the participants to influence the process

The participatory process followed as so:

- Participatory meetings
- Receiving ideas
- Sketch the master plan
- Second participatory meeting
- Receiving the feedbacks and correcting the masterplan
- Resketch the masterplan
- Discuss the final product in participatory meeting (Voldstad, 2009).



Figure 17. Participatory workshop (Voldstad, 2009).

PARTICIPATORY PREFERENCES

It gathered a long list of various ideas and suggestions from different groups of participants. Some of the ideas were as below:

- Sports areas
- family Area
- Exhibit space
- Seating zone
- Flowers
- basketball
- Dance
- Artificial turf
- Community-Cafe
- Swimming pond
- Amfi
- Skating
- Parkour Park
- Recreation
- Grill Area
- Tennis court
- Playground
- Climbing wall

PRIMARY DESIGN

The conceptual design was based on functions like the spor, play area, family park, water park and park with flowers and greenery and it divided the park into 3 main parts:

A: world square

B: The Landscape park and diagonal road

C: The square, sports square, the activity area

PARTICIPATORY FEEDBACK AND FINAL DESIGNS

The conceptual design was proposed to the participants to get the comments and evaluate the weaknesses and strength of the proposal. The results showed that the design idea was generally accepted by the people, however, some small changes happened like moving the location of the pavilion. The allè, diagonal road and creek, crossroads, the flower path, sports, squares, gathering, the youth field, Parsell gardens, the light forest, the great terrain society, parkour parks, and the fruit forest are among the programs that were considered in the final design (Voldstad, 2009).

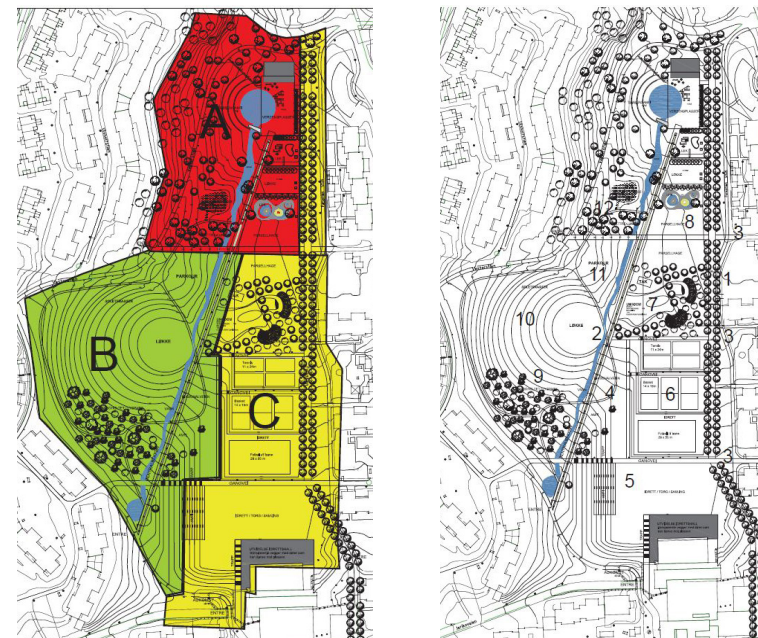
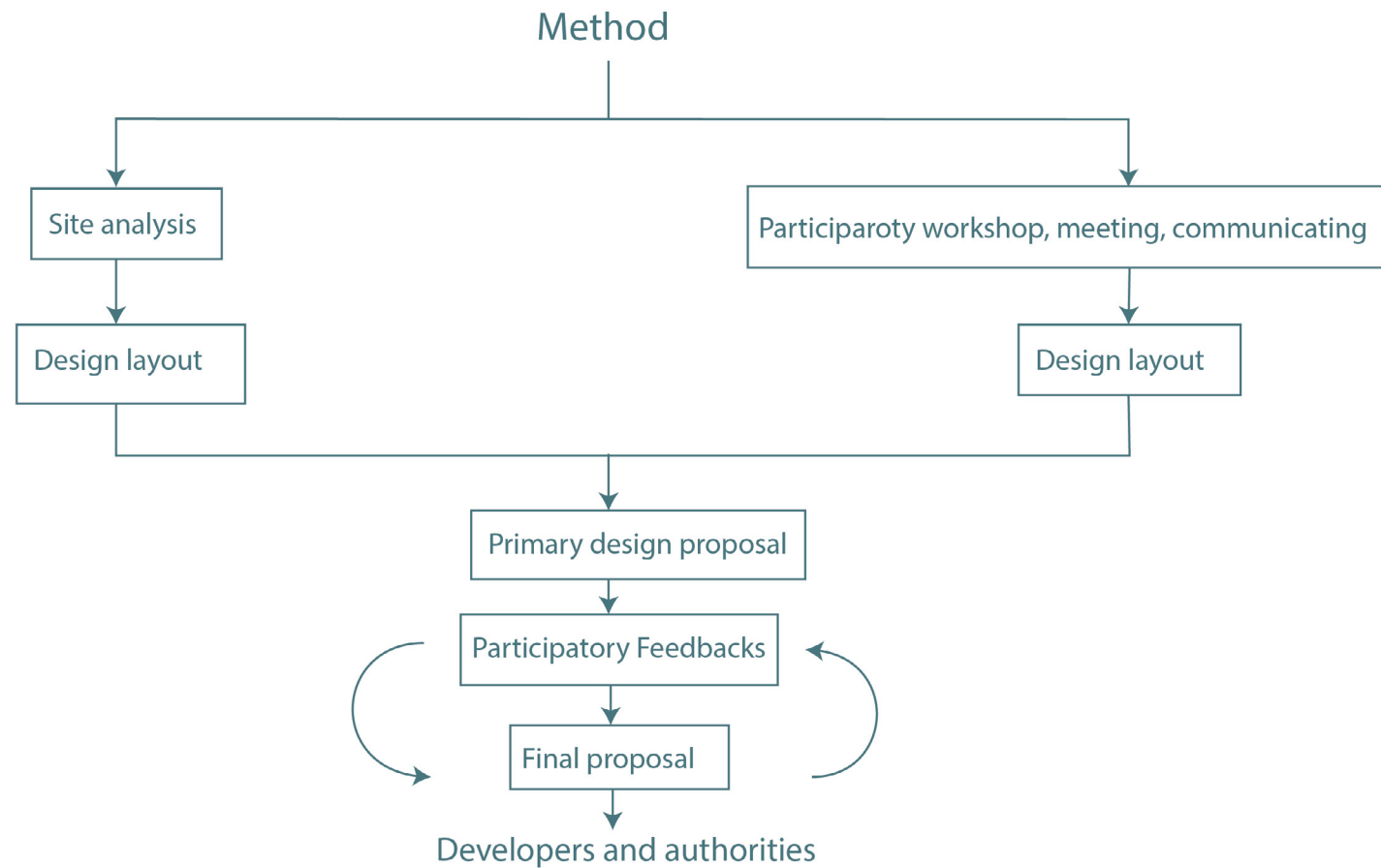


Figure 18. Conceptual design (left) and the final proposal (right), (Voldstad, 2009).

3.5. RESULTS OF REFERENCE PROJECTS

Goal → creating urban green spaces for people

Approche → Participatory in design and planning



4. SITE ANALYSIS

CASE STUDY, LERVIG PARK IN STAVANGER

VISUAL AND LANDSCAPE ANALYSIS

DEVELOPMENT HISTORY

OVERALL PLANS

FUNCTIONS

ACCESSIBILITY

BLUE-GREEN STRUCTURE

MICRO CLIMATE

DEMOGRAPHY AND POPULATION

DESIGN LAYOUT BASED ON SITE ANALYSIS

4.1. CASE STUDY, LERVIG PARK IN STAVANGER

Lervig park is located in Storhaug district in the East part of the Stavanger municipality. This area is an empty land among the surrounded blocks which mostly have housing and mixed-use function. The municipality has the plan to develop this area as a park by 2022. The total area of the study site is about 17500 m² which makes it one of the biggest urban parks in Stavanger (Urban sjøfront, 2019).

The reason for choosing this area as a case study is that it is in compliance with the constituents that determinate an urban green space in the theory part. Lervig park has an area above 5 da, it will be traffic free and accessible by walking less than 500 meters from the neighborhood.

In addition, It is an open space within the urban area and will be publicly owned. the other factors, however, are the aim of this study to reach in the design part. These items are including playgrounds, social and cultural zones and a facilitated place for walking and physical activities.

The earlier plan of this area was housing and a small green area which had been changed the function to a bigger urban park that provides more greenery and outdoor activity for the local people.

The new park is part of a project related to the area promoting of Storhaug district and will contribute to creating good public space in the local community and increasing the local and social involvement (Urban sjøfront, 2019).



Figure 19. Location of Lervig park in Norway, Rogaland county and Stavanger.

4.2. VISUAL AND LANDSCAPE ANALYSIS

Lervig park is part of a filled land with a foundation of stone and gravel and its topography is rather flat since the area initially meant to be developed for building purposes. However, its topography level goes gradually up from the seaside to the Ryfylkegata street. This different is 6 meter from the sea level.

General landscape of the area is characterized as an urban waterfront which is sounded by buildings. The buildings around the park give a compact and urban scenery to the area. However the park is located near to the sea, but the future

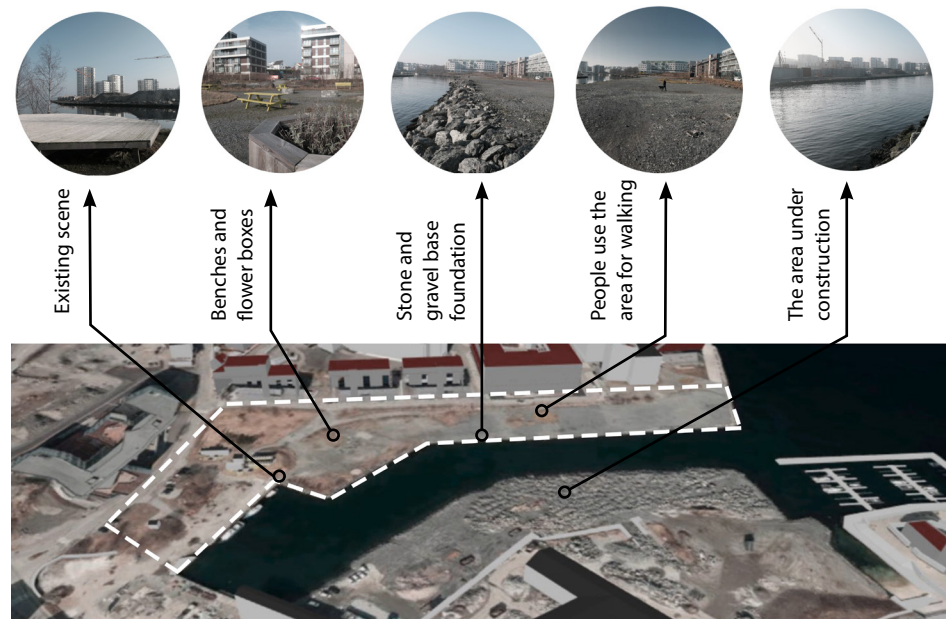


Figure 20. An illustration of the current status of the Lervig park.
Source of the map: (3d.kommunekart, 2019)

developments like more buildings and the fire station will reduce the seaside impression of the area. The surrounding blocks have mostly 4-5 floors but the highest blocks in the Lervig brygge area have more than 15 floors.

Inside the park, there are some self-grown plants and some flower boxes and benches which are implemented temporarily. However this area is not facilitated as a park, the neighbors use it constantly for sitting, walking or passing through.

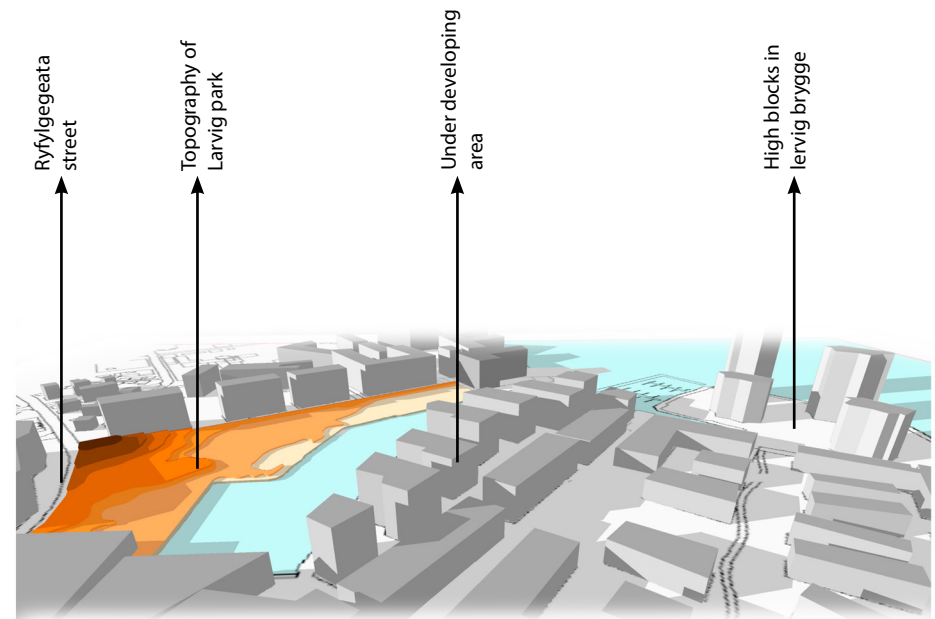


Figure 21. Landscape of Lervig park.



