



Interplay of Cultures Studio – Sámi: *Architecture that leaves no trace in the environment*

A?

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School of Arts, Design
and Architecture

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*hair whipping the wind as the pebbles wobble
insecurely under my feet – I rest in the waves*



Picture by Alice Martin

Interplay of Cultures Studio: Sámi

Studio Participants:

Aapo Niinikoski, Alice Martin, Eszter Nagy, Henna Seppälä, Ia Cedercreutz, Janina Hedström, Jie Wu, Juhani Laaksonen, Lauri Kärpänoja, Lucas Auvard, Maija Moberg, Pihla Kuusela, Rémi Jourdan, Saki Sawada, Santtu Virtanen, Xuxiao Ma.

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Foreword

The Interplay of Cultures studio focuses on the thematic area of Global Sustainability and Cultural Locality, encompassing all scales of architectural design. As in the previous year, the Interplay of Cultures studio focused on the Sámi culture in northern Lapland. The aim was to learn about our cultural differences and similarities and enhance our understanding of indigenous northern cultures' living environment and conditions. The course included visiting lectures, readings, and analysis tasks on indigenous cultures and architecture and an excursion to Sápmi.

The focus of the course was on knowledge building on sustainable design solutions and culturally sensitive architecture. The studio included studies on local building traditions and materials and social, economic, and climatic characteristics of the local culture. The course aimed to



Picture by Alice Martin

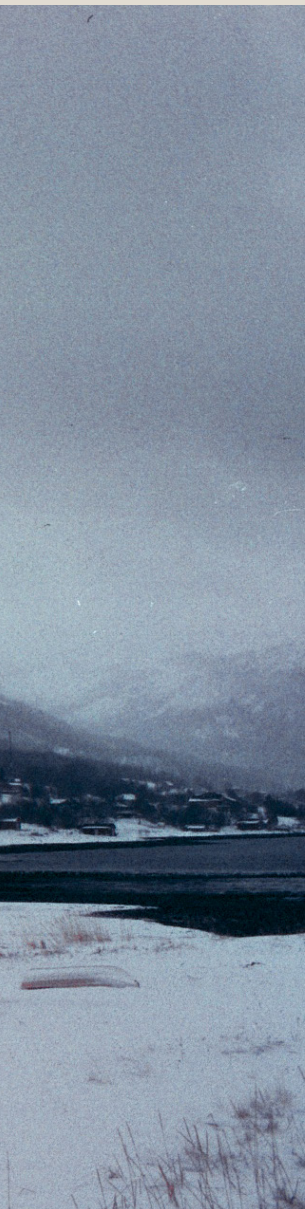
provide the students with a broader perspective and understanding of the processes and opportunities of architectural practice when working in various cultural contexts. It also aimed at developing the students' value system and sense of responsibility.

During the studio, we explored how Sámi cultures relate to our material reality, Sámi architecture, and what cultural features it reflects. After first exploring Sámi cultures and their ways of inhabiting the world, we set our eyes on our Western culture. What cultural features do we reflect in our buildings and built environment? What needs to change to achieve a more balanced relationship with the more than the human world?

The first part of the studio was an analysis and critical reflection on the existing Sámi architecture. The learnings from this cultural setting informed the second part of the course. They focused our thinking on our architectural practices with the underlying question: "What can we learn from the Sámi cultures and ways of existing in the world?" The students projected their reflections into concept designs in the preferred scales on Helsinki Rajasaari island.

The course started with a guided visit to the Mäccmõš, maccâm, máhccan – The Homecoming exhibition at the National Museum of Finland. In a lecture by Marko Huttunen, we learned about traditional Sámi architecture and local building materials and techniques. In a poetic and visual journey through fells, Leena Valkeapää shared her perception of the Sámi landscape. Documentarist Suvi West her insights on the Silent Battle – a documentary film about Sámi people fighting for their rights. Sofie Pelsmakers gave us hope in her encouraging lecture about climate change and the role of an architect. Panu Savolainen reminded us of the importance of understanding what you can borrow and what is authorship and ownership in architecture.

The interplay of Cultures Studio collaborated with experts of Sámi culture. Together with Joar Nango, a Sámi artist and architect featured in the ARS 22 exhibition by the Finnish National Gallery KIASMA we organized a seminar. At the Kiasma seminar, invited guests continued discussing what is to be Sámi and what is Sámi architecture. Joar Nango's Girjegumpi installation served as a perfect location for the unique event where Sámi architects Eve Sarapää and Jenni Hakovirta shared their views on the profession as a Sámi practicing architecture. Mathias Danbolt (associate professor of art history at the University of Copenhagen) broadened our understanding of the role of Nordic countries in colonialization. Aile Aukio and Eeva-Kristiina Nylander continued by enlightening us on museums' role and the repatriation (rematriation) process of Sámi artifacts from the



National Museum of Finland to Siida museum. Aile and Eeva-Kristiina combined our discussions on the Sámi storytelling tradition.

This year we were able to travel to Sápmi for a weeklong excursion. The trip took us across the Sápmi from Inari, Utsjoki, Karigasniemi, Karasjok, Kautokeino, Alta and Skibotn to Tromsø. We were fortunate not only to see the extraordinary landscape but experience it with our senses. The trip highlighted to us the importance of understanding the climatic conditions. We experienced it physically when taking a walk to Pielpajärvi wilderness church or driving through the snowstorm along the Arctic Ocean. One of the most memorable moments on our trip was meeting with Joar Nango and Gunvor Guttorm (Professor in duodji) at Kautokeino, Sámi Allaskuvla (the Sámi University of Applied Sciences). Together with their students, a group of indigenous architects, we took part in constructing a luovvi. Learning by doing, using our hands, and



seeing immediate results was satisfying, and the natural way of connecting with people while working together was an uplifting experience. The highlight of the trip was the visit to Lásságámmi, Nils-Aslak Valkeapää's home at Skibotn. Inside Lásságámmi you felt how the architecture and art entangled to tell a beautiful story of Nils-Aslak Valkeapää's life. You experienced the connection to nature, the landscape, and the Arctic Ocean outside the building. We got an insight into contemporary Sámi life while visiting Eve Sarapää's homestead at Utsjoki. Her uncle, Veikko Porsanger is a member of Sámi Parliament in Finland. In discussions with him and his daughter, Nea Porsanger, we understood the realities of fishers' life along the Teno river in the modern world.

During the studio, we encourage the students to find their strengths and follow their interests. We support the open, safe, and encouraging atmosphere hoping that it would enable the students to find their voice



for expressing themselves and finding their way of doing things. We do not give the precise concept design task, but the students must see what they find necessary to learn and study further.

The students did their assignments in a group of three to four people. We supported the teamwork with the teamwork-first-aid-kit ([Aalto.fi/en/collaboration/teamwork-first-aid-kit](https://aalto.fi/en/collaboration/teamwork-first-aid-kit)), a toolkit to unlock the potential of interdisciplinary teams. It is a pleasure to see how the teams develop during the studio. In a well-functioning group, every individual flourish and gives their best.

The studio's aim is for the students to learn to think about life on this planet through the eyes of different people. The better we know other cultures, the better we know ourselves. Getting to know other cultures is



Picture by Jie Wu

at its best when we also learn about ourselves, reveal our preconceptions, and notice things we take for granted. We hope these future architects will build our world based on healthier, more holistic, and sustainable values.

Teachers:

Saija Hollmén, Professor of Practice in Humanitarian Architecture

Taru Niskanen, Architect, University Teacher

Maiju Suomi, Architect, University Teacher

Eve Sarapää, Architect



Picture by Alice Martin



Pictures by Alice Martin





Pictures by Alice Martin



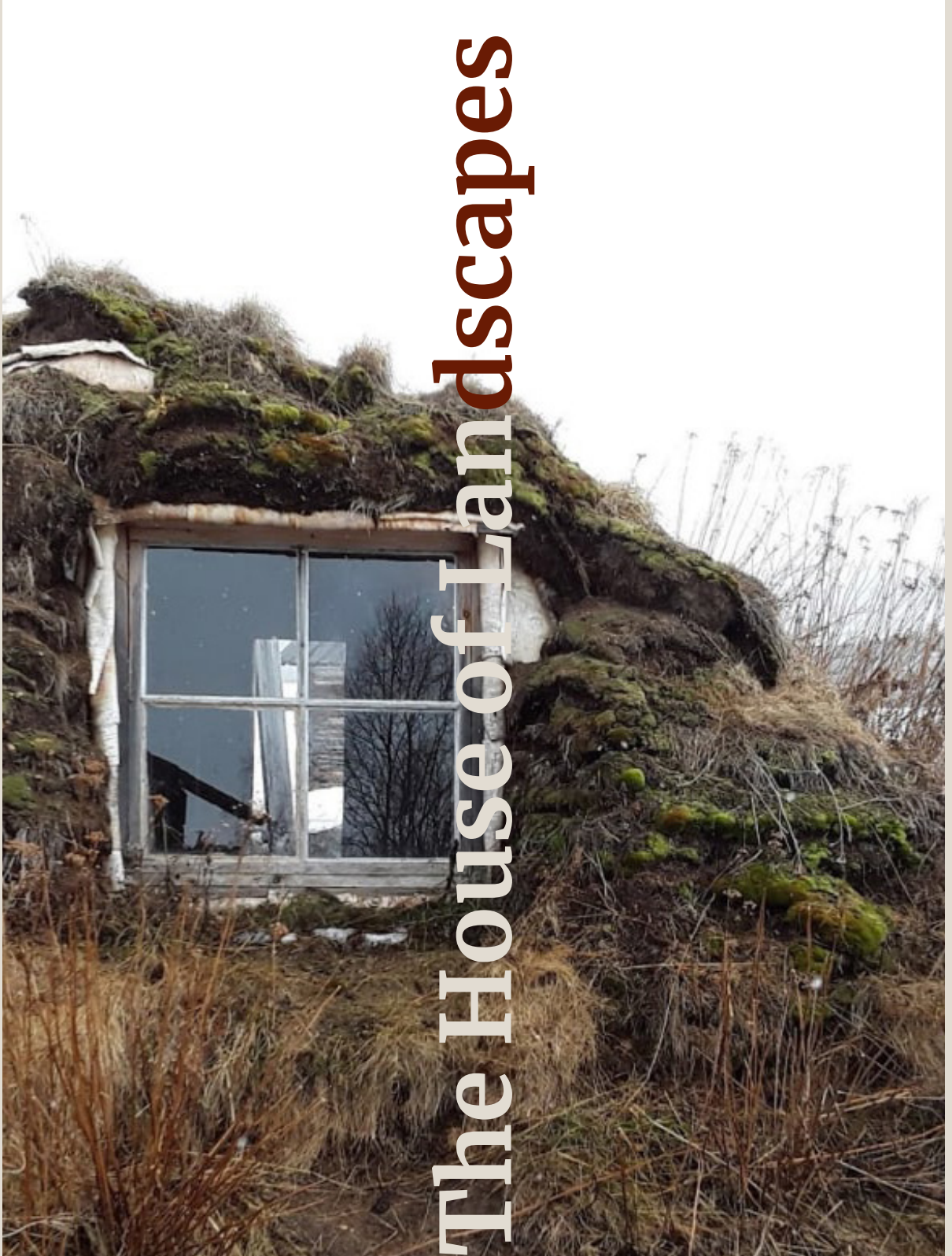


*undertow of the waves laughing at the seagulls
– sitcky salt skin, I breathe*



Picture by Alice Martin

Alice Martin, Janina Hedström, Pihla Kuusela, Kaisa Penttilä



Picture by Kaisa Penttilä

Our project is made through adapting a Sámi mindset and finding our own ways of expression. The final outcome was an animation and different kinds of handicraft, but the social process and the story behind it gave our work a unique dimension.

CONCEPT & BACKGROUND

We started discovering the importance of the landscape, seasonality, handicraft, and practicality of Sámi culture during the first exercise of mapping Sámi architecture. We decided to investigate the question of what is actually considered Sámi architecture, and the real Sámi culture that is often overlooked by westerners. In this process, we got to know interesting aspects of culture that could teach us something about the world and our society.