Park area

Section A-A sc 1:3000

Park area

Section B-B sc 1:3000

BUILDING HEIGHTS

- + 10 floor
- 8-10 floor
- 6-7 floor
- 4-5 floor
- 3 floor
- 1-2 floor
- The sea
- Study area
- 1:3000



4.3. DEVELOPMENT HISTORY

Until 1880, the Lervig area was under agricultural use. After that, it becomes a big industrial area mostly related to fish and meat productions. In the 1980s there were some plans for new investment in industry and business activities at Lervig area, but it moved to Forus area and Lervig stayed fallow and free of any business activities for a while. At this point, the owners of the canned factory "Norrig", took the initiative to fill in outside of the main factory. The fillings in Lervig was continued until today. Most of the planned Lervig park will thus lie in the filling area as well (Urban sjøfront, 2019).

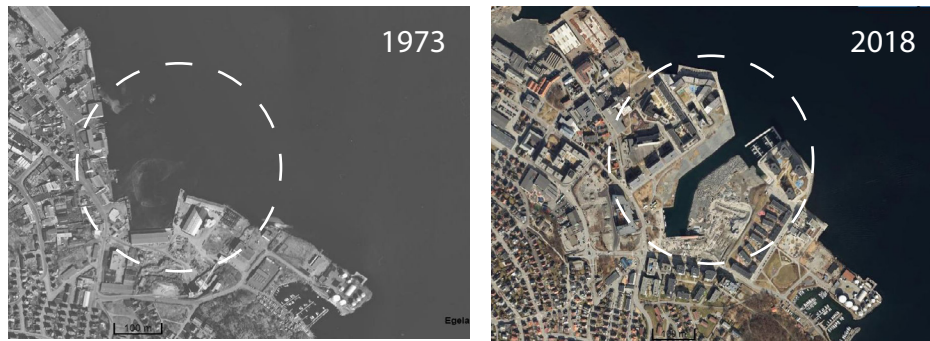


Figure 22. The historical development of Lervig area, (FINN kart, 2019)

4.4. OVERALL PLANS

The Municipality's plan description for Lervig park defines the park as a recreational place for all type of users which provides physical

activities for adults and play areas for the children. It must have a universal design and it is allowed to implement small buildings and facilities in order to increase the visual or functional qualities of the area. The promenade must be publicly available and it must be part of the walking network. The quay should be accessible and open for emergency boats and it must be designed in a way to fit the rest of the park (Stavanger kommune, 2016).

The regulation plan determines the new Stavanger fire station at the south part of the park. Regarding this, the quay in this part must be considered as a fireboat station (Fylkesmannen I Rogaland, 2018). At the west part of the site, a new primary school is under regulating as well (Stavanger Kommune, 2019).

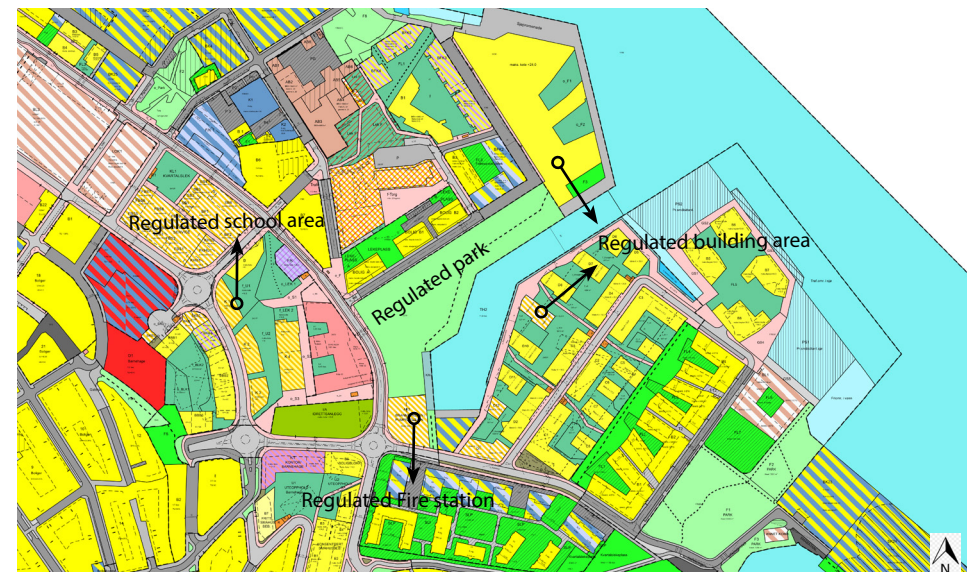


Figure 23. Regulation plan of Lervig area. (Kommunekart, 2019). sc:1:10000

4.5. FUNCTIONS

The study area is mostly surrounded by housing and mixed-use buildings which are partly under development and more buildings is regulated to be built in the future. There are other functions like offices, daily shops, services and kindergarten in Lervig area as well.

One of the most important functions is the elderly house which is located on the west part of the park. It demonstrates that the elderly should be considered as a major user group of the park.

The fire station and a primary school are under planning to be built at the area as well. The nearest café in this area is located under the Lervig elderly house, but there is other cafe and restaurants at Storhaug area as well.



Figure 24. Some of the functions at Lervog area .

The other function which is important to consider in the design process is the playgrounds. The number and the accessibility of the exciting playgrounds can affect the quality of implementing a playground inside the park. The maps show that there are atleast 24 big and small playgrounds for children between 1-16 years in this area which is a high number for this limit.

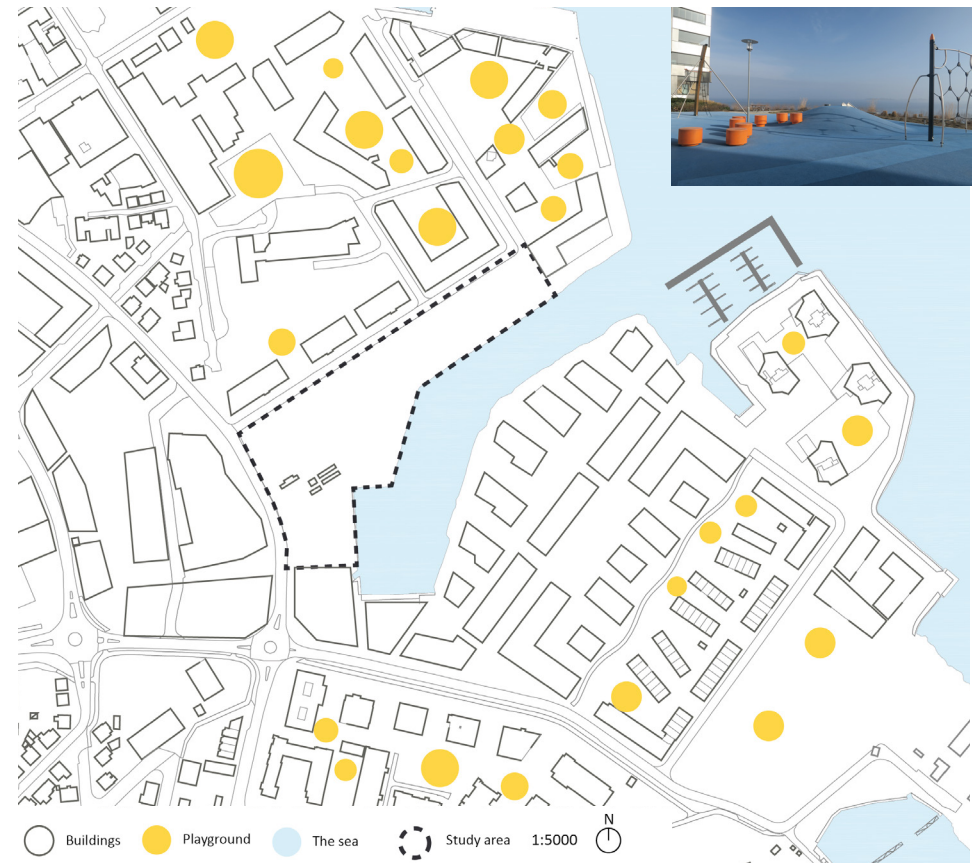


Figure 25. Illustration of distributing the playgrounds at Lervig area.

FUNCTIONS



- Residential
- Educational
- The sea
- Study area
- N
- Servises
- Mixed use
- Public servises
- Industrial
- 1:3000

4.6. ACCESSIBILITY

Lervig park is located in a dense residential area and it is accessible for neighborhood within 500 meter walking. Observations showed that the most common walking path through the park is from Siriskjeret blocks where people use the area for walking or taking their pets out. The access from the Lervig brygge area is blocked currently because of the construction activities, But it will be an open promenade which connects this area to the park.



Figure 26. Neighbours have a good access to the park by walking in 500 meter.

From the elderly house and the future coming school in the west part of the park, there is Ryfylkegata street which may consider as a physical barrier for the elderly and the children to enter the park. There is no registration of the average daily traffic (ÅDT) in the study area, however, Ryfylkegata street had an average of daily traffic of 2067 in 2011 (Vegvesen, 2019).

To facilitate the access of these groups to the park it has to plan some traffic barriers to reduce the car speed and create a safe environment for pedestrians.

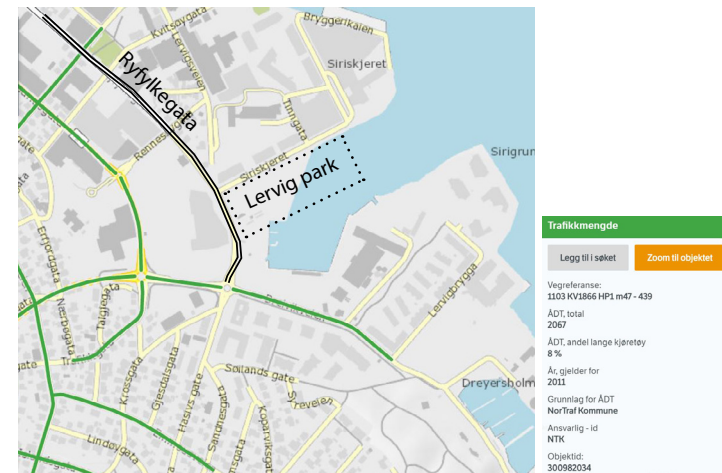


Figure 27. Average of daily traffic (ÅDT) in Ryfylkegata Street. (Vegvesen, 2019)

When it comes to access by public transport, the study area has good coverage of access by bus within 500 meters walking from the park. The optimal distance to the bus stations by walking is about 500 or less (Uteng & Voll, 2016).

The public parking, however, is very limited in Lervig area and they are mostly for private users and the public parking at the edge of Siriskjeret street have a limited time to be used. Lack of public parking may make the park less attractive for people who must use the car to get to the park. However, it can be a positive motivation for walking, cycling or taking the bus.



ACCESSIBILITY

Siriskjeret mixed use area

500 meter

500 meter

Lervig brygge residential area

Lervig mixed use area

Lervig Elderly house

Fire station

- Buildings
- Road
- Public Parking
- 500 m Distance
- Walking access
- Sea
- Private Parking
- Bus station
- N
- 1:3000

4.7. BLUE-GREEN STRUCTURE

The study area is located near the sea and therefore it has a waterfront quality. However, the water in this part is not very wide and it is similar to an urban river or water canal. Its width changes from 38 meters in the east to 72 meters in the west part. Currently, there is an open view of the sea from the park area which during the future developments part of it will be hidden back of the buildings.

The water is accessible because of the low height level difference which is less than one meter in some spots. On the other hand, stones which are the main fundamental materials of the park, create natural stairs toward the water. Since the sea has very little flow in this area, the reflection of the buildings to the water makes a nice urban scenery.



Figure 28. The stone stairs and water reflection in Lervig park.

There is no registered data about the water quality of the Lervig area in case of swimming or water play, but following the municipality and

Urban sjøfront, the water in Lervig area is polluted by sewage and it is not appropriate for water activities.

The park area is generally free of planted vegetation except for some self-growth plants and some grass spots. The sand and stone foundation of the park can be challenging in case of planting the vegetation.



Figure 29. A picture of grass spots in Lervig park area.

The green structure in the rest of the area, consists of small green spots distributed between the blocks in the residential area. There are four other parks near the study area. At the south part, there is a new built urban park called "Breivik park" which consists of open lawn areas, benches, and playground. The other park in the south side is "Egeland Diskgolf park" which has a forest landscape with more trees and shrubs.

At the north side, there are two other urban parks, "Sjøparken" and "Lervigtunet park". Sjøparken was built in 2010 and contains grass, trees and natural trails and view towards the sea. Lervigtunet park is newly restored and it is a simple nice green area for sitting or walking.

BLUE GREEN STRUCTURE



- Buildings
- Public green area
- Private green area
- sea
- Study area
- 1:3000

4.8. MICRO CLIMATE

Lervig area is quite windy and the wind blows generally from North-East side of the park. This side of the park is open currently, but the future developing will partly prevent the wind explosion by building. However, more buildings will create a wind tunnel which may be challenging for stay and recreational purposes and even for suggesting different outdoor activities.

Sun and shadow study shows the portion of daily shadow in Lervig area on the 10th of September. It shows how the high buildings around

the park can affect the sun exposing which is important for instance for planting the vegetation. The maps show that the buildings are standing in a proper distance from each other and they will not have a significant affection for developing a green area.



Figure 31. Wind and sun-shadow map

4.9. DEMOGRAPHY AND POPULATION

Lervig is a district in growth in the East part of Stavanger. From 2011 to 2019 the population of this area has been increased from 2055 to 3668. This growth is particularly among the population of adults (ssb, 2019). This research has considered the Lervig area as “Breivig”, “Nylund 2” and “lervik 1” zones which are in connection with the study area.