One of our main findings was that in the Sámi culture the relationship between landscape and humans is different from what we

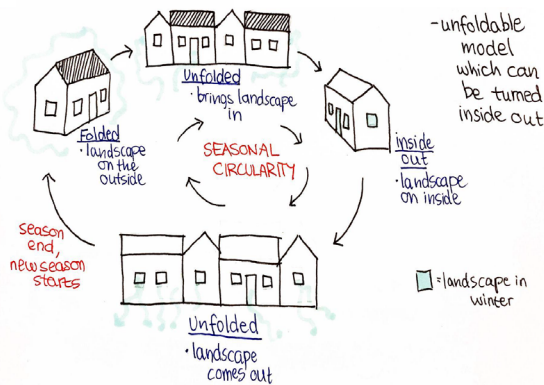
CONCEPT IDEA

1. model



- model of a typical Finnish prefab suburban house that could be placed anywhere in southern Finland (western society)
- model made out of waste materials that we find
- simple, sketchy, patched together, "home-made"

2. Model change

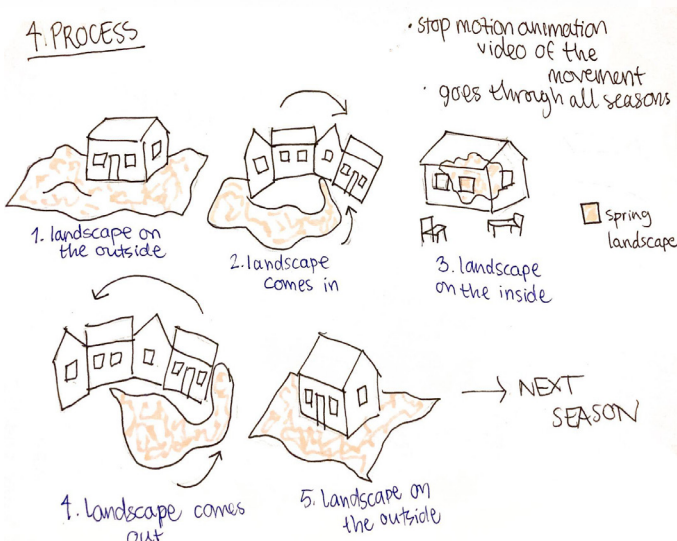


3. Landscapes

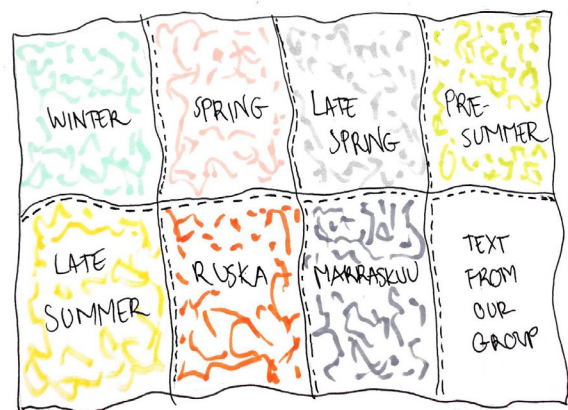


- Fabric - pieces for
- paintings/sketches/w
- OUR OWN CREATED LANDSCAPES
- ALSO SHOWING CHANGES IN

4. PROCESS



5. Landscapes sown together for exhibition



- paintings, sketches
- model
- works as the
- model
- paper divided
- Initial idea,

are used to; humans are seen as an inseparable and equal part of nature. This cosmology of nature being the home for Sámi people inspired us to study the meaning of home in relation to landscape and seasonality. Additionally, we discovered that handicraft is an important practice and a way of communicating in Sámi culture. Therefore, we wanted to do something concrete with our hands as well. Through the lectures and research, we learned about eight seasons that are known in the Sámi culture and ended up re-creating our season. Since the four traditional seasons from the Western world do not really reflect what we are experiencing in Southern Finland anymore.

We wanted to understand concepts and world-views of Sámi culture in order to have a framework for criticizing ours and explore new ways of doing things. By adopting the mindset, and applying it to the western context, we were not only learning from Sámi culture but also re-thinking and challenging our own culture. As a medium for our work, we chose animation, because of the oral tradition and storytelling that is an important part of Sámi culture and enriches the immaterial world. Moreover, Kaisa has professional expertise in animation, and by doing it we were able to mix different techniques together.

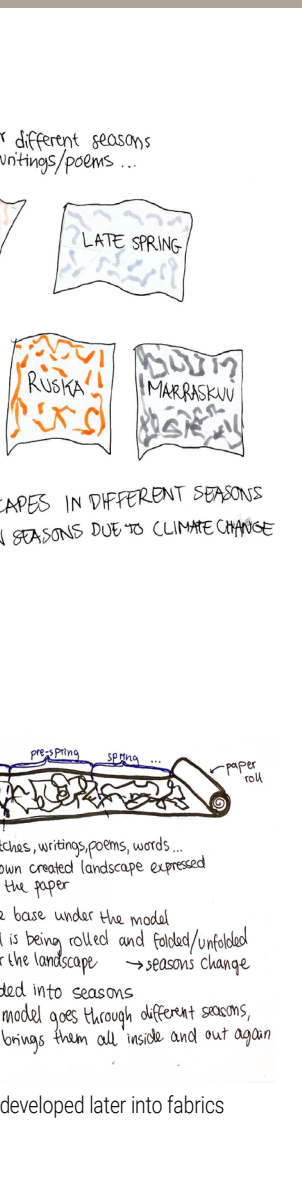
PRACTICE

The practical part of our work started with the seasons. As climate change is radically altering our yearly cycle, we discussed how many seasons we feel we actually have nowadays. We came up with a total of seven seasons, based on our own experiences in the urban landscapes where we live. We named them using all four languages in our group: Finnish, Swedish, French, and English, combining words and meanings from each language.

We felt that the animation should have some additional text explaining the content and offering more thought to the animation. Inspired by the Sámi artist Nils-Aslak Valkeapää's poems about the Sámi landscape and seasons, we decided to make our own poems for the animation.

At the same time, we worked on the handicrafts needed for the animation. Our whole group worked physically expressed in the same space, using collected, recycled, and found materials. While discussing the seasons, Pihla wrote down our thoughts for the poem, while the others kept on doing the handicraft. As we worked, we were discussing the project, architecture, animation, and other things coming to mind, exchanging knowledge and getting to know each other. It was a very social and communicative process, which we all found very inspiring.

The handicraft was done through discussion, without any strict



planning beforehand. The architect students of the group were used to building models with very careful measurements and topography, but with this project the house and landscapes were made without rules, using free hands. Through discussion, we sorted the materials for each season and figured out what kind of objects we could build to represent each season in the animation.

Inspired by Sámi duodji we also wanted to do some needlework on fabrics to represent each seasonal landscape. We were learning new stitches and techniques from each other, improving our skills through the making.



SAPMI EXCURSION

During our excursion to Sápmi, we experienced Sámi landscapes through versatile cultural and natural interconnections, which gave our project a deeper meaning. Through conversations with locals, experiences of distinct seasonal changes, and practical experience by building a traditional Luovvi structure, we gained an improved understanding of the Sámi mindset. We learned more about the Sámi handicraft, duodji, and how it is rooted in Sámi people's everyday life as unique objects and physical making. Social practicality is fundamental in the Sámi culture, which is something for us all to take inspiration from. We also did more needlework and recorded sounds for the landscapes to use in our animation. From water droplets to all kinds of snows, including beeping of traffic lights, fire cracklings, birds songs, evaporation of water on sauna stones, etc.



sceinieres ruskalmistet marrennui



kalactem trépitence rjutescence migranöje

Pictures by Janina Hedström, writing by Alice Martin

ANIMATION

The animation was made with the stop motion technique and filmed in one day. Before that, we had one day in the studio to prepare the shooting, set everything up, and bring in the equipment and material needed. The studio turned into a big mess right away, but it was especially practical to be able to spread all the materials around.

On the actual shooting day, we spent 11 hours in the studio. We had seven seasons to film frame by frame, so we calculated that we could take 45 minutes to shoot each season. In practice, we were a bit slower at the beginning and a little bit faster towards the end. During the day we took around 1200 photos.

The shooting session was very intense. Pihla, Janina, and Alice had no previous experience in making animation. Although Kaisa has a profession in it, this was for her a unique way to make an animation project. Everybody found it difficult to imagine what the result would be



like. However, we found it fun to work together, to discuss and learn from each other, and the result turned out even better than expected.

After the animation was filmed, we had to do colour correction, add the texts into the picture and do the sound design. However, the picture itself did not need any editing, and no time manipulation was needed as the timing in the animation matched the poem.

LINK <https://vimeo.com/708975774/e576ab83ad>

By studying the Sámi culture and worldviews, we have learned that making something by hand while being physically together increases creativity and conversations. We hope that through this project we could change mindsets toward a more experiential way of thinking and challenge the standardized way of doing things and not only in architecture.

POEM SHORT VERSION

feeling lazy, everything stands still
I'm waiting for the breath of the sea to give me a break

-

eventually the cold air catches the ground
and it moves me along with the colorful leaves

-

I stand in the middle of rising buildings
while streets are flooding with water and darkness

-

slow movements through icy streets force us to focus
on the moment

we used the snow to insulate our house

-

changing the clock makes me tired and I wonder
what made me forget that I am not a machine but a
creature of nature

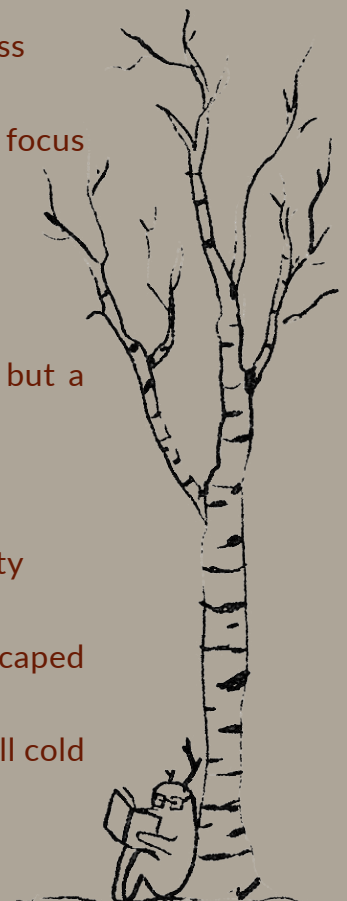
-

first I notice it from the smell of earth
now I am finally able to move fast through the city

-

Suddenly the streets are empty as people have escaped
to the countryside

I would like to cover myself with a cape as it is still cold



– *the world already stopped smelling
slow movement forces us to focus on the moment*



Drawings by Kaisa Penttilä and Alice Martin

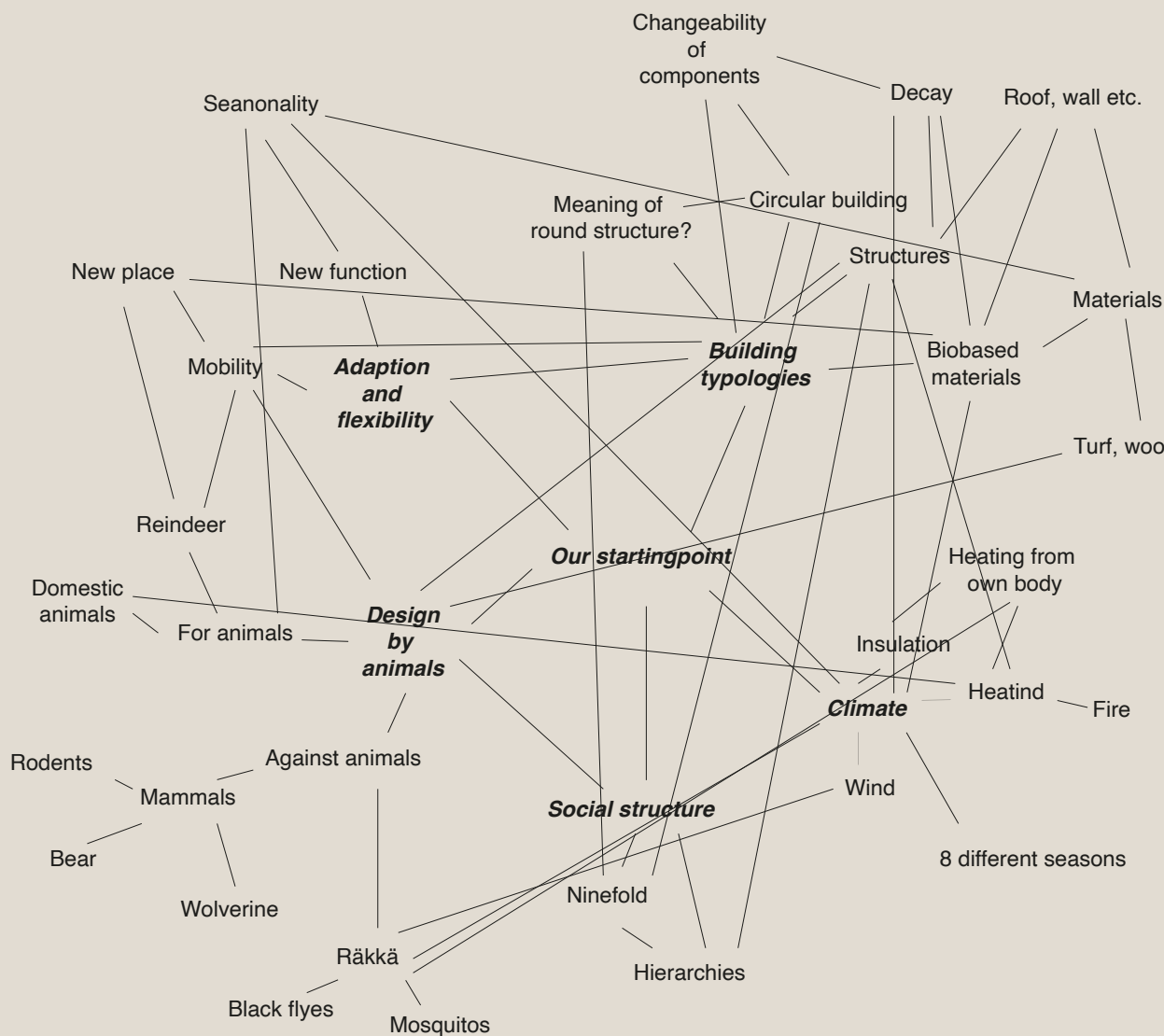
Aapo Niinikoski, Ia Cedercreutz & Rémi Jourdan



Backyard of information

Background photograph by Joar Nango with editions and drawings by the group

The backyard of information: A versatile toolkit for learning and exploring Sami culture and architecture, that can be used in a multitude of ways. We share one way with you and hope you are inspired to try out the other ways yourself!