To understand the local people’s demand for design a green space it is important to have knowledge about their household situation and demography scope. The data from Norway statistic center “ssb”, shows that Lervig area is among the residential areas with the lowest number of children and teenagers and the highest number of adults.

More than 35% of the population are among 30-50 years old. This number is higher than the norm in Stavanger. The average

population for young adults between 25-30 years old is as well higher than the average in the Stavanger region. On the other hand, the population of teenage between 16-20 years old is significantly lower than the Stavanger region. The population of children and resident elderly are lower than the whole Stavanger .

The household data from ssb shows that Lervig area had a high number of lonely living people with a range of 58% of the total population in 2011. This number is significantly high compared to Stavanger which had a number of 20% living alone. These data show that the number of couples without children is higher than couples with one or more children at home (ssb, 2019).

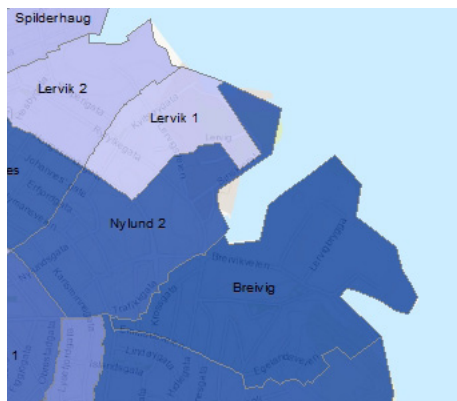


Figure 32. Demographic zones of Lervig area. (Llopis Alvarez & Müller-Eie, 2019)

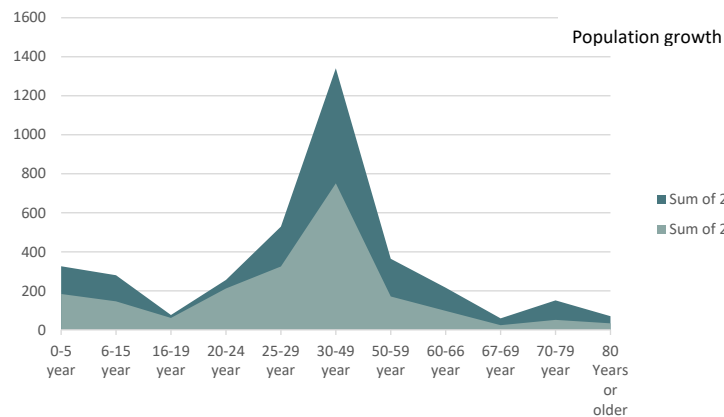


Figure 33. Population growth in Lervig area from 2011 to 2019. (ssb,2019).

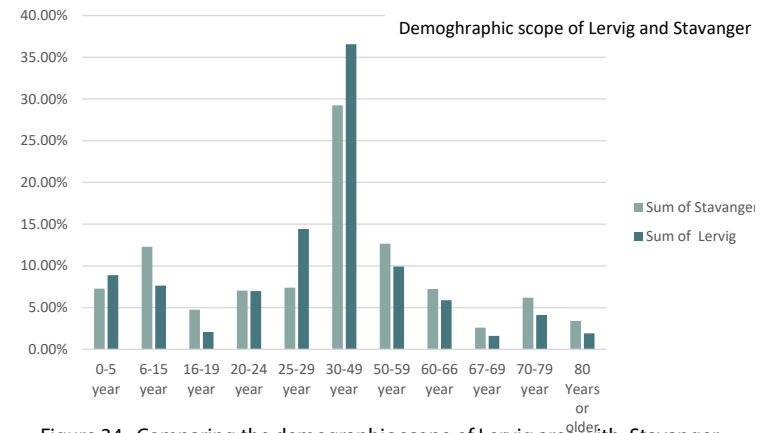


Figure 34. Comparing the demographic scope of Lervig area with Stavanger. (ssb,2019).

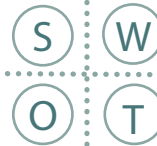
4.10. SWOT ANALYSIS

- The location of the site is central and accessible to neighbors.
- The topography of the area is rather flat and easy to develop.
- The closeness to the water gives it the waterfront quality.
- Many other playgrounds at the area decrease the necessity of building a big playground inside the park.
- Park is accessible by walking in the neighbor area.
- The public transport is accessible.
- The connection of this park with other green spots and Blåpromenade make an attractive walking path.

- The site is empty and no there is no barriers in the design process.
- The location of the park in a housing and mixed-use compact area make it a popular gathering place.

- The foundation of the land is made of stone and sand which is a challenge for future planting.
- The lack of public parking lots in the area makes it less accessible.
- The quality of water is low and many water activities are not allowed to be implemented.
- The area is exposing the wind most of the time.
- Demographic growth in this area shows the higher number of young adults compared to the number of children or elderly. This requires special planning and decision making in design.

- The future developments like housing and fire station decrease the quality of the park as a calming, open zone.
- The park is located between two streets and it is a challenge for the access of users spatially children and elderly to the park.
- The quality of water is not appropriate for swimming or water play.



4.11. DESIGN LAYOUT BASED ON SITE ANALYSIS

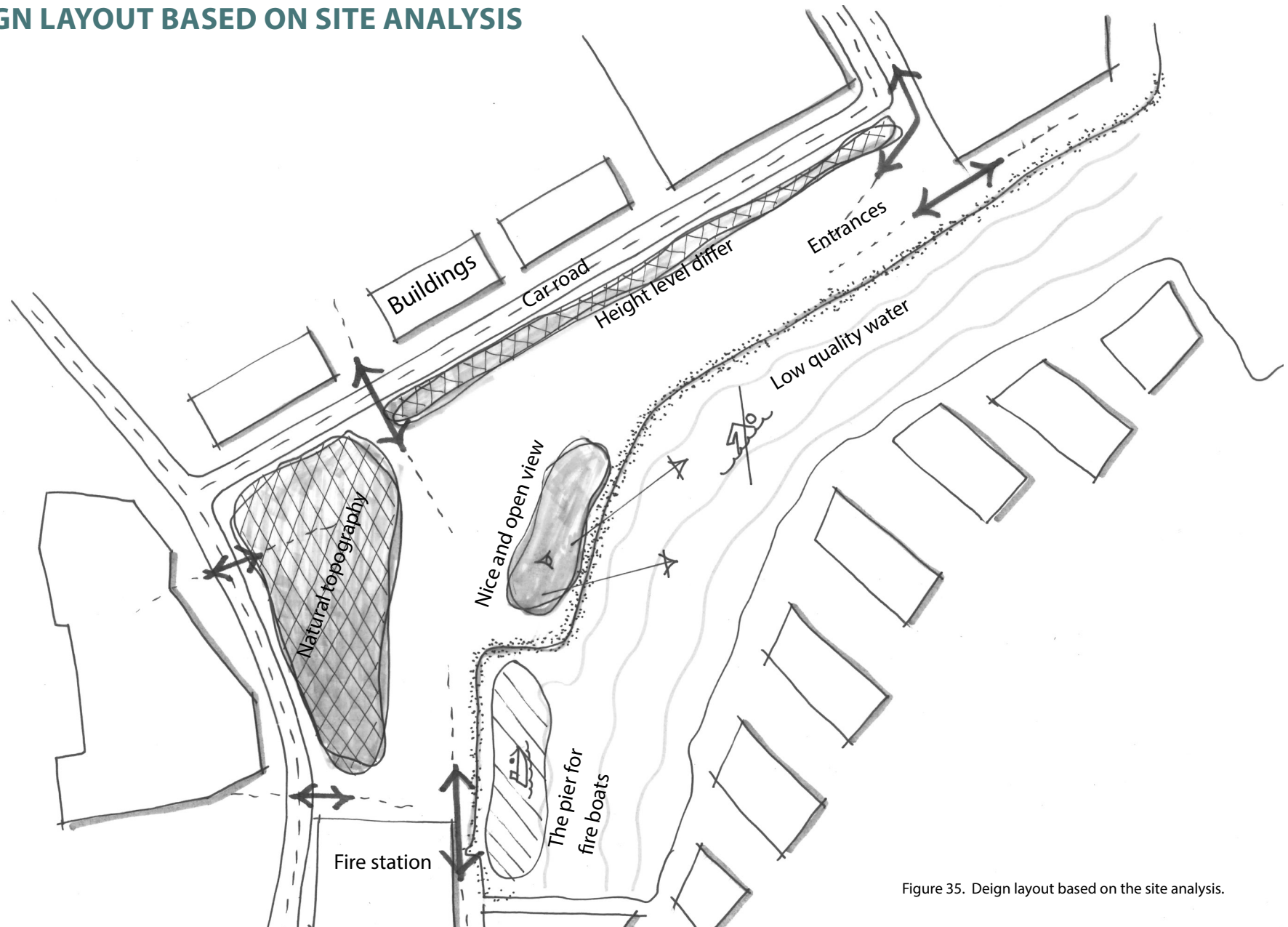


Figure 35. Deign layout based on the site analysis.

5. PEOPLE'S PARTICIPATION IN DESIGN OF LERVIG PARK

ADULT'S WORKSHOP

CHILDREN'S WORKSHOP

DESIGN LAYOUT BASED ON WORKSHOPS

5.1. ADULT'S WORKSHOP

In 15th of January 2019, about 120 people participated in a workshop at café Sjøsiden in Stavanger to share their ideas with the municipality and other authorities about the future coming Lervig park. This meeting was arranged by Stavanger municipality, Urban Sjøfront and Storhoug district council (Storhaoug bydelavis, 2019) and the idea was to understand people's preferences in choosing activities and place-making of Lervig park.

To avoid conflict with privacy concerns, organizers decided to keep the registration of participants voluntarily. Among the registered participants, 39 people were neighbors, 10 persons participated from the Stavanger municipality, 4 persons came from local businesses and 17 joined from other interests (Nessa, 2019).

The workshop started by informing the participants about the background of this project, the history of the site and municipalities approaches and timeline for implementing the park. A booklet with more information about the workshop and example pictures of other parks distributed among the participants to get more idea about the process.

Then The participants divided into 16 groups and they were asked to make models out of the prepared materials and they were asked as well to think freely and to be creative. They could draw, make a model on

an A3 master plan of the park and write down their ideas to show their proposals more clear. To record and documenting the outcomes in the form of models and notes, a photographer took pictures of all the final models and notes and a report was written to register and analyse the results (Nessa, 2019).



Figure 36. The workshop about Lervig park. (Nessa, 2019).

ADULTS PREFERENCES

- Sitting places
- Boccia play
- Sand volleyball
- Old, younger and children area
- Hedge
- Climbing wall
- Recreation
- Stairs to the top of the fire station
- Canned theme
- Bouldering wall
- Vegetation
- Trees
- Sheltered
- Scene and stage
- Floating restaurant
- Footbridge
- Promenade
- Bench and table
- Café
- Dock
- Hill and terrain
- Tuftepark (Training park for adults)
- Fire station as "Tobias i tårnet"
- Amfi with roof
- Fruit trees
- Berry bushes
- Pedal boats
- Kayaks and canoe
- Grilling place
- Pump to circulate the water
- Connection to the Tou scene park
- Stairs for sitting
- Grilling
- Simple as Lervigtunet
- Walking path
- Stairs to the water
- Lightning along the walking path
- Sculpture in the water with lights
- Flower along the walking path
- Sunbed
- Walking path to the top of the fire station
- Benches with roofs
- Sand basketball
- Colorful vegetations
- Keep the exciting trees
- Creative play
- Bike stand
- Biking road
- Outdoor Sauna
- Fountains with lightning
- Marketplace
- Attachment to the Blåpromenade
- Underwater Glass tunnel to the Lervig brygge
- Electric boat to the city center
- Lightning to create a safe place in the evening
- Colorful play equipment
- Adjustable benches to the sun
- Daily use on focus
- Accessible
- Fishing with grandchild
- Mini-pitch (ballbingen)
- Fire station should have parking under the ground
- Remove existing warming stations
- Utilize the warm from stations in the park area
- Hammock
- Domestic animals
- Skate park
- Football
- Onsen (Japanese pool)
- Chess table
- Flowers which attract insects, bees
- Slides for children
- Colorful lightning
- Pergola
- Connection to the nursing home and schools
- Appropriate transition to the fire station
- Shielded eating, staying space
- Raw boat
- Universal design for all groups of people
- A peaceful and calming area
- Beneficial plants
- Place for ferries
- enclosed warm swimming pool
- Labyrinth
- Water circulation
- Training park on the fire station roof
- Oyster farm
- Tennis, badminton
- lying benches
- Outdoor cinema
- Swimming pool for the whole year
- Site layout

COMMON PREFERENCES

The models show a variety of concepts, activities, and facilities that people wanted to have in the park. Most of the people wanted to have a calm and green park with a universal design that all groups of user can use it. They prefer a park which is alive all year round and offers different opportunities and activities.

Some of the participants were eager to show how the new fire station has to be integrated into the rest of the park. Stairs to the roof of the station and implementing a café on the top of it are some of the suggestions. The models illustrate also that biodiversity is important for the people so that they want a variety of greenery like fruit trees, berry bushes, and flowers which attract insects. They want as well to have close contact with the water and propose activities like swimming, fishing, and stairs to the water.

People desire to have an open promenade which connects the park to the rest of Stavanger promenade, "Blåpromenade". Facilitate the park for walking and cycling is among other common proposals. Sitting places and benches toward the sun were also mentioned frequently. People wish to have amfi, scene, and shelter to use them in different social activities.

The color seems to be a missing element in a neighborhood environment which people want to have it in the park's furniture or vegetations. Lots of models show a bridge from Siriskjeret to the Lervig brygge to connect these two areas to each other. Participants desire to have green space with activities like training instruments for adults, football, volleyball or basketball courts for all the user groups.



Figure 37. Some of the models that participants had been made in lervig park's workshop. (Nessa, 2019).

PROGRAM ACTIVITIES

Among the list of preferences, there are activities that people have chosen to have in the park. Most of these activities are suitable for adults and they include Sand volleyball, Climbing wall, Training for adults, Boccia, Bouldering, Pedal boats, Kayaks, and canoe. However other activities like a creative playground, Mini-pitch, fishing dock, Skate, Football court, Chess table and swimming pool can be used by children and youth as well. Some other activities like bonfire place, walking and cycling path and marketplace are usable for all group of users.



Figure 38. Superior Program activities.



Figure 39. Superior program elements.

PROGRAM ELEMENTS

There is a long list of elements that people would like to have in Lervig park which most of them are related to greenery and vegetations, for instance, bushes, trees especially fruit trees and berry bushes, colorful flowers and flowers which attracts insects.

Other items are related to sitting and stay areas which include bench and table, amfi, stairs to the water, hills, dock, stairs for sitting, benches toward the sun, open promenade, sunbed, scene and stage, shelter, hammock and pergola.

5.2. CHILDREN'S WORKSHOP

In January 2019 an invitation was published in Aftenbladet about participating the children in the design of Lervig park. In this announcement, children were invited to draw their dream park and challenge the authorities to think more exciting and creative (Aftenbladet, 2019).

In addition, Urban sjøfront arranged a workshop for children in age 7-12 to make sculptures, decorations and other activity elements for their dream park in Lervig. Children got to make sculptures by colorful clays and other accessible materials in addition to draw their ideas. The workshop was leading by Nina Molven who was behind "Princess Ingrid Alexandra's sculpture park" in Oslo and "Fargefabrikken.no" (Nessa, 2019). Some of the children even draw their ideas and explained what they want to have in the park. All the products become recorded by photos and writing the notes.

CHILDREN PREFERENCES

- Climbing wall
- Slides
- Pig (house)
- Bridge
- See saw
- Fire place
- Skate park
- Grass
- Flowers
- Climbing pyramid
- Trees
- Wooden tent
- Dinosaur
- Hammock



Figure 40. Princess Ingrid Alexandra's sculpture park. (Fargefabrikken, 2019)



Figure 41. Children workshop for Lervig park.

FEASIBILITY OF PROPOSALS

Among the list of suggestions and preferences, there are a variety of items which are not feasible in this scale of the park to be implemented. Some of these items are for instance floating restaurant, glass tunnel under water, stairs to the top of the fire station, bridge over the water, big bouldering or climbing walls, outdoor Onsen, Sauna and Café inside the park.

Economical reason and costs, scales, maintenance, location and accessibility for more users and creating physical and aesthetic barriers are among the reasons that in this study assume as not variable to be considered in the design part.

5.3. DESIGN LAYOUT BASED ON WORKSHOPS

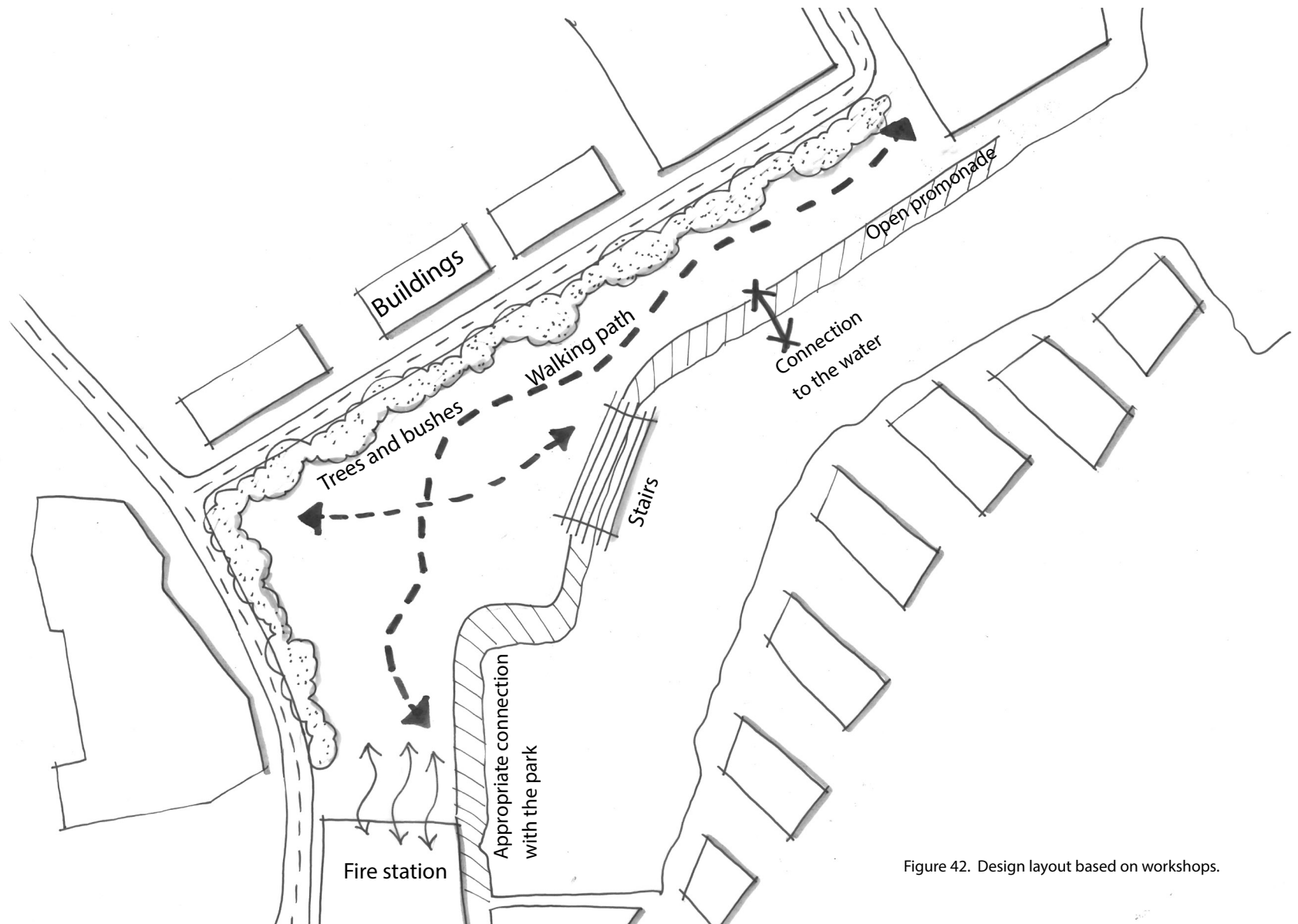


Figure 42. Design layout based on workshops.

6. PRIMARY DESIGN PROPOSALS

DEVELOPING THE CONCEPTS

PEOPLE'S FEEDBACK ON DESIGN CONCEPTS

FINDINGS FROM THE FEEDBACK

6.1. DEVELOPING THE CONCEPTS

The next step of the participatory approach in the design of urban green spaces based on the theory, is proposing design ideas to the participants. Both the spatial analysis and the workshops gave two essential design layouts which overlaying of these two layouts gave the primary design proposals in this study.

The Idea of primary design proposals is to create one or more master-plans and illustrations that demonstrate the activities, elements, and spaces. These design proposals will be shown to the users of the park and other interests and professionals. This will give useful feedbacks and recommendations in order to produce the final product. The feedback will help to find out the strength and weaknesses of the primary proposals as well.

In this study, two separate design concepts have been developed. The first concept is **“The gardens”** and it has a focus on biodiversity and bringing different plants, textures, and spaces to the park.

The concept provides a green space with varied activities for all the group of users. Walking, sitting, playing and training are the main activities in this concept. Comparing to the other concept, this alternative has clear zones and spaces which brings different walking and stop points to the park. The sitting spaces in this concept are mostly along the edges of green spots, as well as in front of the water. Stairs to

the water are another element for connecting the park to the water.

The garden concept consists of three main zones:

- Nature garden
- Seasons garden
- Motion garden

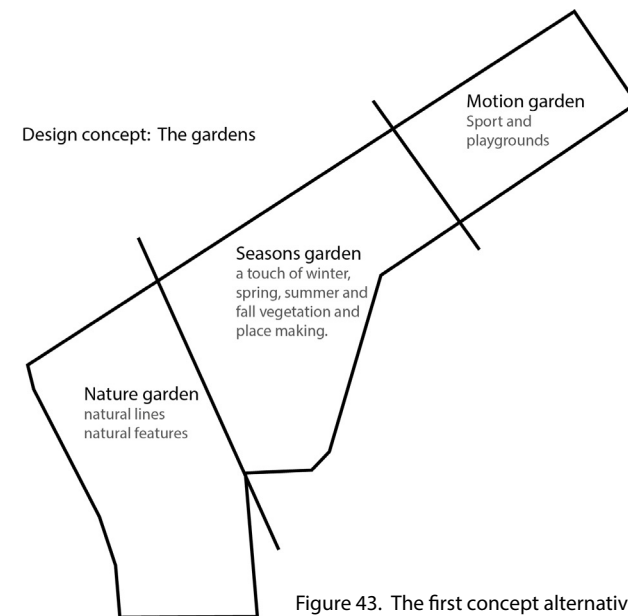


Figure 43. The first concept alternative , the gardens.

Nature garden is placed at the west part of the park which already has natural terrains and topography. The lines in this garden are organic and the spaces and vegetations reminds the forest landscape. This area is meant to be a calm and peaceful part for walking and sitting. A bocchia court and benches are placed in this part to provide an activity area for adults and the elderly.

Seasons garden is a combination of trees and plants which shows the season's change and express different colors and patterns during the year. In the winter garden, evergreen plants are the main elements to bring the greenery to the park during the winter.

It has designed as a big open scene near the water with wooden benches to give a place for gathering, standing or sitting. The floor cover material in this part is different from the rest of the park to reflect the scene or stage quality.

Spring garden is a plaza with the row of cherry trees which provide colorful and beautiful sight during the spring season. This garden is a place for stay, sitting or gathering. Summer garden includes the different fruit trees and lawn to bring the summer feeling to the park. The autumn garden, however, is an open grass space with a shape of a leaf which consist of sculptures that children made in the workshop and could be used as playground.

The motion garden includes the activities and plays for children and adults. A sand volleyball, a training zone for adults and climbing equipment for the younger is placed in this part.

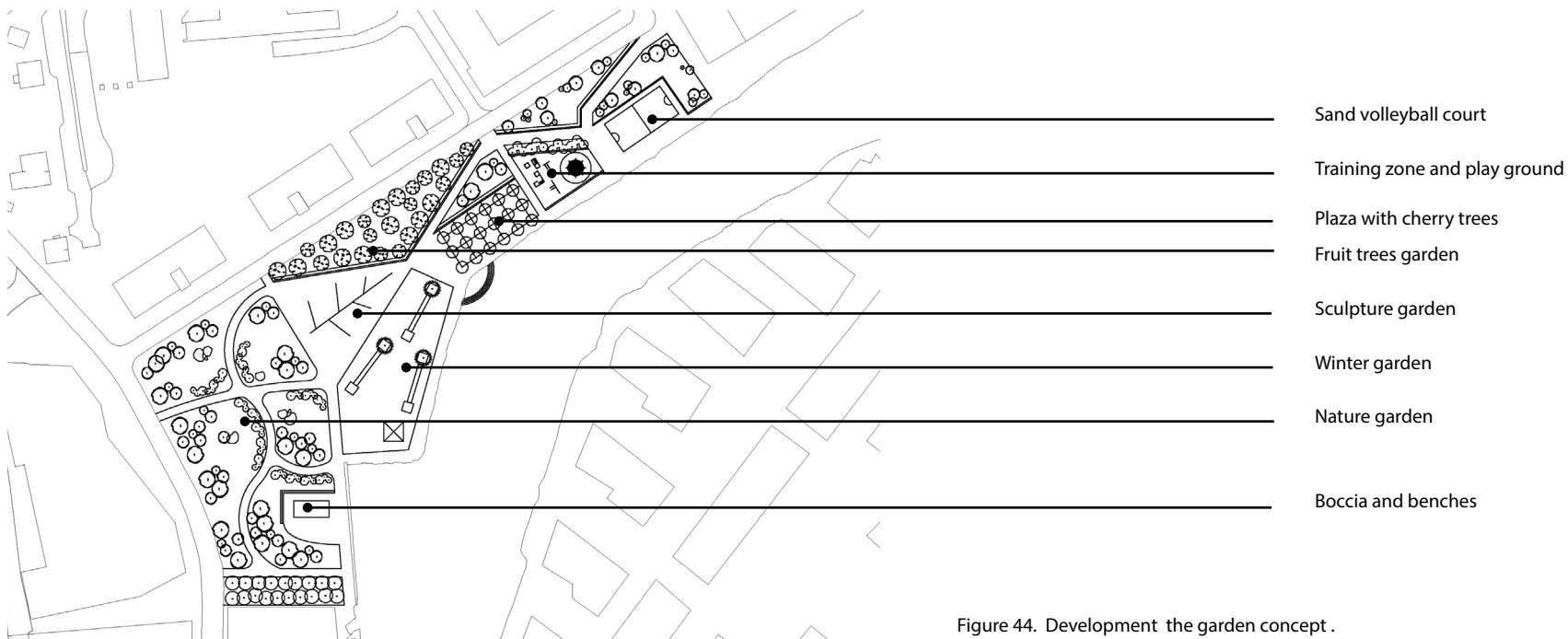


Figure 44. Development the garden concept .