INTRODUCTION

At the beginning of this course, we were given a task called “mapping Sámi architecture”. In this task we were encouraged to study the ins and outs of Sámi architecture, to get acquainted with the culture and find points that interest us specifically.

Through this task we came up with three main pillars: sustainability and nature, social order and usage and seasonality and change. We learned things we did not know about Sámi architecture, but more importantly we learned that this was only the surface of a rich and innovative culture. After the task was completed, we knew we wanted to learn more and so we decided to take a different route than we would normally take and started focusing on the learning aspect of this course. We expanded our three pillars into five more defined points and started branching out each one into further and further information, as seen in the mind map in the left. Once we had gathered all this knowledge it was time to capture it in some way.

The “Backyard of Information” first got its inception when Joar Nango showed us an image of a Sámi backyard. It looked messy at first and was filled with scrap materials, used cars and much more. However, on a closer look it was clear that every single item in the backyard served a clear purpose.

We quickly realized that we all had a “backyard” like this in our lives. For one of us it was their parents’ attic where old treasures lay hidden and for another it was a literal backyard in France. These “backyards” showed glimpses into the cultures of the families in question, just like the Sámi backyard.

We started imagining that instead of a physical backyard, there could be a “backyard of information”, a toolkit of knowledge in all of us and that we could utilize this in our learning about Sámi architecture as well.

d etc.

THE BOOKLET

“The backyard of Information” took the form of a booklet, and it became the center of our learning process on this course. The booklet gathered information of the building typologies, structures, and other areas in the built Sámi heritage before the 1950s. The booklet is a toolkit that allows the reader to get a deeper understanding of the different structures as well as explains the reasons why the buildings and dwellings were constructed as they were.

We wanted to finish the booklet before our excursion to Sápmi, since we wanted to use it to deepen our knowledge in the built heritage as well as see how the history we had gathered compared to the present realities of Sámi.

The layout of the booklet was made so that we had space to write and sketch our thoughts and ideas on its pages during our excursion. The

...the house is built around 5-10m. The light is very warm, but some beautiful views over Sápmi. The landscape here is also covered in snow. There is just enough you look. Delicious, interesting view. Then feel the importance of preserving the landscape. Luckily you see a perfectly shaped house. Is it a car but back? Above kind of this or someone who is behind and being one for these conditions. This feels very out of place. It's such a miracle.

After looking and getting your questions for the day in an easy-to-take-a-note-in-the-clubhouse. The house is built around 5-10m. The light is very warm, but some beautiful views over Sápmi. The landscape here is also covered in snow. There is just enough you look. Delicious, interesting view. Then feel the importance of preserving the landscape. Luckily you see a perfectly shaped house. Is it a car but back? Above kind of this or someone who is behind and being one for these conditions. This feels very out of place. It's such a miracle.

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BUILDING TYPOLOGIES

These structures are used to store hay, lichen and all kinds of other goods. They are located 100-500m from the dwelling and not visible from there.

They are elevated high enough for a man to stand underneath. Animals cannot access the food. The main structure consists of columns of living trees or branches put in the soil or a tripod basis. Most common is the four column elevated storage. These columns are supporting a roof which can be more or less water resistant depending on the purpose. If the air needs to circulate as much as possible to dry the goods the roof is made by logs which serve as a hanger. There are also impermeable roofing materials such as birch bark.

The structures can accommodate a platform or stacked logs to have greater drying possibilities. They can be reached by a ladder which is hidden closely. There are also roof structures to keep the livestock dry. They would be fenced to keep the animals in place. Sometimes the open parts are covered with nets to prevent birds from entering.

Drying structures
Reindeer herders use a modular system to dry meat. It consists of three interlocked branches forming a tripod. These tripods serve as a basis for various systems of rods, meshworks and nets on which the meat is freeze-dried.

Y-Shape
Sturdiness
Modularity
M=MODULARITY
WOULD HOLD A WEIGHT OF AN ANCHOR!

Above and opposite pictures by the group

booklet is made from recycled paper, which was chosen so the ink of the pen does not bleed through and the paper is sturdy enough to hold the wear and tear of traveling. The booklet was printed in Väre in the Printlab and each one of us has our own copy of it.

TABLE OF CONTENT

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Structures related to food

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Circular building

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3 Adaption and flexibility

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4 Climate

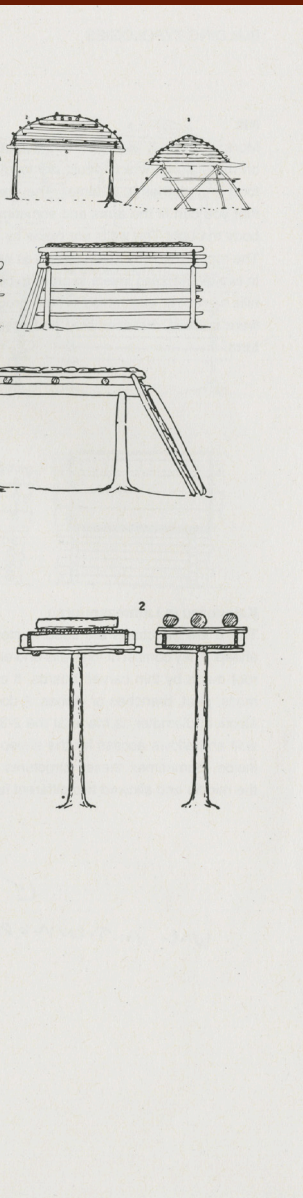
Building for the exterior

Building for the interior

5 Design by animals

Building for animals

Building against animals



OBSERVATION

During the excursion we reflected on our learnings and documented the trip in sketches and texts on the empty pages and spaces of the booklet. There were some additions to topics, diary entries of thoughts and experiences, as well as some corrections to existing writing based on the reality we found. Our research was based on traditional architecture, so this was also the moment to see how current Sámi architecture is dealing with its history.

APPLICATION

BACKGROUND

During the field trip in Sápmi we attended a workshop at the Indigenous University in Kautokeino where we built a Luovvi together with indigenous students. The Luovvi's basic structure consists of any number of tripods made of three Y-shaped birch branches which have been peeled. These tripods, also called the bricks of Sámi architecture, allow a very modular layout for the structure.

This workshop inspired us and served as a starting point for an exploration with this tripod structure in a smaller scale. We decided to build a bench!

WORKING WITH THE WOOD



Pictures by the group

We found a forest in Otaniemi where trees had been felled recently. The resources we found were given by nature and we had to adapt to its qualities and restrictions. The cutting and peeling were done on site. While working, people were passing by and asking what we were doing, and one person even helped us peel the bark. The interest, participation, and discussions during the process of making the bench stayed with us.

We were inspired by the detailed work in many Sámi duodjis and decided to make the further detailing in the Multimaterial workshop at Väre. At such a small scale the structure was not as stable on the concrete floors. We added a rope on the bottom part of the tripod, which would help take up tension forces when someone sits on the bench. We sanded the peeled parts as well as the ends of each branch to get a smooth surface.

EXPERIMENT WITH THE WOOD

Usually, the whole bark is peeled off as the water infiltrates between the bark and the hard wood and mold would start to grow. We chose to leave the parts of the branches that touch the ground unpeeled. This works as an experiment to see how it will decay when staying in Rajasaari for several seasons.

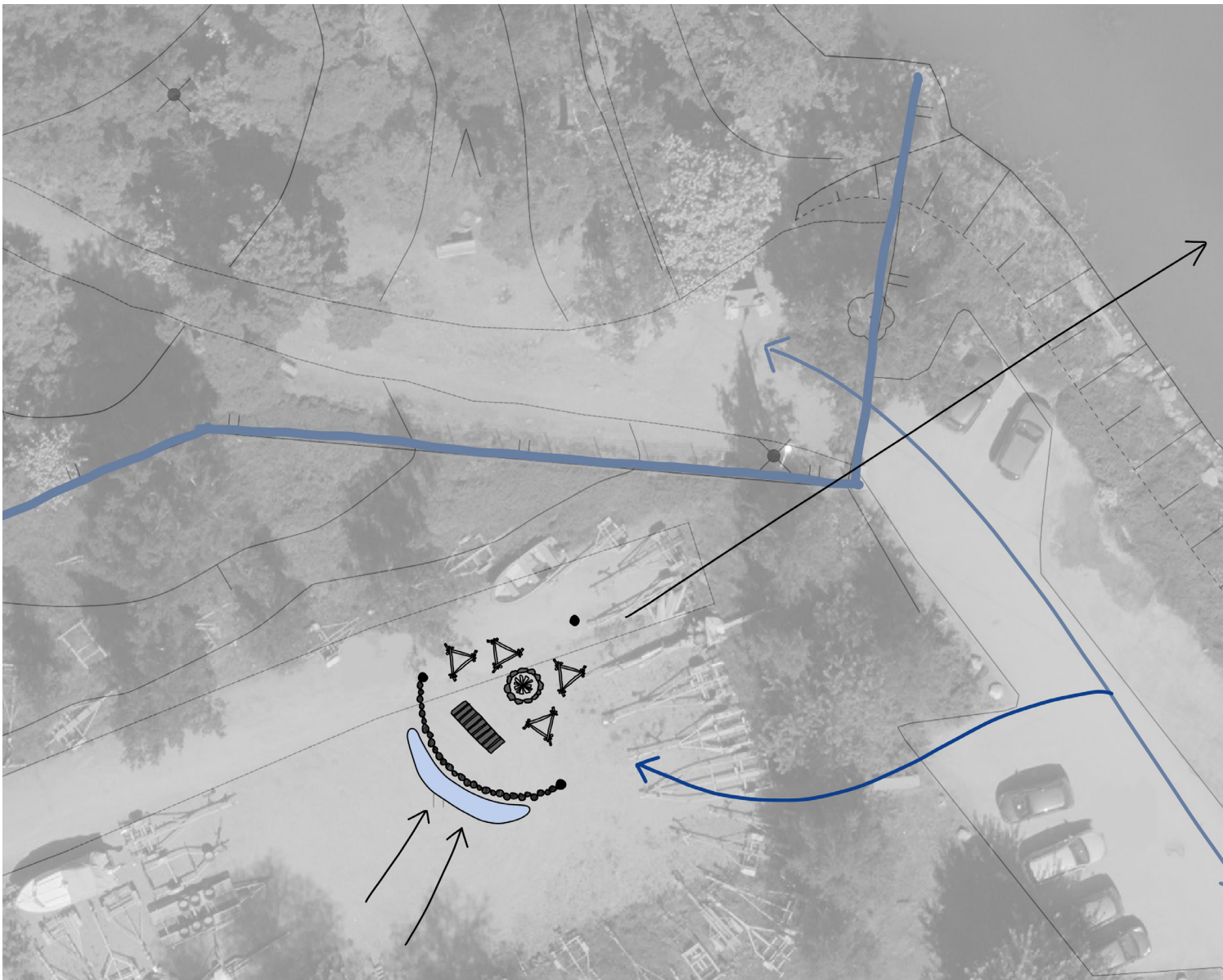


PLACE

Now we have a bench that we built using techniques the “Backyard of Information” gave us, but what do we do with it? We chose to place our bench in Rajasaari, since it lacks seasonal diversity and gathering places.

STRUCTURE

We want to build a gathering place that can be used freely and that can bring life to Rajasaari. The construction consists of three main pillars of wood with Y shaped ends, similar to the ones used for the bench. One of the three walls is covered with branches and is placed in such a way that it shelters the interior from the ocean wind, sand and piling snow. The other two walls are left open but can be closed and heated with the help of a tarp and the fireplace made from existing stones found on the site.



Above and opposite pictures by the group

MOBILITY AND MODULARITY

The site of the structure is not permanent and can be moved to different locations depending on the season and therefore utilizes the island as widely as possible. The benches in the structure are modular and can be placed in any number of ways as demonstrated in the illustrations to the right. This way the space can be changed up to serve different uses and needs, such as intimate gatherings or lectures.

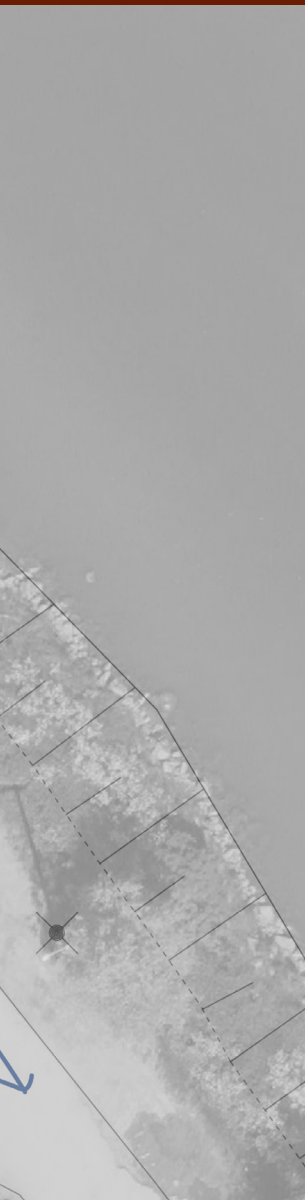
FUTURE

Looking forward, we would like to co-operate with local schools. Teachers could bring their students to Rajasaari for a day and build or move the structure. This would combine nature, co-operation, learning by doing, and most importantly learning something new about a culture that is taught too little in the education system. We plan on laminating the

backyard of information booklets and leaving them in the structure to pass onto others what we have learned.



Of course, this is just a beginning, and we would most definitely need others, especially Sámi people to help develop it further in the right direction as well as expand the reach of the project!



You can find the bench in Rajasaari, please visit!

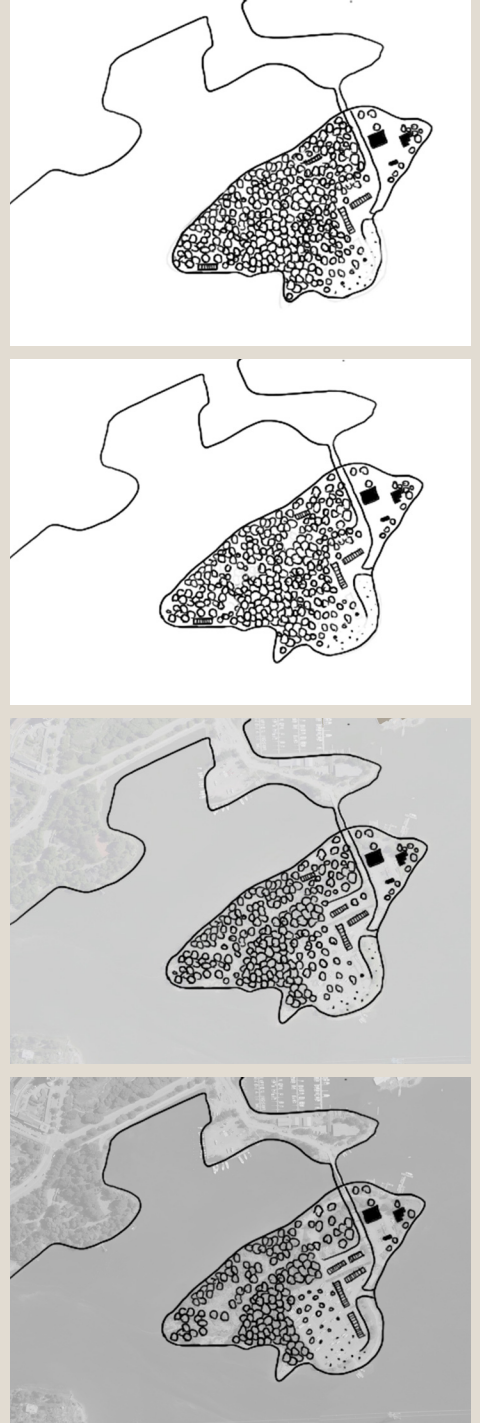


Picture by the group

Henna Seppälä, Eszter Nagy, Xuxiao Ma



Regeneration



Pictures by the group

SÁMI ANALYSIS

1. Materiality

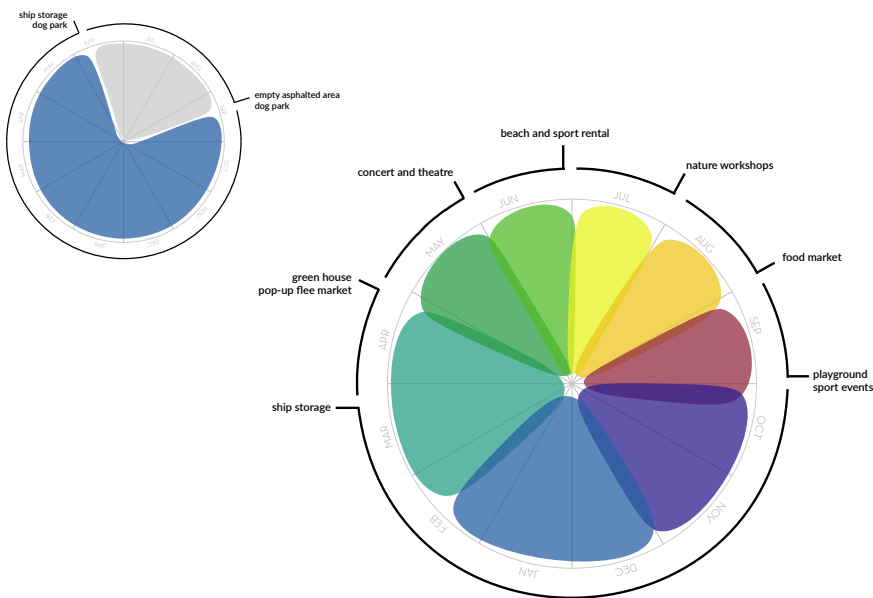
The way the Sámi used their local materials and shared the knowledge of fabricating, maintaining these structures, we can do the same in the city by exploring our possible material sources.

2. Seasonality

By knowing the behaviour of the nature 8 months are defined in the Sámi calendar, which are also defining the activities of the locals. These months show the circular concept of time, that can be also found in the everyday routine and the change of light and dark hours. By understanding nature and translating the circularity into the building design we can create a more respectful and socially sustainable approach.

3. Nature and human

The relationship between nature and human in the Sámi mindset can be



Summer functions

From April to September each year, ships will be transferred to nearby ports for storage, and we will create a variety of spaces for summer activities on the island. We have set different functions for each month of the summer, including greenhouse, pop-up flea market, concerts, beach activities, sports, natural workshops, food markets, and playground.



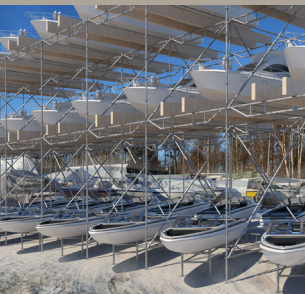
described as co-existence or co-dependence. This knowledge is mostly lacking from our urban dictionary, even though in Helsinki there would be plenty of place for developing our connection with nature.

CONCEPT - REGENERATING RAJASAARI

The main issues with the island are its private nature and careless built environment created during the last decade. Guided by our studies on Sámi values and lifestyle, our aim is to increase access to the island and offer space for co-existing. We focus on seasonality of the functions, living and lifeless environment, and use materials from the surrounding urban environment to make practical and versatile design for people and non-people.

The design consists of a structural scaffolding system for winter and summer functions, and a landscaping plan that increases natural area to regenerate some of the previously built environment, and to increase the urban biodiversity.

We reduce the boat storage area by creating a multi-stories structure that is both lightweight and easy to take apart. The dog park fence will be removed, letting people and animals to enjoy the island freely.



DESIGN PROCESS

Our goals was to create a resilient system that can be adaptable to many functions and many scales in the view of the three values brought from the Sámi culture: materiality, seasonality and human+nature relationship. At the last phase we also added a landscaping part because we realized it is not enough to have a neutral impact on nature, we would rather like to enhance the growth and the biodiversity of the current flora and fauna. By boosting both the flow of people and giving a platform for nature to be, we hope that this design serves as a good example for sustainable architecture.

THE DESIGN

1.Approach and materials

On the original site, all the boats were laid flat on the ground, which would occupy a large area of asphalt. We plan to solve this problem with boats storage racks, a method of boat storage that primarily utilizes vertical space.

We plan to use scaffolding structure to build these racks because it is strong enough and easy to disassemble and reassemble. In the

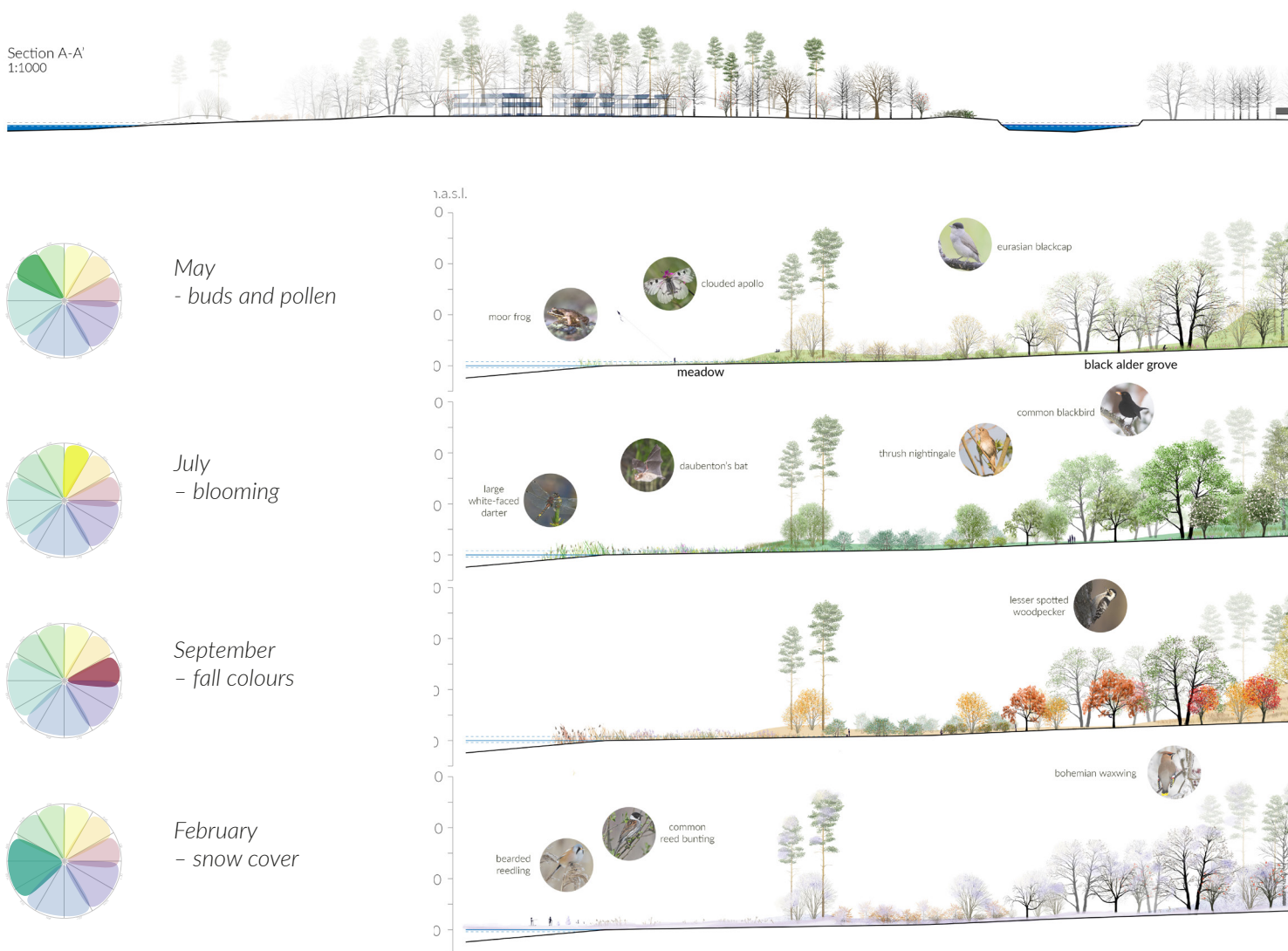
Regeneration

summer we plan to rebuild them into other structures for summer activities such as pop-up flea market, water platforms and workshops. The plastic sheeting used to cover boats in winter will be used on indoor roofs in summer.

2. Landscaping and future

Natural areas in the area are expanded by removing large areas of the asphalt, redistributing the soil in some parts, and kick starting new growth by planting and sowing vegetation. The vegetation will be partly existing one and seeds can even be gathered from the site. To improve biodiversity, some new native species will be introduced to the island as well. The expanded areas will include a meadow, alder grove and a mixed forest.

The growth process will take decades, as the new areas find their space and balance. The system is highly co-dependent within flora, fauna and the human functions. The meadow and forests require regular maintenance, which will be done partly traditionally and partly through



Above and opposite pictures by the group

the functions planned for the island, such as nature workshops that gather material from the surrounding nature.

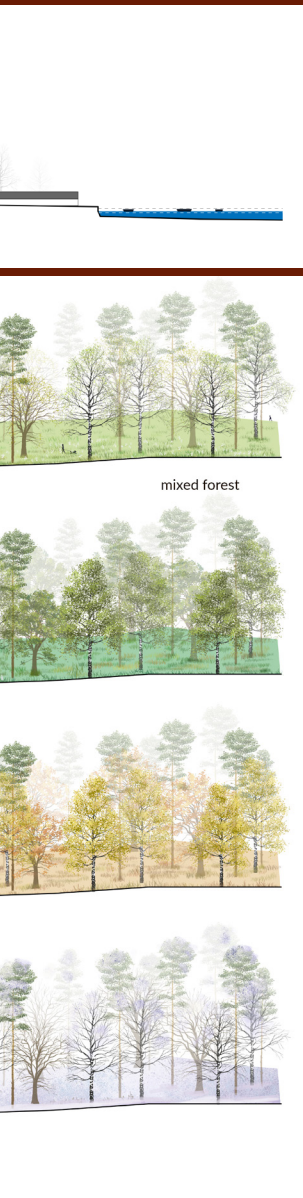
With the dog park and asphalt removed, there will be more calm living and bypassing habitats for various insects and animals.

3.Landscaping principle

Currently the shoreline is made steep to prevent flooding in higher sea levels. The surface is rough asphalt that does not let plants grow and does not let water filter through.

With landscaping the asphalt will be removed, and the soil will be redistributed to make a more gentle slope, which is ideal for layered meadow biotopes. This will improve the soil, slow down surface run-off and create more habitat for plants and animals.

The kick-start vegetation is carefully researched. The plants were decided based on various qualities and needs, such as habitat, height, age, water, salt and wind tolerance, pollinator potential, edibility, and fall colours.