Program activities:

- Sand volleyball
- Training zone
- Playground
- Boccia

Program elements

- Wooden benches
- Fruit trees
- Flowers
- Stairs to the water
- Biodiversity
- green
- Sculptures

Figure 45. Illustrating of people's preferences in the garden concept.

MASTERPLAN

Design concept: The gardens



Lervig elderly house

Ryfjellvegata street

Nature garden

Scallop shell play

Wooden bench

Boccia

Fire station

Fruit trees

Cherry trees

Evergreen tree

Stairs

Training zone

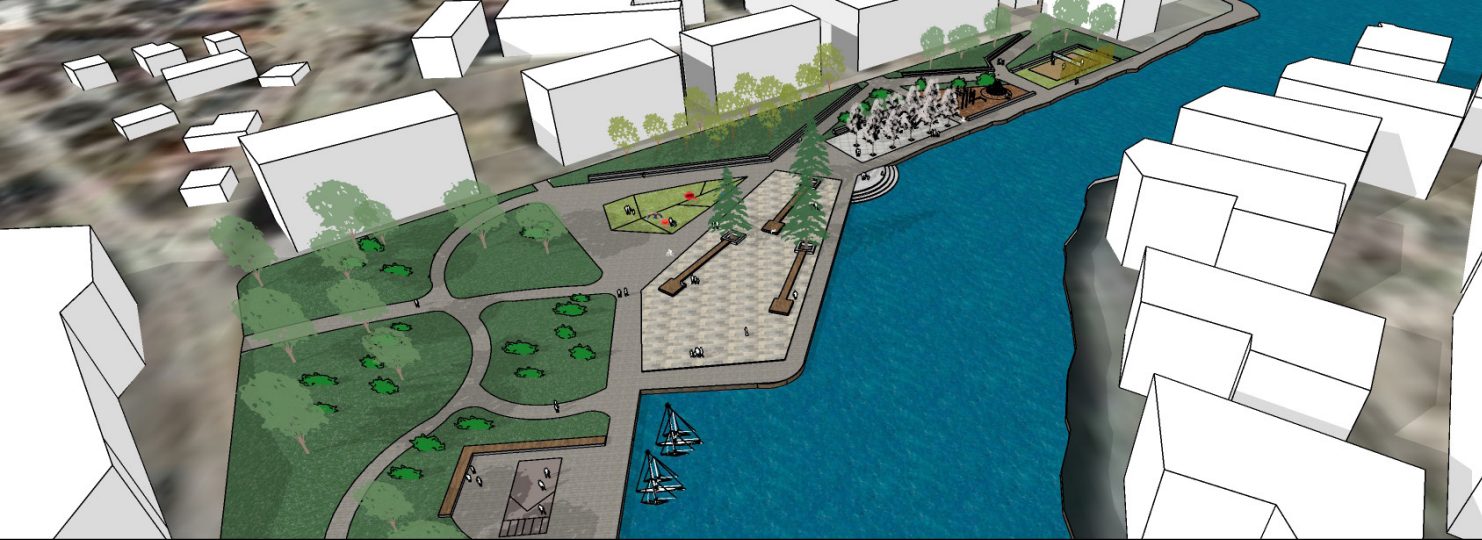
Climbing

Sand volleyball

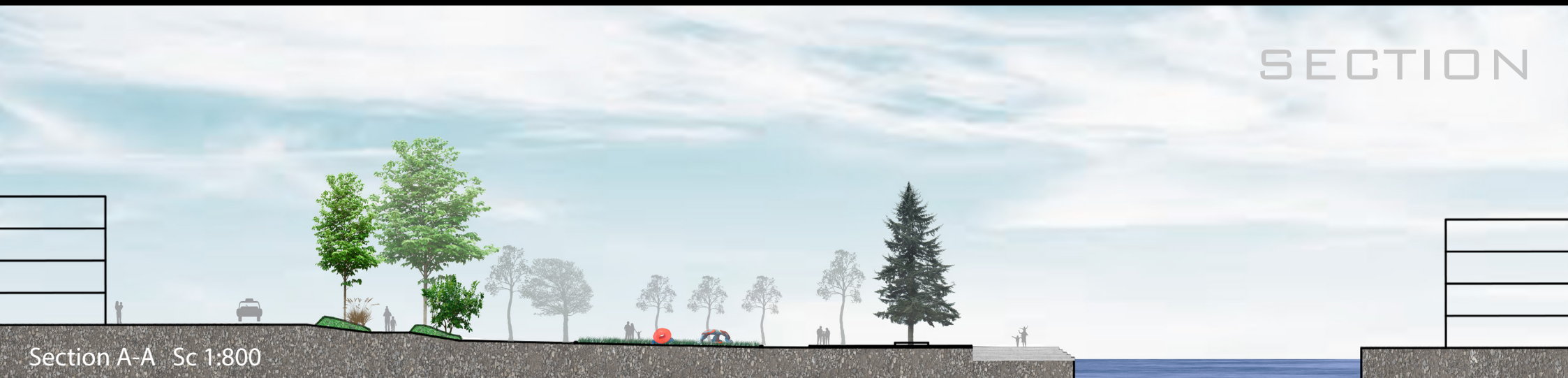
Siriskjeret street

SC: 1:1000





SECTION



Section A-A Sc 1:800



The second design concept is called **“The life”** and the principle of this idea comes from the diversity of generations of users and the existing elderly house, residential area and new coming school and kindergarten. The life is a pass of childhood to the adult age and through the elderly and this concept applies for the park as well.

This concept has focused on activities for different ages and provides spaces for children, adults and elderly in divided zones. However, these zones are not as obvious as the first alternative. The life concept is a green park with paths, places for stay and sitting, play area, an amfi and a wooden stair along the water have been proposed. This concept includes three main zones:

- Childhood zone
- Youth and adults zone
- Elderly zone

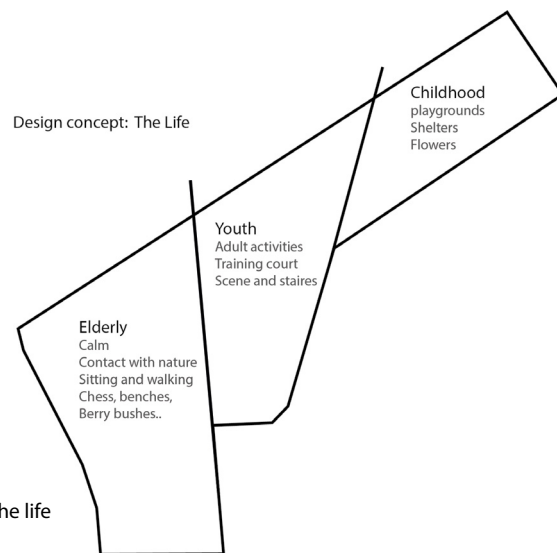


Figure 46. The second design concept, The life

The childhood zone is located in the east part of the park and it provides different activities and elements for the children, such as a wooden shelter, a grilling place, flower box, playground, and sculpture park.

The youth and adult zone is a space for training and playing sports like football or basketball. It provides sitting places both in the form of wooden stairs in front of the water and an amfi with a view to a fountain.

The elderly zone is a more calm and peaceful area with walking and sitting places, benches and chess tables. The berry bushes and fruit trees placed in this area to be accessible for the elderly who may like nature more than other groups.

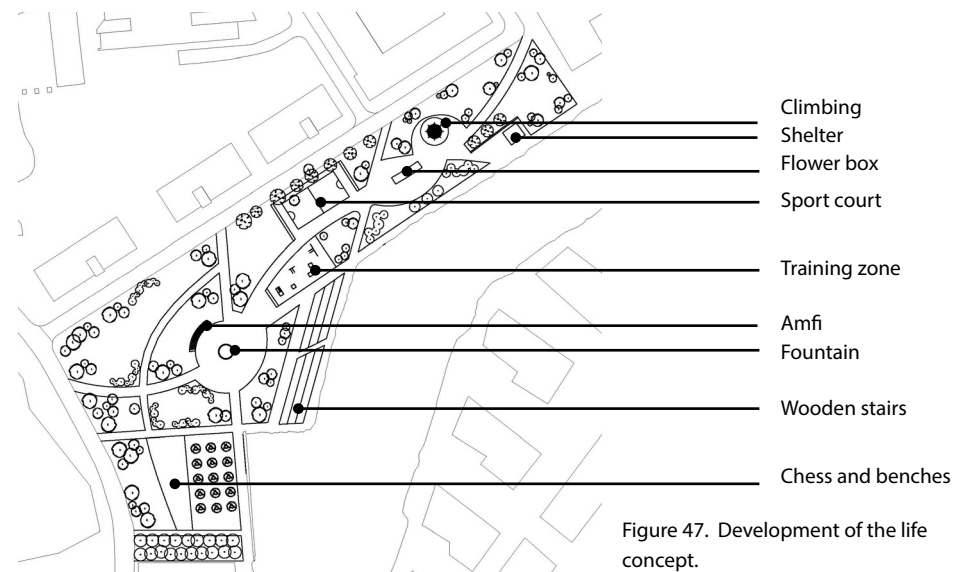


Figure 47. Development of the life concept.



Figure 48. Illustrating people's preferences in The life concept

MASTERPLAN

Design concept: The life



Siriskjeret street

Ryvågata street

Lervig elderly house

Fire station

Chess & Benches

Amfi
Fountain

Training zone

Multisport

Wooden stairs

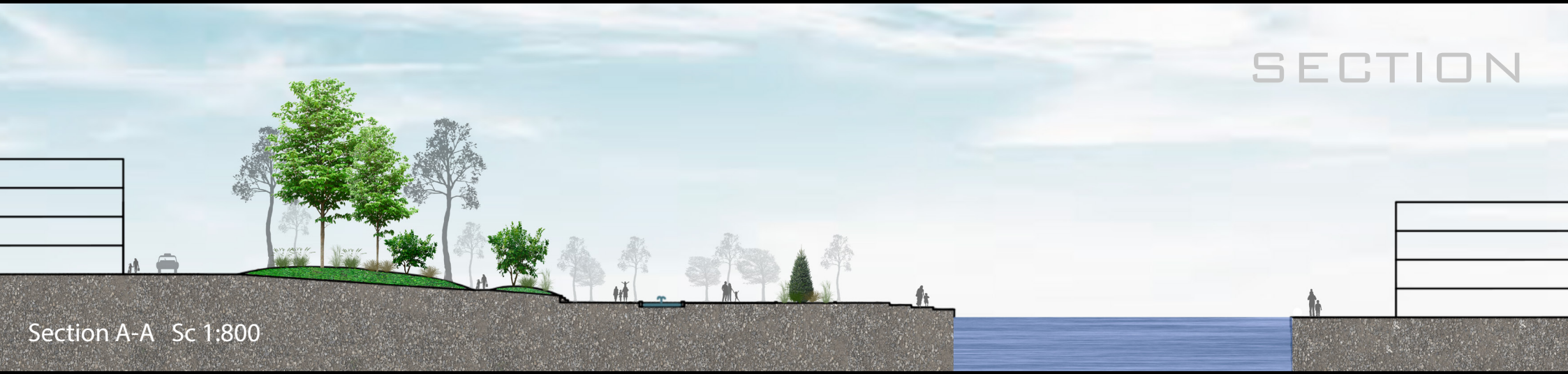
Playground

Shelter

Sculpture

SC: 1:1000





Section A-A Sc 1:800



6.2. PEOPLE'S FEEDBACK ON DESIGN CONCEPTS

The qualities that urban green spaces provide for the users have a direct effect on associating the people with those areas (Van Herzele & Wiedemann, 2003). A proper design which considers people's demand can lead to a successful and attractive public area (Dunnett, Swanwick, & Woolley, 2002). There is a variety of methods for getting reliable feedback from the users and stakeholders. The International children's park project in Washington, had an open house approach to get feedback from the public (Hou, 2008). In the scale of this research however, it was time-consuming and difficult to gather people in one place to evaluate the results. Alternatively, two parallel products got prepared and presented to the neighbors and interest to assess the responses and comments.

The first product was a **visual survey**, consists of pictures and the two design concepts where interviewees had to answer the questions and express their thoughts about the proposals. Image material assessment is a common method in environmental psychological studies where people are asking to judge the pictures and rate them by their preferences (Halvorsen Thorén & Nordh, 2012).

The second product was a **3D animation** of the proposals which were made in Sketchup program and could illustrate the area in a more clear way. The visual survey consists of brief and coherent questions

that challenge the informants to imagine themselves in the area and chose the pictures which is more desirable. The questions ask about the form and materials in the park, the grade of greenery, spaces, furniture, patterns, and elements. Following that, the two design concepts have been presented and illustrated by 3D pictures, sections, and masterplans. To give a better understanding of the space, the two short animations have been shown to the interviewees as well.



Figure 49. A 3D animations of each concept were showing to the participants in order to give a coherent understanding of the design ideas.

Most of the feedback interviews have done during April holidays, while the weather was fortunately warm and people in the Lervig area were outside enjoying the sunny days. It provided a good opportunity to have a deep conversation with people who were more interested in planning the Lervig park. Totally 32 peoples participated in the feedback process.