*Nature and Human
On the trip in Lapland*



Lauri Kärpänoja, Maija Moberg, Santtu Virtanen, Saki Sawada



Principles for Sustainable Urban Planning

Pictures by the group

OUR GOAL

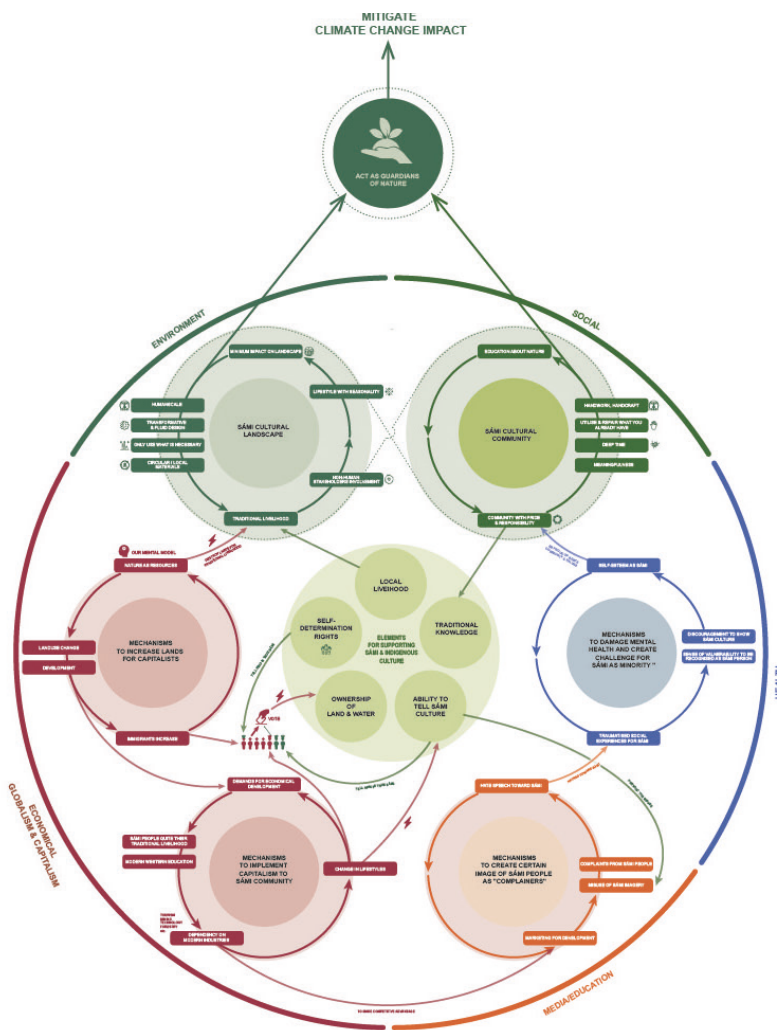
One of the goals of the urban planning team was to gain vocabulary to communicate among diverse stakeholders about sustainable urban development and create tools to help the comprehensive discussion for better decision making.

CLIMATE CRISIS

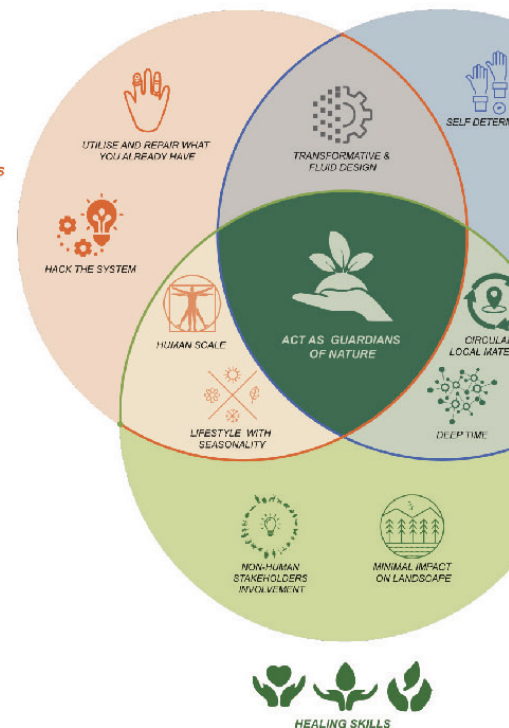
Humans have already caused significant changes to the climate, and scientists say we have only ten years left to avoid the worst effects.

We criticized that the climate crisis is caused by today's mental model that views nature as a resource, so that humans believe that we can control nature with our superior technology and intelligence. Thus we, the humans, have ignored the rhythm of nature.

MENTAL MODEL "NATURE = ECOSYSTEM"



STEM THINKING MAP



PRINCIPLES FOR SUSTAINABLE URBAN P

Thanks to the urban infrastructure, in the Western society people can receive convenient and comfortable services in all seasons, during all 24 hours. Accordingly, people are irresponsible about the climate crisis due to a poor sense of linkage between their daily activities and the consequences. It is due to the urban development under the mental model “nature = resource”.

Due to the Climate crisis emergency, we need to bring a sense of connection to nature back into the urban living environment to make individuals more responsible. Hence, we need a mental model shift toward “nature = ecosystem”. This is something that architects and urban planners can contribute in by designing spaces with an understanding of the elements which support the new mental model.

SYSTEM THINKING MAP

The Sámi culture was a perfect case for learning about living environments and practices under the mental model, viewing nature as an ecosystem since the Sámi lifestyle is very close to nature. So, we created a system thinking map analysis of Sámi culture from materials provided during the studio course.

The main finding of the system thinking map analysis is the mechanisms to let the Sámi people act as guardians of nature and its elements. We understood that the mental model values affinity with nature, conservation, simplicity, co-operation and viewing the world in an interdisciplinary way with the wisdom of the future, past and present, combining sensitivity, intelligence and experience.

The elements of mechanisms from the system thinking map led to the creation of principles for sustainable urban planning. We also want western people to act as guardians of nature in the modern urban environment.

PRINCIPLES FOR SUSTAINABLE URBAN PLANNING

Our twelve principles help people gain three skills to become guardians of nature. We created a document explaining why those skill-sets and principles are crucial and short design guidance for politicians, service and space designers and all other stakeholders.

LET'S DISCUSS

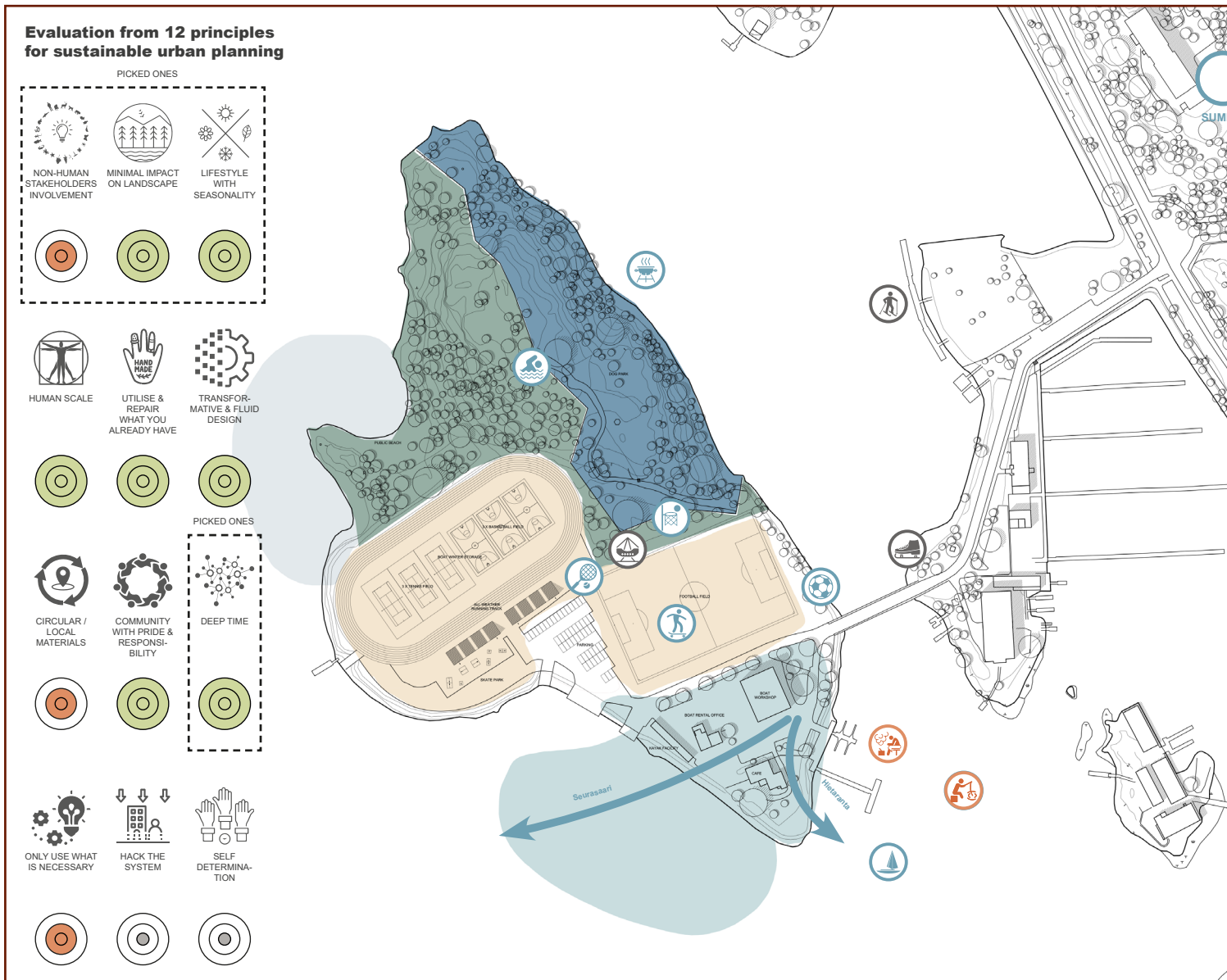
In order to raise the discussion about sustainable urban development with critical views by using the communication tool, we created two extreme different development scenarios in Rajasaari, which is located just between growth and cultural area.



SCENARIO 1: RECREATIONAL

Scenario one is based on the sections of the Helsinki City Plan Vision 2050 that deal with the development of the city's coastal recreational routes and areas. It is intended to advance the city's vision of maritime Helsinki, while at the same time adhering to a set of guidelines that aim to make the visitors of the island into guardians of nature: citizen that are aware of changes happening in the nature around them, and mindful of both the negative and the positive effects their own actions can have.

The four main principles that shaped scenario one the most are non-human stakeholder involvement, minimal impact on landscape, lifestyle with seasonality and deep time. The services situated on the island provide the visitors with multiple, adaptable recreational activities that motivate them to interact with the island's waters, forests, and non-human environment. The services on the island are low-tech and low-impact, and change based on the current season.



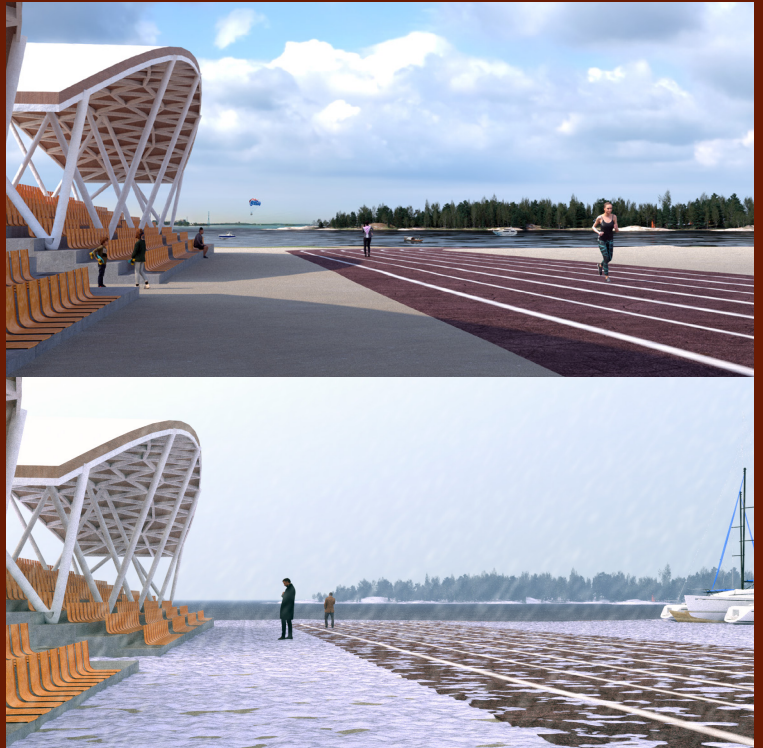
Above and opposite (summer and winter views) pictures by the group

In practice the chosen guidelines manifest as various outdoor activities that can take place on the paved asphalt sections of the island. This then allows the green areas of the island to remain in their natural state, with the forests and rocky beaches of the island remaining untouched. Based on the city's plans, Rajasaari is connected to the current recreational areas of Hummallahti, Seurasaari and Hietaranta, by reinforcing the various water related activities already present on the island. These low-tech water connections help Rajasaari to become just one corner of a whole recreational triangle.

The most visible parts of the plan are the full-size all-weather running track, and the full-size natural grass soccer field. These new activities rely on the existing paved and green areas of the island, making them both low-impact and easily replaceable solutions. Similar low-tech and low-impact thinking is used all throughout the plan. The light-handed approach to land development permits the preservation of most of the island's current functions: most of the current functions of the island are preserved.



The activities available on the island will change based on seasons. As the waters around the island freeze, activities like swimming and boating change to activities like skiing and ice skating. The areas used for summer sports, especially in the center of the running track, can be used as boat storage during winter. This allows most of the original functionality of the island to remain, which is a goal that connects with many of the chosen guidelines.



SCENARIO 2: GROWTH

The growth scenario tries to tackle one of the most problematic questions about sustainability in western culture: the high demand for living space caused by ever rising population and continuous urbanization. When putting these themes together with learnings of indigenous culture ways of living, interesting things can emerge.

The main goal of this more theoretical experiment is to find new solutions or mental models for building large scale, dense urban areas as demand for those will continue to exist or increase as Helsinki 2050 vision forecasts. The way we are building today is not sustainable, so maybe when implementing learnings from indigenous cultures, we can push it in more sustainable path.

We have tried our best to design a high growth urban plan using Rajasaari as a playground to test our design principles derived from Sámi culture in practice.



Above and opposite pictures by the group

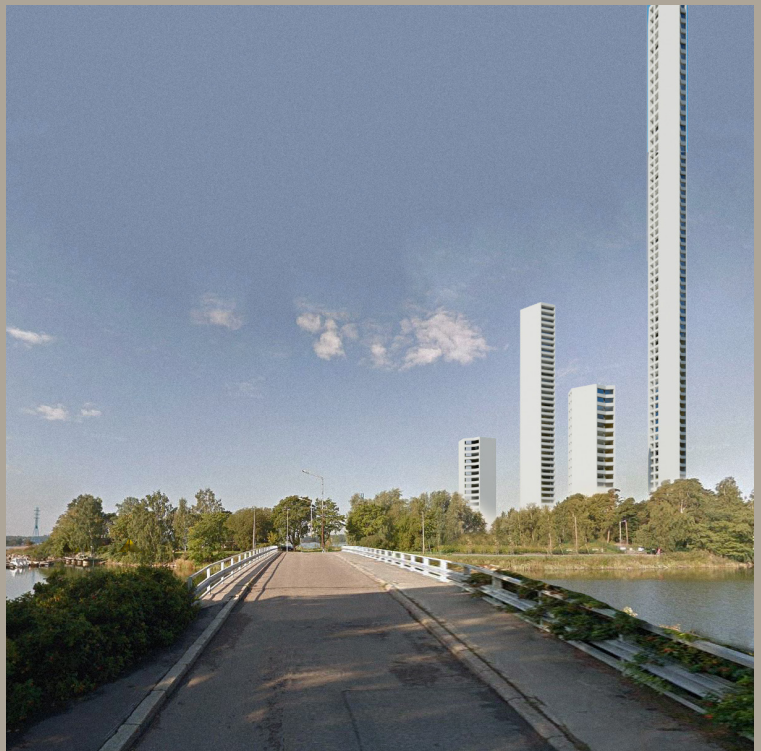
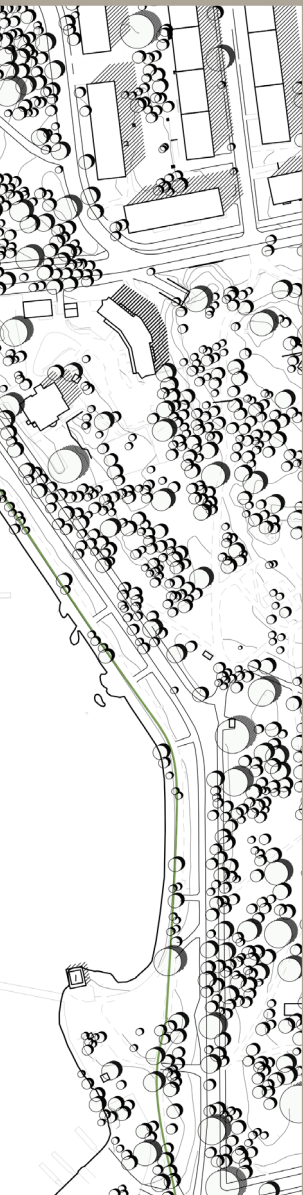
DESIGN OVERVIEW

We have placed 6 housing towers ranging from 10 floors to 50 floors in the site. Towers are located in the old boat parking area and the northern part is left as it is with the dog park removed.

The existing road and the bridge leading to the island is made wider. Road crosses the island after the bridge and dives under the park deck between the towers where all residential parking and other building maintenance equipment are located.

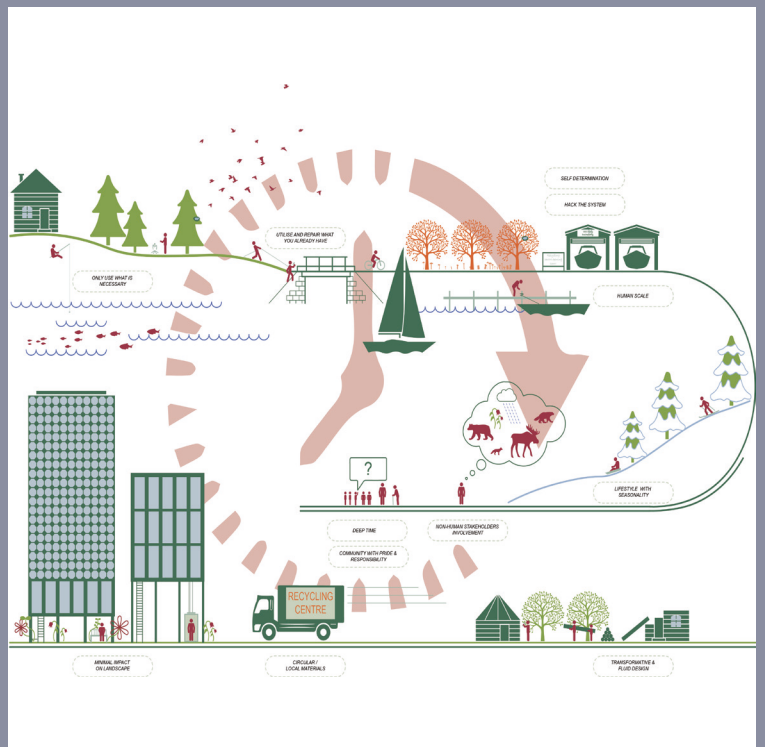
So the area between the towers is free from cars and forms an interesting series of outdoor spaces between the high towers. New planted vegetation is trying to mimic unmaintained naturally formed landscape but also more manicured green fields. Wide walking path divides the area in two and is also drivable with cars or for example emergency vehicles.

Southern part of the island is reserved for workshops, recycling center and material bank for recycled materials. These facilities can be used by individuals for repairing all sorts of equipment and building new ones. Material recycled from towers waste can be utilized freely from the material bank. Boat maintenance services are kept on the island.



View from bridge leading to Rajasaari

Principles for Sustainable Urban Planning



Above picture by the group

Lucas Auvard, Jie Wu, Juhani Laaksonen



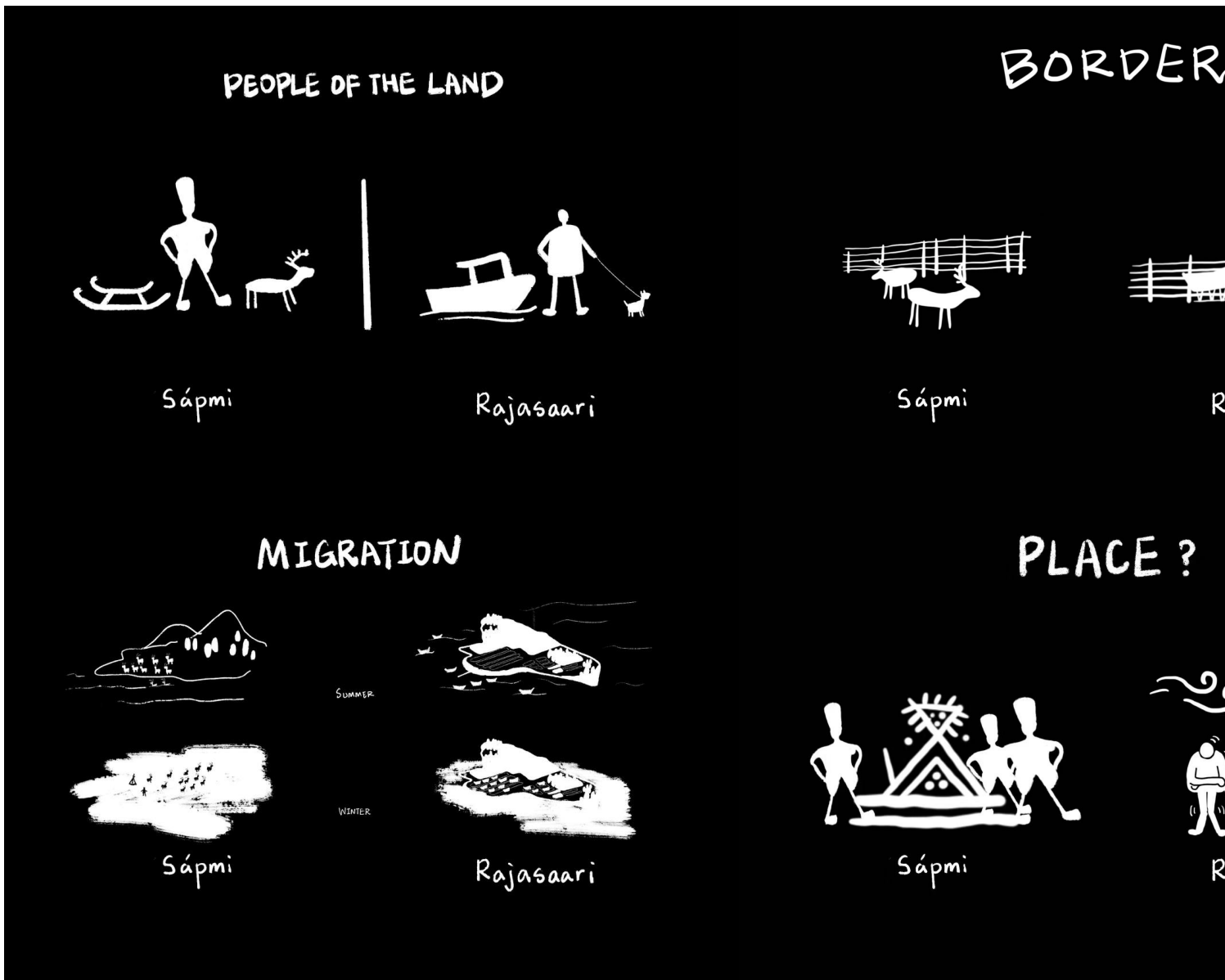
Picture by Lucas Auvard

SÁMI

Sámi culture was a direct result of their environment, at the northmost land. Situating in an extremely harsh climate, there is no chance to develop a stable agricultural society due to the long-lasting coldness throughout the year. The uncertain resource availability resulting in the nomadic lifestyle of Sámi people. Therefore, Sámi people as hunter-gatherers utilized certain territories depending on their needs and the availability of resources and those resources were shared in their group - Siida. Getting to know how Sámi operate their society, we wrote down two key words: Reciprocity and Seasonality.

SÁMI ARCHITECTURE

Architecture always functions as a container that interpret certain culture. So did Sámi Architecture. For their nomadic life and constant moving with the herds, they used to stay in Lavvu – a special mobile tent with wooden carcass and deer skin as “walls”. For their settled life they



used “Goahti” – round wooden dome-like houses. This type of building is designed to sustain winter period and had better thermal insulation.

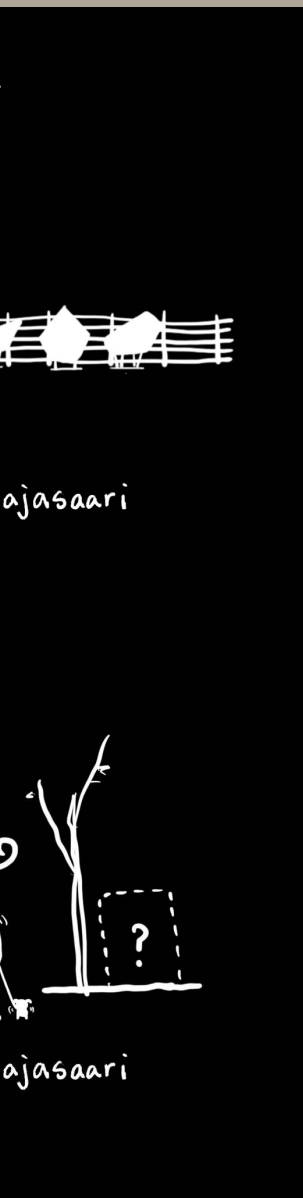
For their technical needs, Sámi used luovvi – a smaller building to store mostly food, and other goods. Luovvi could also be mobile, made from several wooden sticks, and could be more stable if made in a better way. Luovvi usually stand on tall legs-columns, that prevents of animal breaking in and stealing the food. Apart from the prototypes of Sámi culture, we deeply impressed by their concept of construction - “ It meant to decay” - which means they leave no physical traces.

FROM SAMPI TO RAJASAARI

Reflecting a northern indigenous culture in southern Finland at Rajasaari, how should we connect the two sites and how we interpret?

The Rajasaari island is located near the city center and considering the location and connections could serve a broader variety of users than the current, limited use of the dog park and the seasonal boat storage. Even with the current use no part of the island is in such a natural state that would require limiting its use. Thus we see developmental potential in both the now dog park area and the boat parking. Suggested uses take benefit in the current state and are to be unobtrusive and easily achieved, simultaneously making it possible to find a much broader spectrum of uses and user groups the benefit from the beautiful and central site.