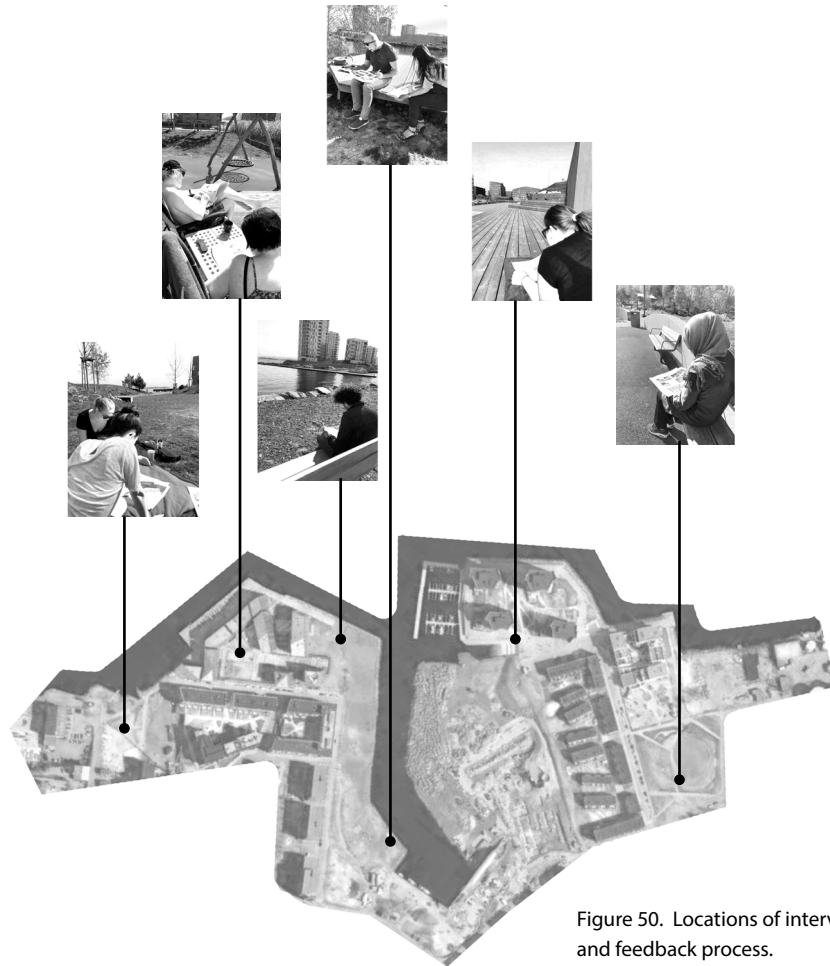


Figure 50. Locations of interviews and feedback process.

6.3. FINDINGS FROM THE FEEDBACK

During the visual survey, people were asked to choose a picture which reveals the level of greenery they would like in Lervig park. The pictures illustrate a hard surface with some trees, a less hard surface which is divided into different levels and contains more greenery, and a very green garden with trees, bushes, and lawn. The result shows that most of the participants prefer a park with the highest grade of greenery.



Figure 51. Result of the visual survey about the level of greenery on Lervig park.

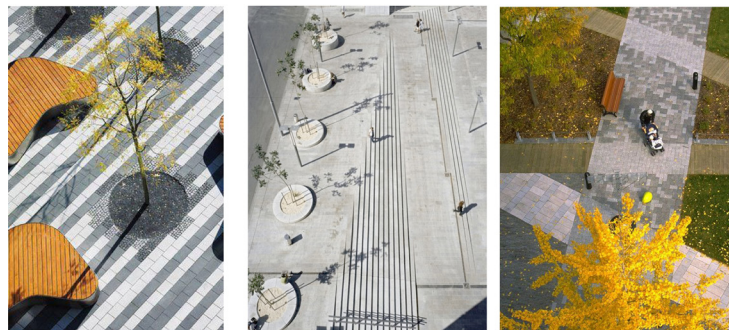
In order to select a cover surface in the final design and see either natural or artificial surfaces are desirable by the people, three choices presented to the interviewees. One of the pictures shows a park with gravel paths, another one has asphalt cover and the third one has pavement cover. The result shows that most of the people prefer the pavement rather than the other options. The reasons were mentioned as more beautiful and cleaner surface, comfortable to walk or cycle on and the pattern.



7 2 23

Figure 52. Result of the visual survey about the surface material preference.

The next question is about the variety of surfaces. It is important to know whether people prefer a simple area with pure colors and forms or they would like variable patterns. One alternative shows a pavement with the patterns, the other one shows a simple cover, and the third one shows a mixture of patterns. The result demonstrates that people prefer mixture patterns and it was noticed that Lervig park needs to provide more color and textures in that solid and free of colors area.



8 4 20

Figure 53. Result of the visual survey about the surface pattern preference.

Another concern in designing the green areas is to know which type of spaces people prefer inside the park. Either they prefer a very green and garden type park or an open park with natural elements like stones for sitting. Alternatives provide as well an option which shows a plaza with sitting places and grass hills which give variety to the park. Results show that the elderly prefer the very green park with lots of trees and bushes, however, the majority preferred pictures that people were around. The topography was a desirable element in the park as well.



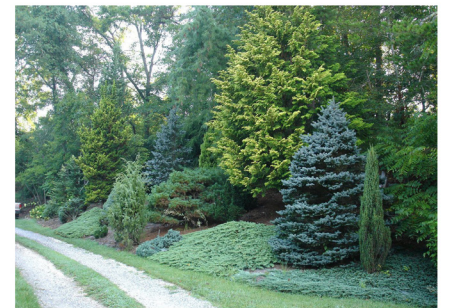
8



10



12

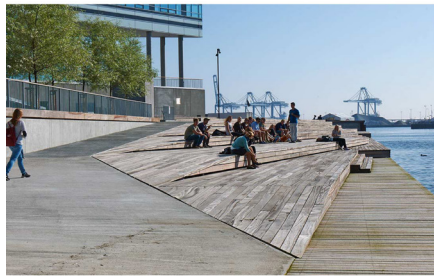


2

Figure 54. Result of the visual survey in choosing the spaces.

Among the preferences in the workshop, the sitting stairs which connect the park to the water was mentioned frequently. It is therefore important to know which quality of sitting stairs is more desirable for people. The three alternatives propose wooden stairs, concrete stairs which has a near contact with the water and stone stairs with trees and benches.

The result shows that most of the people prefer wooden stairs which were mentioned as the best material in Norway weather and more beautiful and comfortable. Some others like the idea of connecting stairs to the water.



25



5



2

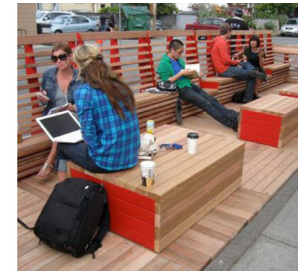
Figure 55. Result of visual survey in choosing the sitting stairs.

Another element that was important for the participants in the workshop, was sitting places. People wanted benches that are comfortable to use especially during the sunny days. Another consideration was the color of the benches and their shape that ease seating in groups.

In the survey 3 alternatives were presented to the interviewees that each one covers one of the criteria. The result shows that most of the people choose the wooden lying-sitting benches. However, the group sitting and the colorful benches were interesting for some other as well. It was mentioned by an elderly couple that for them it is important that benches have lean so that they can sit and rest.



3



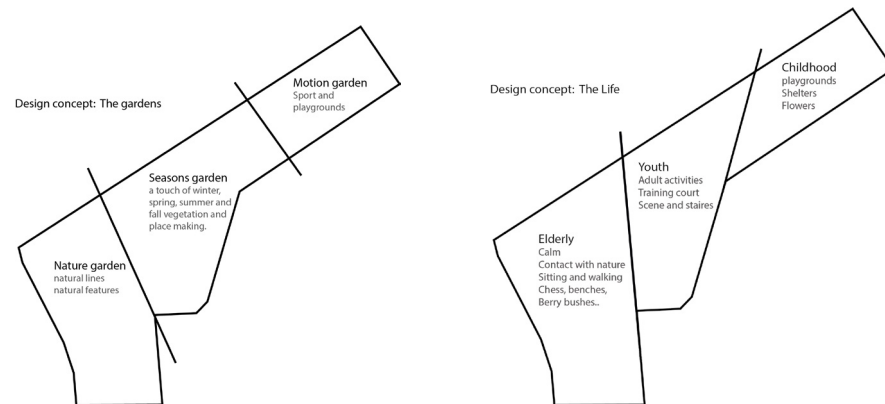
6



23

Figure 56. The result of preferring the sitting places.

When it comes to the two design concepts, most of the people preferred the idea of “The garden” because it provides a common area for all the user group, while the second design idea “the life”, segregates the user groups.



The proposals were perceived both positively and negatively in design, elements, and activities.

The positive feedbacks on “The garden” concept are as so:

- Creating a shared space for all
- Considering the biodiversity
- Connection to the water
- Variety of zones
- Providing different spaces
- Consists of different textures and materials
- Can be used as a shared garden for the neighbours

Some of the negative feedbacks are as below:

- Large hard spaces
- Lack of infrastructure
- Lack of daily market, bakery or café

“The life” concept had more negative feedbacks, however, some aspects were positive as well:

- The wooden stairs
- The wooden shelter
- Grilling
- Football court
- Amfi

The weak points of “the life” concept were mentioned by the people as following:

- Segregating the user groups by age
- Boring lines
- Lack of spaces
- Lack of stops and stay points
- The asphalt surface
- Lack of infrastructure
- Lack of sitting places and benches

SELECTED QUOTES

THE GARDENS CONCEPT



“I like the idea of the gardens and that all the age groups can use the whole area”.

Woman, 27

“ I like the garden design which provides different activities for all the user groups”.

Women, 59

“The garden idea is a good combination of hard and green surfaces and it is nice to consider seasons”.

Man, 71

“I still miss flowers and rose bushes in Lervig area that got disappear after recent developments”.

Man, 77

“I wish we who live in blocks could borrow a part of the park as our own garden to plant vegetables during the summer”.

Women, 33

“I like the garden idea which provides different zones and spaces. However, it has big hard surfaces which have to be replaced by greenery”.

Women ,30

SELECTED QUOTES



THE LIFE CONCEPT

“We like the idea of grilling place and the wooden shelter for our children”.

A couple, 36-33

“The wooden stairs are best choice for Norway’s weather”.

Man, 28

“The lines and spaces in The life concept are boring and simple. It provides little sitting and gathering spaces”.

Women,32

“I like the Amfi and the stairs, but the whole park looks like a path with a few exciting stops”.

Women, 35

“There is a lack of infrastructure like lightning in both idea, but I like the adult training zones”.

Man, 36

“There are few activities for teenagers especially boys who are probably less social”

Women, 45

7. FINAL DESIGN PROPOSAL

FINAL DESIGN PROCESS

DISCUSSION

7.1. FINAL DESIGN PROCESS

The design process of the Lervig park by including and participating people ended up to three main parts:

- Final design layout
- Final program activities
- Final program elements

The final design layout is an outcome of reworking and adapting the “Garden concept” which almost 87% of interviewer chose as their favorite alternative. In this process it has been tried to keep the lines, focal points, the main spaces and as it was proposed in “the garden” concept. However, some changes occurred due to reflect the people’s preferences which were gathered in the feedback process. It consists of both program activities and program elements.

In addition, the positive aspects and strength of the “The life ” concept that people preferred and would like to have in Lervig park, have been modified in the final proposal. The changes that occurred to the final design were as so:

- Reducing the unnecessary hard surfaces and replacing them by greenery.
- Taking in part group sitting areas.
- Adding infrastructures like lightning and bicycle parking.
- Specification of plants typology.

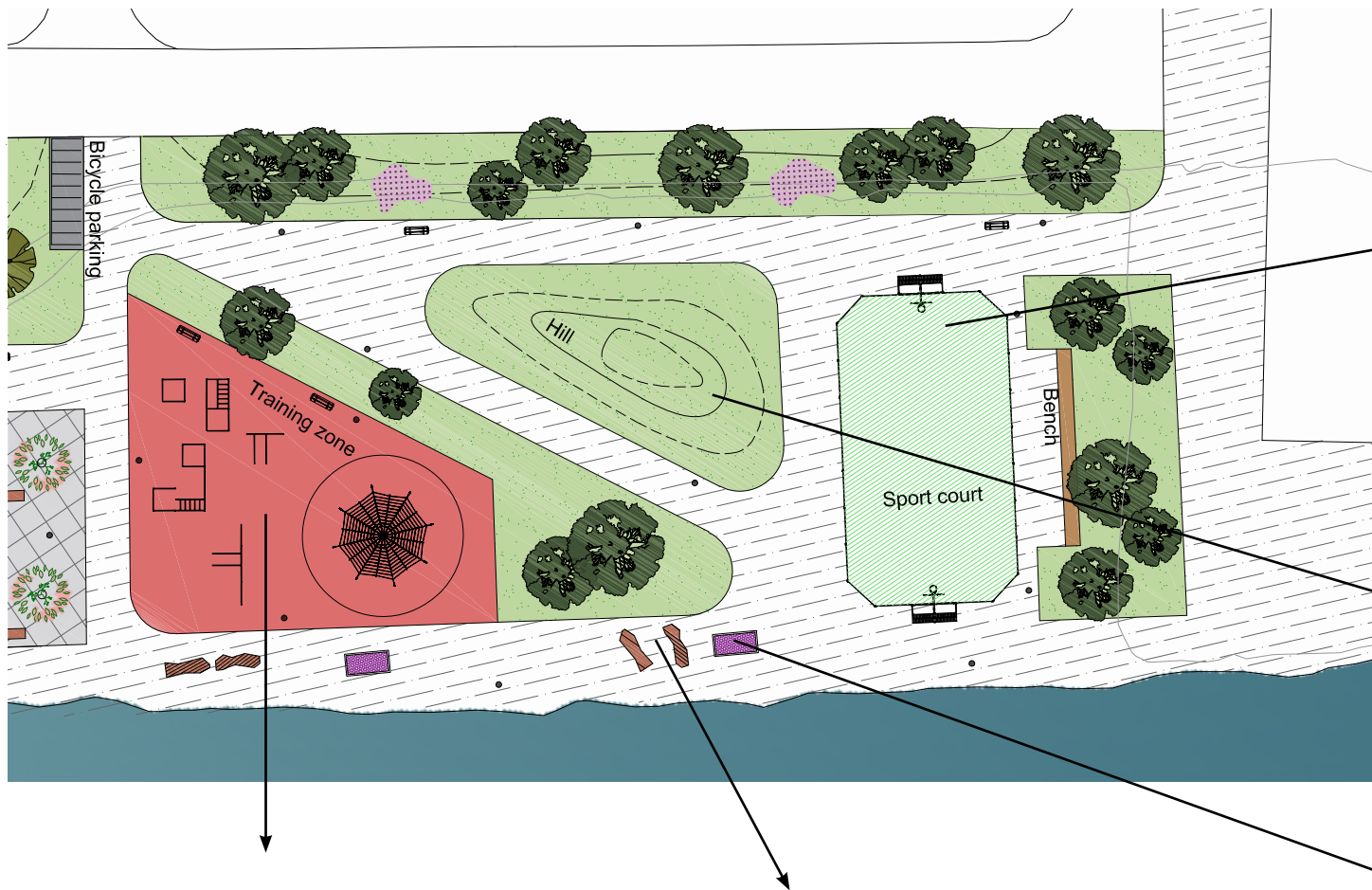
- Changing the sand volleyball to the multisport court.
- Adding the grilling and wooden shelter from the Life concept to the final proposal.
- Adding the wooden stairs from the Life concept to the final proposal.
- Adding flower boxes which were missed in the both early concepts.
- Adding benches with back side and comfortable wooden benches to the park.
- Redesign the Natural garden area to make it facilitate for both walking and sitting.
- Adding a planting garden, where neighbours can borrow boxed and plant their own vegetations.
- Adding a low hill to the motion garden, where people can sit or children can play.
- Expanding the playground.
- Adding perennial flowers and plants to give more colour to the park.
- Choosing coloured furniture for the park.
- Proposing compostable wooden benches in different part of the park.

MASTERPLAN



- Legend**
- Perennial plant
 - Grass and shrubs
 - Planting ground
 - Stone pavement
 - Rubber coating
 - Rubber coating
 - Sport Grass
 - Sea
 - Wood
 - Pavement
 - Gravel
 - Grass
 - Planting box
 - Flower box
 - Playground
 - Bench with back
 - Training equipment
 - Lighting
 - Stone for sitting
 - Lying wooden bench
 - Existing topography
 - New topography
 - Deciduous tree
 - Cherry tree
 - Fruit tree
 - Ever green plants

MOTION GARDEN



Sports court is a multiple court for different ball activities like football and basketball. People prefer this rather than a sand volleyball which is mostly useful for adults.

People preferred topography rather than the flat area and this hill brings more space feeling, it is suitable for both sitting and playing.

Training zone is useful for both adults and teenagers. The surface is colorful gummi to give more variation to the area.

Wooden benches were required by people who wanted sitting or lying benches, alone or in a group.

Flower boxes and flower beds bring more color and biodiversity to the park.

SEASON GARDEN



Planting area with planting boxes that can be borrowed by the neighbors is among the preferences that people emphasized. Fruit trees on the top works as a barrier too.

Wooden shelter and grilling area are other preferred program elements. they are located near the playground.

The sculpture garden is designed based on the sculptures that children made in the workshop.

Group sitting places were mostly asked by younger people who want to talk face to face with their friends.

People preferred to have both wooden sitting stairs and stairs which are in connection with the water.

NATURAL GARDEN

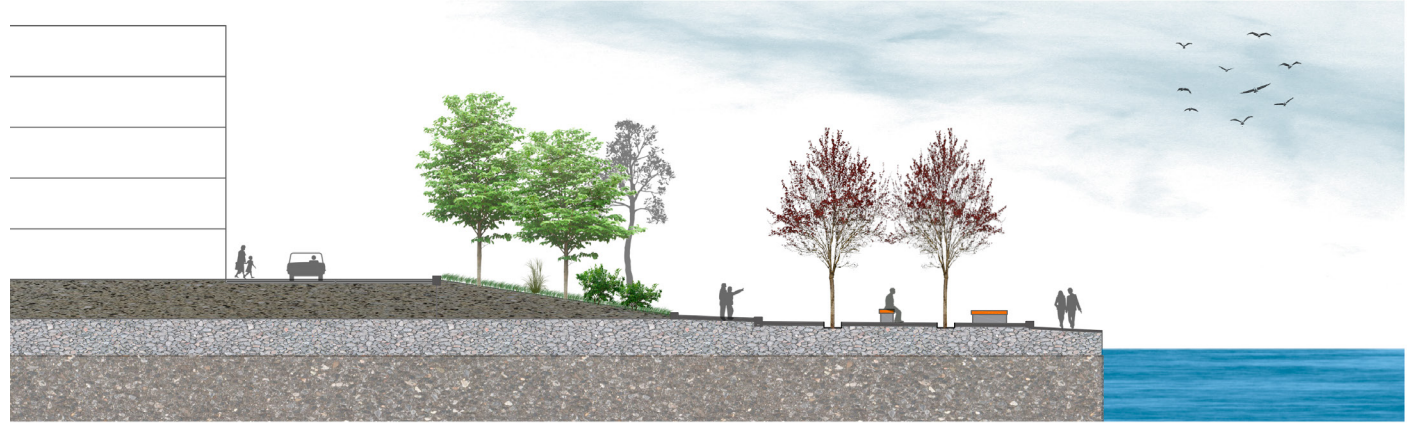


Stones, trees, shrubs, and lawn give a natural forest touch to this part of the park.

The garden has a natural path and topography for walking or sitting.

Boccia court is located in the natural garden and it is near to the elderly house as an encouragement activity for the elderly.

People preferred natural material like gravel for the surface cover of the natural garden.



Section A-A SC 1:250



Figure 57. Illustration of planting garden

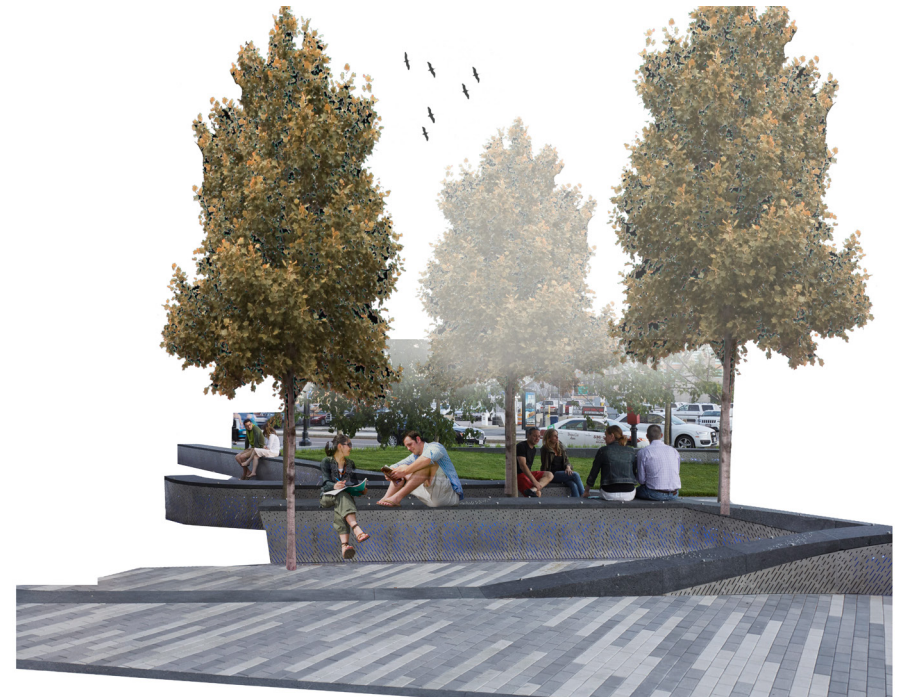


Figure 58. Illustration of plaza.



Section A-A SC 1:250



Figure 59. Illustration of wooden stairs.

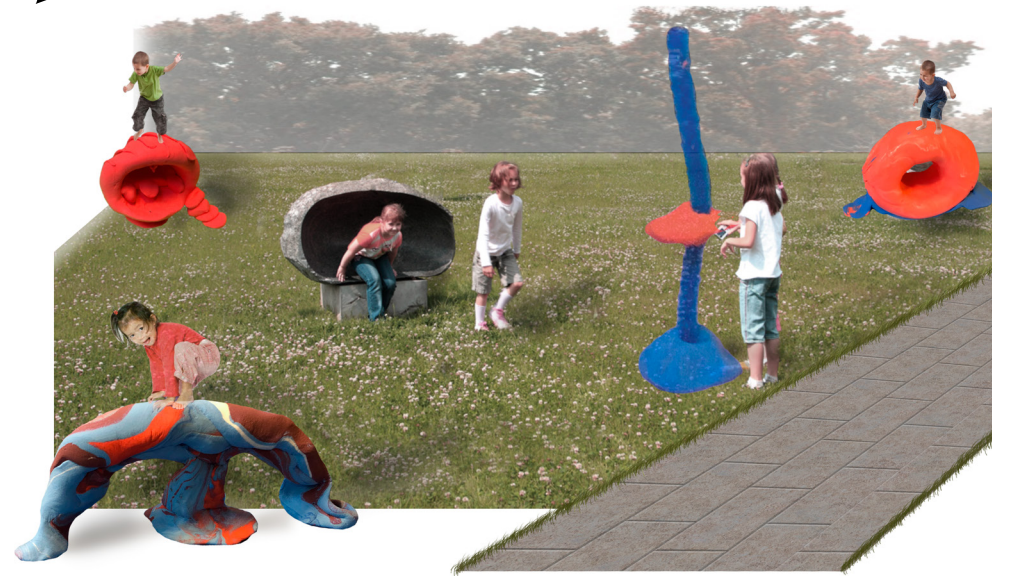


Figure 60. Illustration of sculpture garden playground.

7.2. DISCUSSION

This study took advantage of the participatory approach in the design of Lervig park which is an example of urban green spaces. This approach is not a common procedure in the current urban development process that demonstrates the up-down decision-making system in urban planning today. The main focus of this research is on the design process and the feasibility of applying people's preferences in the design of an urban park. The result shows that the early participation phase in the form of workshops, survey, interview, and communication, make a stronger foundation for the body of the design. Therefore it is important to provide facilities for people, interests, and non-experts to express their idea.

For the planners also it is essential to give extensive and correct information to the participants in advance, in order to achieve more reliable ideas. For instance, in the case of the Lervig park, many people desire to connect the two side of the water by a footbridge which is not feasible, because of the fireboat passing. It is the same for some other ideas like water play activities, swimming, glass tunnel under water and a floating restaurant. However, it is important to let participants be creative and display their request.

Other findings in this study show that the process of participatory approach is indeed longer and more time consuming than usual

up-down planning progress. It means that to achieve more reliable results, the urban planners or decision makers should start the participatory process in a very early phase in the design process. It is also a challenge to motivate people to participate in workshops or feedback phases. This study demonstrates that people are more interested and excited to participate in the early phase of a local project that will affect their daily life, while the repetition of this process could make them bored or affect negatively on their interests to participate.

In this study motivating the people to declare their preferences achieved by workshops in the early step of the process, as well as the visual survey in the further step. They worked successfully and people were eager to choose freely and affect the final results. It is obvious that in this method, it is impossible to force people to participate in any phases and this can lead to having different actors in different participatory states. This is the essence of this approach and as long as the participants are either local or have enough knowledge about the project, it will lead to reliable results.

This approach requires the collaboration of authorities and decision makers, same as this research. The planners must be motivated and desire to understand people's need and try to meet their needs by asking them and applying their preferences in urban green spaces. In addition, if urban planners and authorities desire to see more participation in future projects, they should consider their ideas and don't leave them back.

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ATTACHMENT

VISUAL SURVAY

Hei,

Takk for at du tar deg tid til å svare på denne undersøkelsen om Lervigparken.

Dette er en undersøkelse i forbindelse med en masteroppgave i byplanlegging på UIS- som handler om utforming av grøntområder ved bruk av medvirknings prosess. Folks meninger og ønsker blir tatt i bruk for å designe et området som er attraktivt for alle type brukere.

Casen i denne oppgaven er Lervigparken og derfor du ble valgt for å si dine meninger som en fremtidig bruker av parken. Du kan velge flere alternativer når du svare på spørsmålene.