We wanted to keep the ideas of making use of local materials, learning by doing, seasonality utilization of land etc. We tried to find the similarities in two areas by comparison. Based on our site visits and several main points that we extracted from Sámi culture, we gradually narrowed down our idea with the stages of permanence.



STAGES OF PERMANENCE

Studying on one hand the Sámi culture and on the other hand the possibilities and development of the island Rajasaari, it gradually dawned on us that the concept of temporary buildings carries more nuances in how a building is expected to perform and exist over time. In order to identify the different qualities, we identified four stages of permanence applicable to our suggestion.



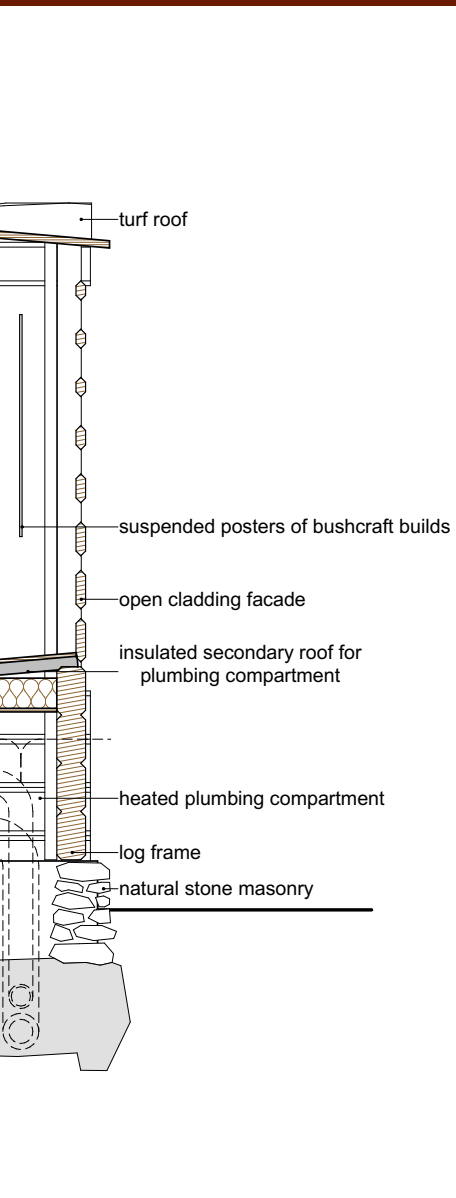
1. PERMANENT WALL



In our suggestion we wanted to keep our permanent presence as minimal and unobtrusive as possible. This is achieved by minimal footprint and traditional subtle materials.

To facilitate the different uses suggested on the site, we wanted to provide infrastructure for multiple uses on site. This includes primarily electricity, water and sewage - all of which are housed in one simple wall structure located relatively central to the different functions of the island. In use the wall will be connected to the more permanent structures on site.

The wall is to be built as a log structure, housing the connections to infrastructure, and a gradually transparent top part housing instructional and inspirational imagery for the spontaneous builds suggested in the bushcraft use of the site. Both the log section and the upper part are constructed in unfinished timber, left to weather over time, similar to the fashion of the current materials and functions on the site. The semi-permanent structures can be built directly in connection, or in the near vicinity of this structure.



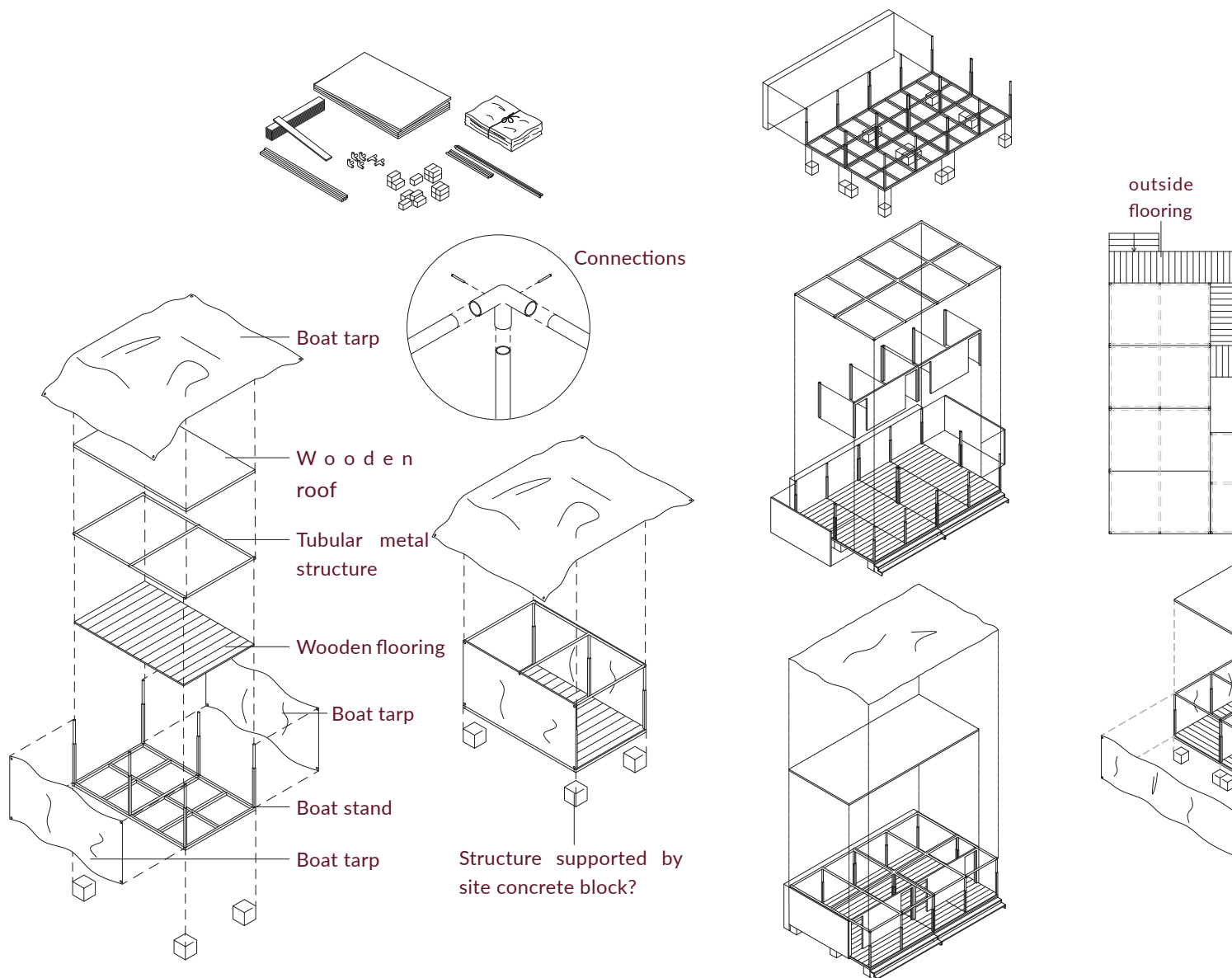
2. SEMI - PERMANENT

Bushcraft classrooms by boats racks & supporting spaces



First, we wanted to create spaces dedicated to learning on the island of Rajasaari. Indeed, while analyzing the site and its surroundings we realized the proximity of the new children's hospital or many elementary schools. We quickly realized that it would be interesting for these children to have access to the island, especially to its natural part. This natural part of the island represents a space where the children could blossom by learning differently, by learning in nature, about nature and in connection with it.

While surveying the site, and in particular the boat park in the southwestern part of Rajasaari, we discovered a very interesting structure, a local resource: the boat stands. These structures allow to support the boats out of the ground when the sea is frozen, in winter and during a part



Materials needed for creating the classroom units

Pictures by Lucas Auvard (left) and Jie Wu (right)

of spring. There are many boat stands on the island, most of them are used during the winter but there are also abandoned ones.

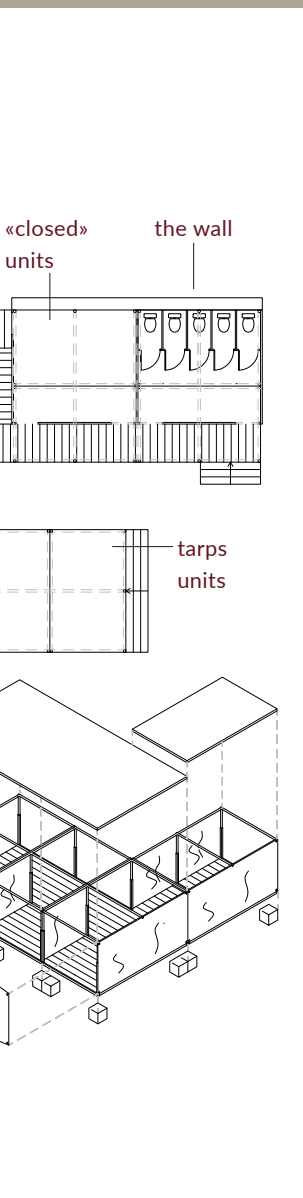
Reusing these boat stands seemed directly interesting to us because it is a resource directly available on the island and when it is used it is only half the year. Also, its dimensions and its rectangular shape allowed us in a rather simple way to imagine units created by reusing them and adding materials. The units then created, during a workshop for example, will be able to create spaces of exchanges, sharing but also and especially spaces of learning.

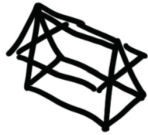
The creation of a unit could be done in a simple, fast and playful way. It would be a matter of using a boat stand, adding a wooden flooring on the metallic frame of the boat stand structure to create a practicable floor. Then, a tubular metal structure could be placed on the “arms” of the boat-stand acting as posts to create a structure to cover the unit. Reused wooden boards could then be placed on top of the metal structure to create a solid roof that could withstand natural elements, such as snow. This roof would then be covered by reused boat tarps, also a resource that is found a lot on Rajasaari. This boat tarp could be removed and put back on very easily and could thus allow to remove the snow stored on the roof in winter quite efficiently for example. It is also these boat tarps that could “close” the unit on the sides, by attaching them to the “arm” of the boat-stand. This solution would allow to create an atmosphere of in-between between the inside and the outside, notably at the level of the temperature. If you want to create more closed and private units, it is possible to close the unit by creating “walls” made of wooden boards. Finally, the whole structure would be arranged and supported by concrete blocks that can be easily found on site or created for the occasion.

The advantage of these units is that it is very easy to assemble them together to create larger spaces and decide how much space you want to create. This modularity allowed by the simplicity and geometry of these structures creates a great freedom in the choice of assembly.

Units requiring access to water and electricity will benefit from the wall presented earlier, which will provide them with what they need. The assembled units will be placed along the wall, and connected to it.

These semi-temporary structures can be on Rajasaari throughout the year, we can add or subtract according to the needs on the island. They have been imagined thanks to the materials and resources present on the island. They are the result of their environment.