1. Hvor gammel er du? -----

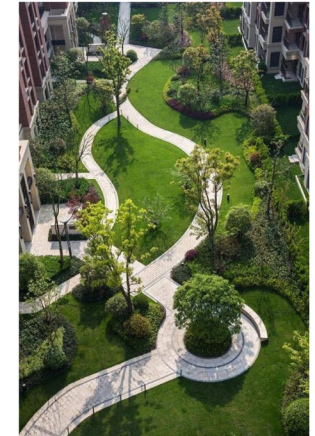
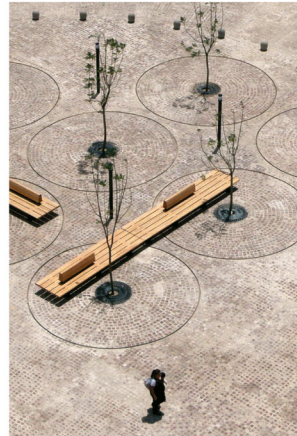
2. Hvilken alternativ gjelder deg?

Jeg bor i Lervig området

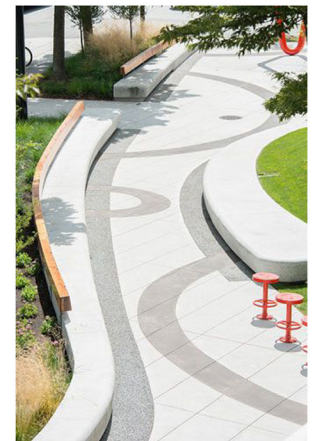
Jeg jobber i Lervig området

Jeg er på besøk i området

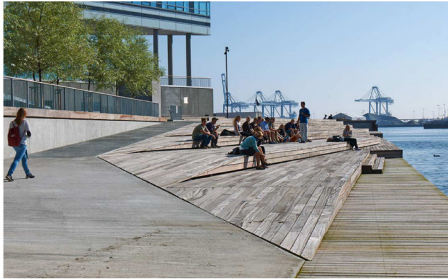
3. Hvilken alternativ liker du best i en lokal park?



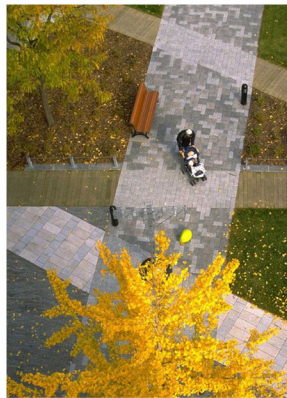
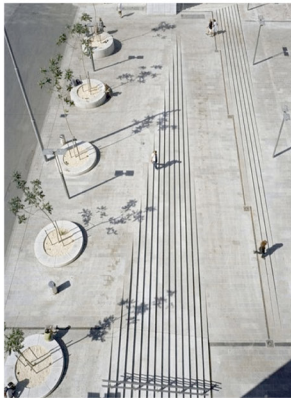
4. Hvilke deknings foretrekker du på stiene i parken ?



5. Hvilken alternativ ønsker du som en promenade?



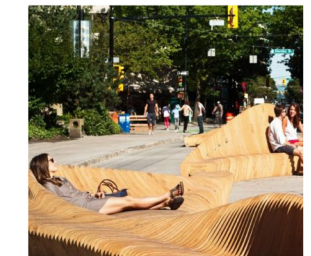
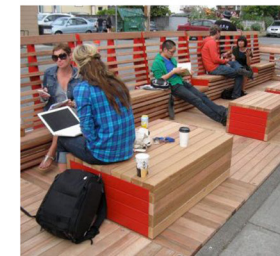
6. Hvilken belegg liker du best for å bli brukt i parken ?



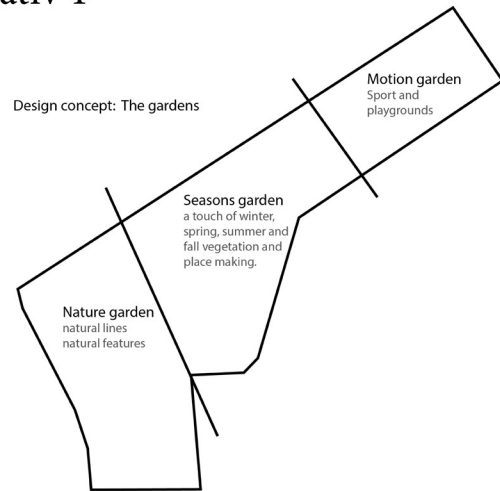
7. Hvilket bilde viser ditt ønske av en lokal park?



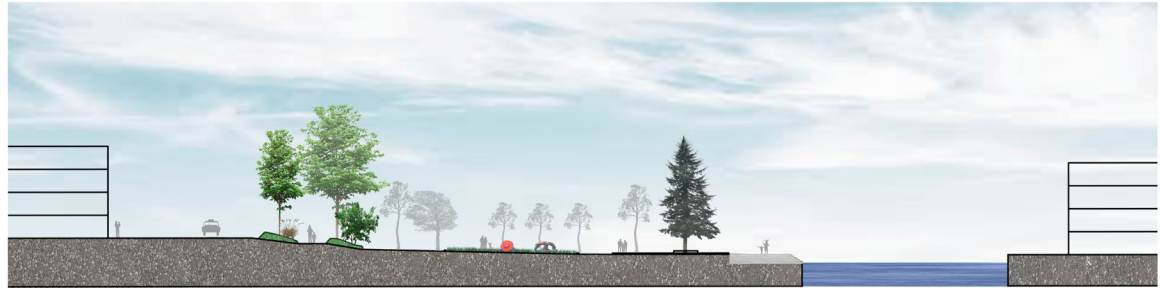
8. Hvilken sitteplass ønsker du å bruke i parken



Alternativ 1

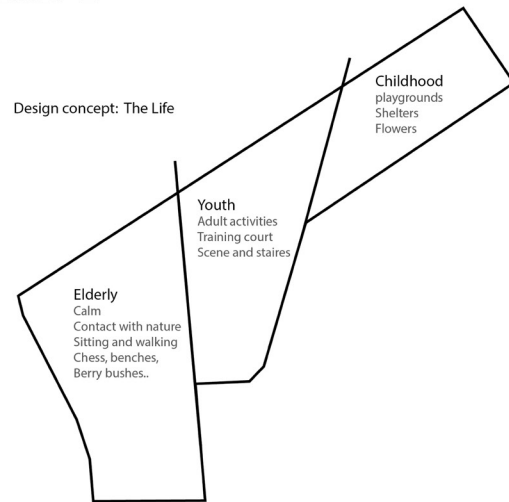


Hva synnes du om denne alternativen?



Section A-A SC:1:800

Alternativ 2



Hva synnes du om denne alternativen?

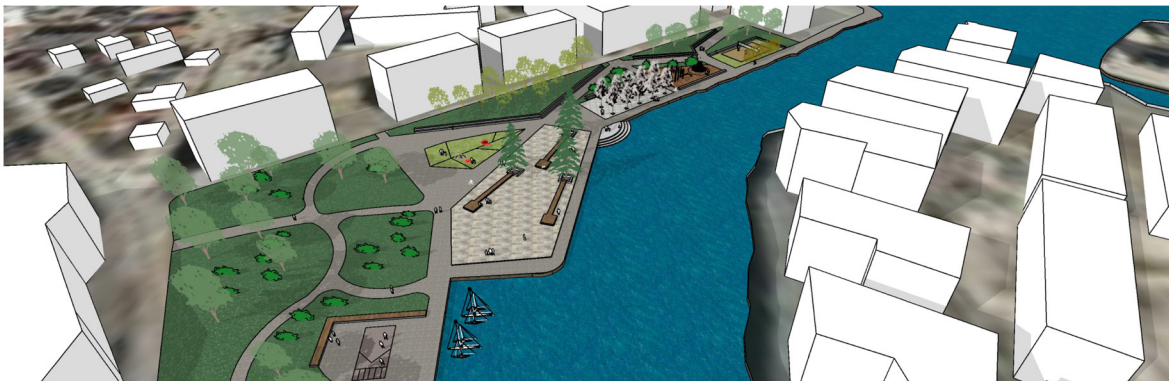


Section B-B SC:1:800

Alternativ 1



Master plan 1 SC 1:1000

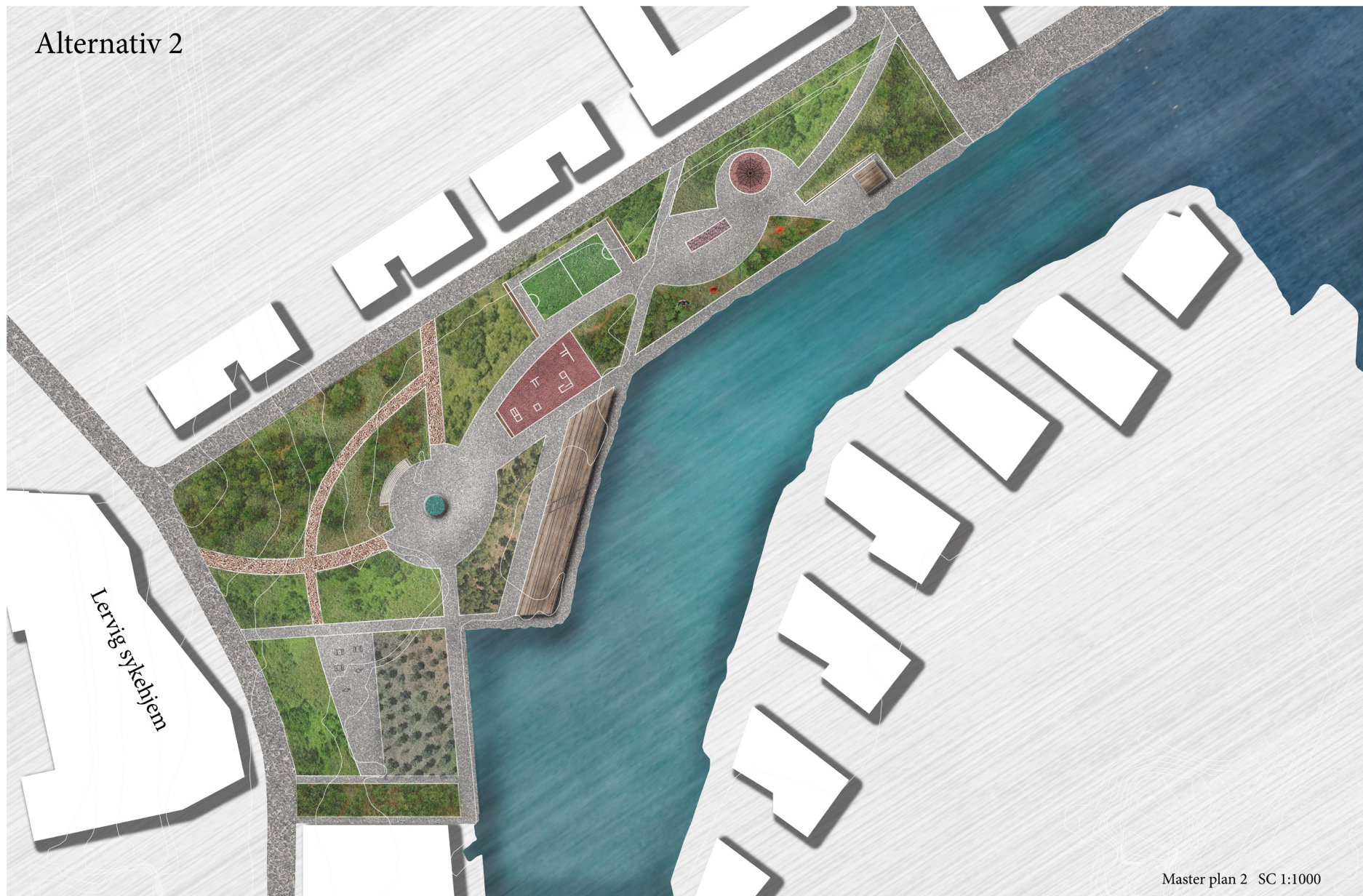


Hva synes du om denne alternativten?

Jeg liker at....

Jeg liker ikke at

Alternativ 2

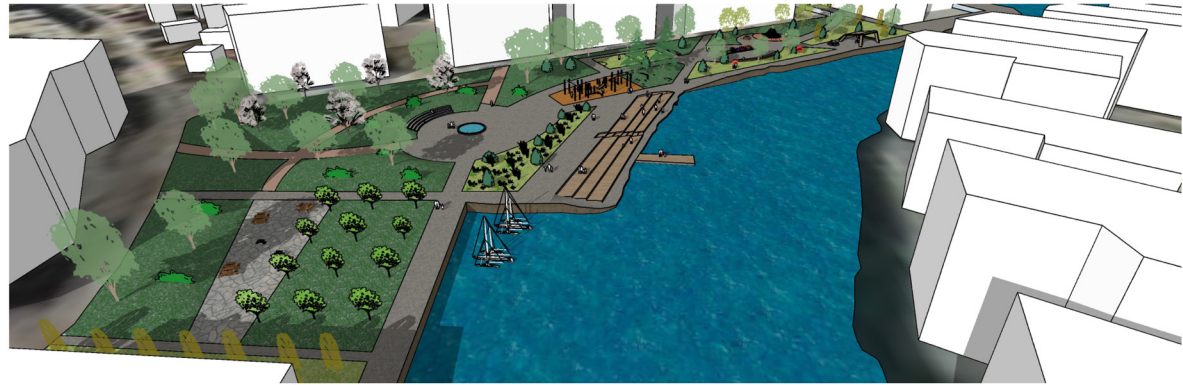


Lervig sykehjem

Master plan 2 SC 1:1000

Hva synes du om denne alternativen?

Jeg liker at....



Jeg liker ikke at