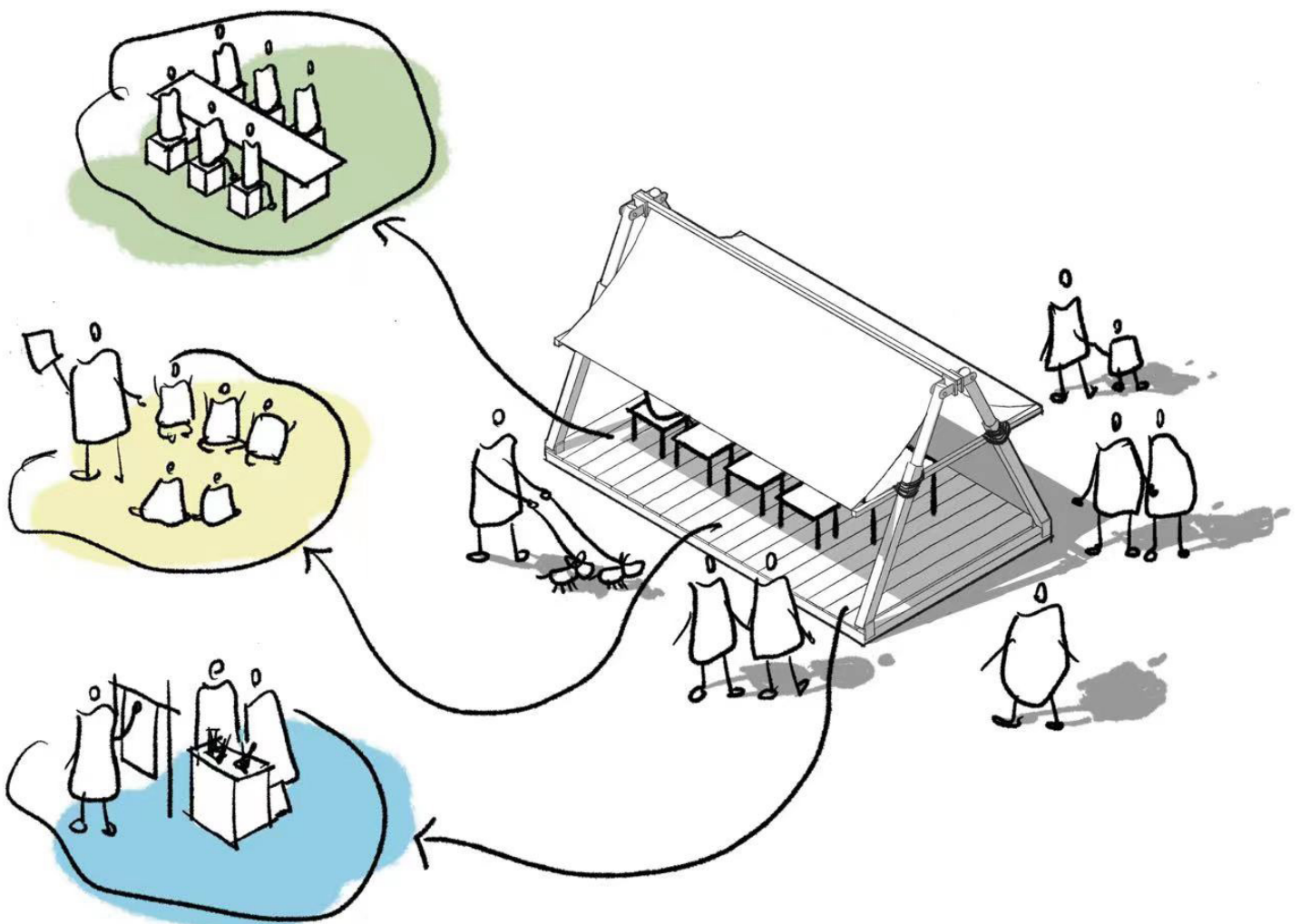


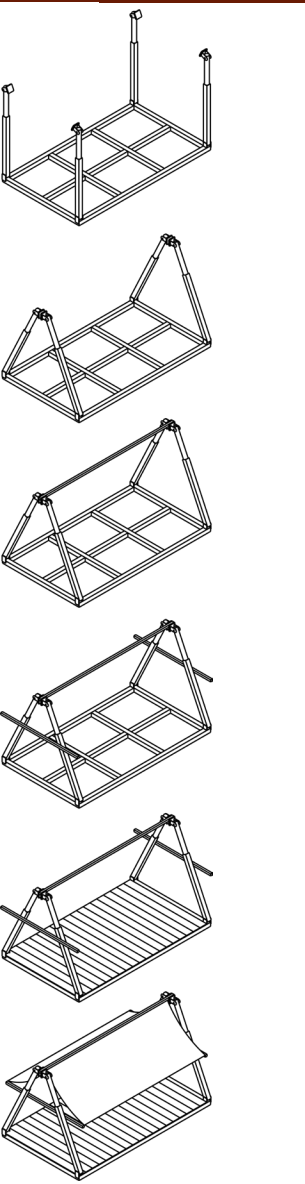


3. TEMPORARY

For the third stage of permanence we thought about an easy structure that could support some activities like place of eating and place of flea markets.

We tried to build on site. Combined with the experience, we optimized the way we build the temporary structure. By making use of the adjustable arms of the rack, the rack itself can easily form a stable triangle. Adding some extra sticks by ropes, a roof by tarps can be easily done.

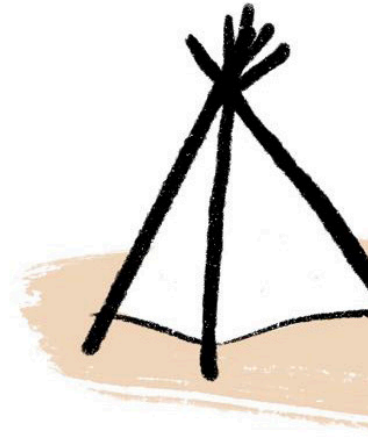
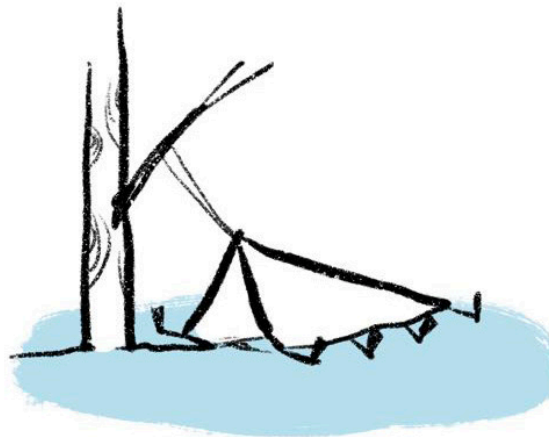
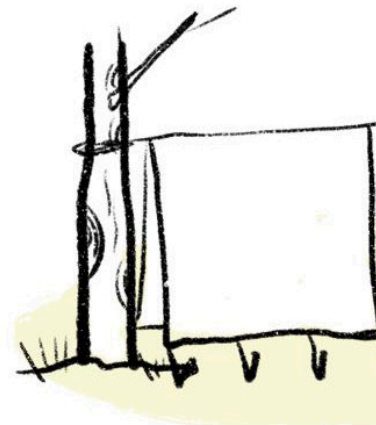
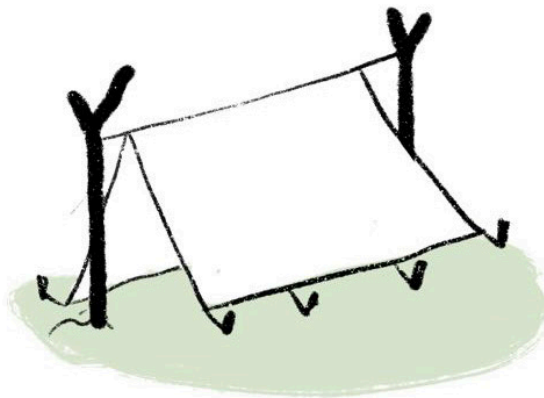
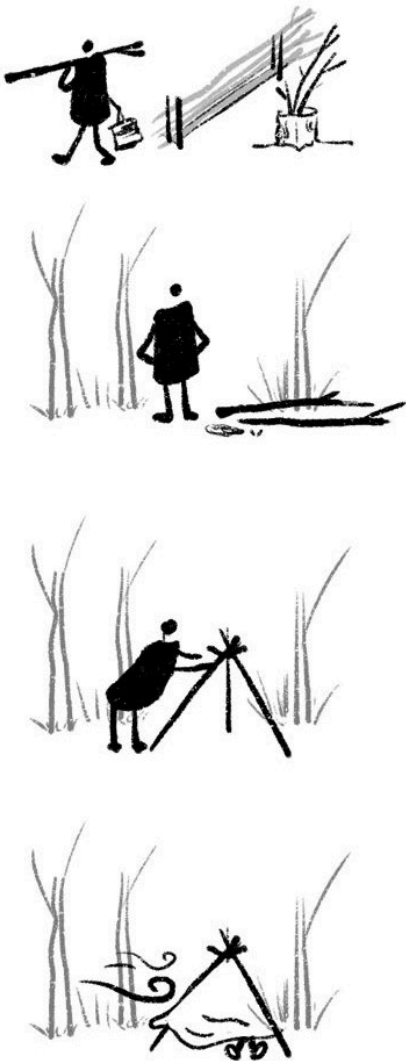






4. SPONTANEOUS

We also want to develop the natural area with the same design logic while we do not want to make too much intervention. Based on the idea of making use of local materials, we will collect and provide the processed branches and tarps in certain natural containers (e.g. dead tree trunk). We will also provide some manual leaflets that can give the basic ideas of how those element can be completed as a shelter. We also expect to see how people will create their own shelter without following our leaflets by their creativity. And we believe something inspiring will happen in this area.

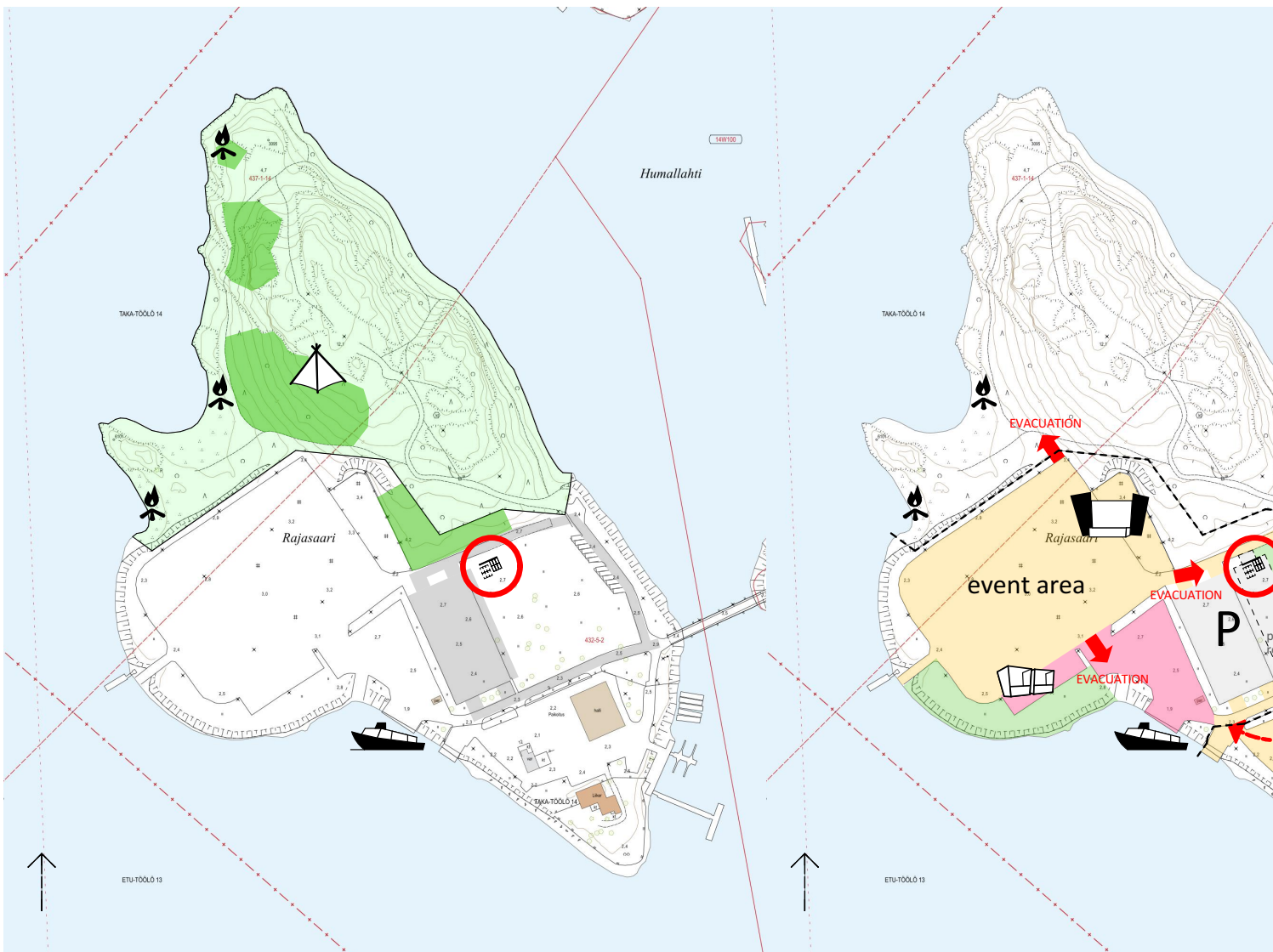




Four stages of Permanence

We identified the boat parking area on the island as a potential venue for different kinds of events. According to the building and safety regulations, the current connections on the island allow arranging events for 900-2000 people. Renewing the bridge connection to the mainland with a two-laned one, the capacity can be increased up to over 3000 people.

Possible events on site could be concerts, dog shows, flea markets, fairs, car shows, bushcraft and scout events, dog agility competitions, etc, making use of both the large empty field, the current uses of the island and the newly provided temporary structures that can be easily adjusted to support the needs of different functions.



Above and opposite pictures : left by Juhani Laaksonen and right by Jie Wu

SEASONALITY OF RAJASAARI

The events are organized by season. The sea will be frozen during the winter time. At that time the frozen sea is accessible and become an extra playing ground for dogs and people. We sorted out three kinds of areas which are forests, paved field and meadow. Different activities are held on certain area.



Four Stages of Permanence



Above picture by Lucas Auvard

Acknowledgements

Before anything else we would like to give our respects and admiration to the Sámi and their wonderful and admirable actions to keep their culture alive against ongoing colonization. We want to honour and thank them.

We would also like to thank our teachers, lecturers, artists, architects, researchers, that helped, guided and informed us:

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There is many more we owe gratitude towards, and we want to thank all contributors who accompanied us on this journey, that we could not cite here.

Finally we would like to thank the Aalto University's Department of Architecture, for supporting and funding this course.

Acknowledgements



Picture by Alice Martin

Interplay of Cultures Studio



Who are the Sámi? What is Sámi culture? What is Sápmi? What can be called Sámi architecture? Who has the right to design in Sápmi? What is cultural appropriation? How can one experience Sápmi? Who has the right to own the land? How can we learn about indigenous culture, here Sámi, without perpetuating colonization? What have we learned about the way Sámi cultures relate to our material reality and how could this inform the way we build today in Western culture as we strive for a sustainable way to live on the planet?

During the beginning of the year 2022 the multidisciplinary architecture master studio, Interplay of Research and Culture introduced 16 students to Sámi culture. Here are a few questions that we asked ourselves, and tried to answer with more questions than definite answers. The focus of this course is on the thematic area of Global Sustainability and Cultural Locality. The aim was to gain insight on sustainable building solutions and culturally sensitive architecture in indigenous northern cultures context.

This publication is the summary of our exploration on the extremely broad and fascinating Sámi cultures. It gives diversified insight on what students explored, learned and understood of Sámi culture and building knowledge.



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