Have you participated in urban planning?

How did it feel?





Multimethod public participation and participants' experiences

Case Viiskorpi & Case Kontula



Pilvi Nummi & Eveliina Harsia 16.3.2023

Multimethod or hybrid participation

- Hybrid or combined approaches that include both online and offline participation methods are recommended as they can reach a wider and more diverse group of participants (Pantić et al., 2021)
- Importance of traditional face-to-face interaction when building shared understanding and converging knowledge (Staffans et al., 2020)
- When combining offline and online participation, four different settings can be identified (Aguilar, 2022):
 - co-located synchronous, distributed synchronous, co-located asynchronous, distributed asynchronous



Our understanding of hybrid participation

Enabling participation in same planning questions with different methods regardless of time and location





Three most important factors in the participation experience?

Answer the question in slido.com #PP2023





Assessing participation experience

User experience			
Ease-of-use	The overall experience of how easy it is for the participant to carry out participatory activities (e.g., receiving information or expressing an opinion, commenting on a plan) using the method or tool available.	(Nielsen, 1993; Zhang et al., 2019; Zhao & Coleman, 2007)	
Satisfaction	How pleasant it is for the person to partici-pate using the method or tool	(Nielsen, 1993)	
Usefulness			
Utility	The extent to which the functionality of the tool or method fits to the participation exercise at hand	(Nielsen, 1993; Zhang et al., 2019)	
Usability	How well participants can make use of the functionality of the digital participation tools	(Nielsen, 1993; Zhang et al., 2019)	



Assessing participation experience

Experience of being heard				
Inclusiveness of the methods/tools	How well the participant can bring out perspectives that are important to themselves	(Meriluoto & Kuok- kanen, 2022)		
Experience of being heard	How do the participant feels that their opinions have been heard	(Hassan et al., 2011; Laine et al., 2022)		
Safety				
Safety of participa- tion	How safe the participant feels while using the tool, engaging in a participation event, and sharing personal information and opinions			
Impact				
Experienced impact on planning	How do participants feel that their opinions have been taken into account in the plan or planning process	(e.g., Laine et al., 2022; Ruming, 2019)		

Assessing participation experience

Quality of information	n	
Comprehensibility	How readable and understandable is the information given and the language used	(Belausteguigoitia et al., 2021)
Fit for information needs	How well does the participant get the information they need when participating	(Benyon, 2020; Nummi & Harsia, 2022)
Inclusive information	How well the participant knows what is going to be planned on the area, and how to participate and impact on planning	(Belausteguigoitia et al., 2021)
Openness and transparency	How open and transparent the participant perceives the communication	(Hassan et al., 2011; Laine et al., 2022)



Three most important factors in the participation experience?

Answer the question in slido.com #PP2023





Case Viiskorpi

Multimethod public participation and participants' experiences

Pilvi Nummi

postdoctoral researcher Aalto-yliopisto & FinEst Centre for Smart Cities, TalTech 16.3.2023









Viiskorpi framework plan

- A new climate-wise, mixed-use center in Northern Espoo
- Framework plan is an informal frame for future detailed planning with no legallybinding effects
- Aim was to ensure the participatory information to be utilized in the planning process





Defining goals and knowing the participants

In Viiskorpi, the main target groups were identified as "those whose lives are most affected by planning".

Aiming for a **continuum of participation** from vision to land use plan:

- Clarification of the previously developed vision
- Articulating the characteristics of the area
- Preferences for the townscape and green environment
- Feedback on land use solutions

Welcome to Hupmobile's **Participatory.Tools**

Improve & enrich your Stakeholder Engagement Process with 5 easy steps



Participatory.tools you can find tips for designing digital participation



Participatory process for Viiskorpi

Aim: Possibility to participate in same planning questions regardless of the method

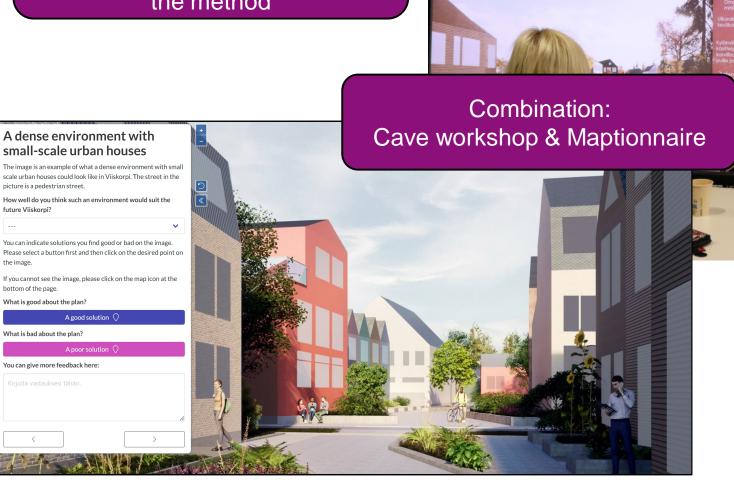
small-scale urban houses

What is good about the plan?

What is bad about the plan?

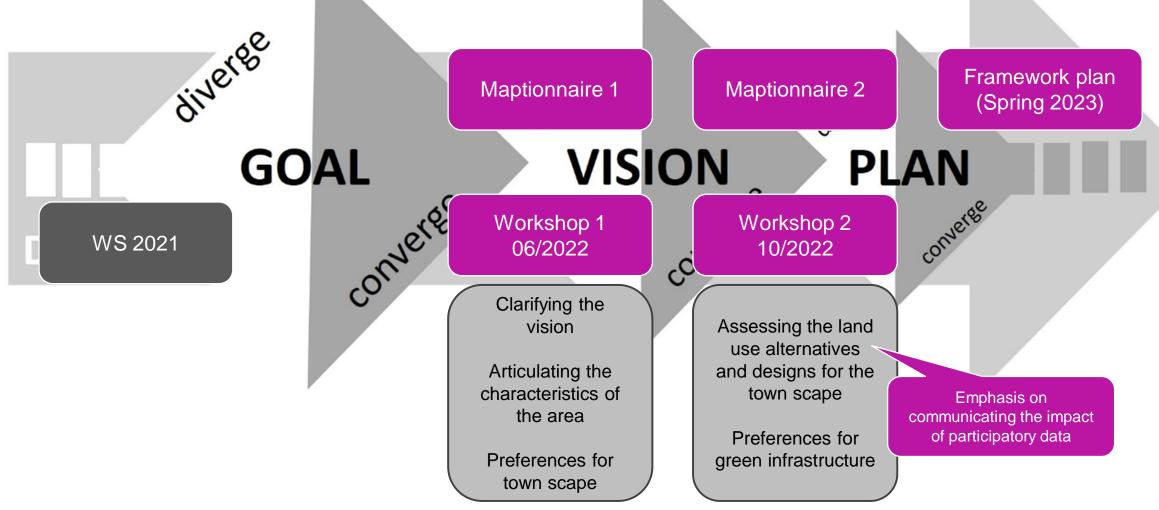
You can give more feedback here

A good solution 🤇



Real-life planning process: possibility to assess participation experience

Participatory process for Viiskorpi

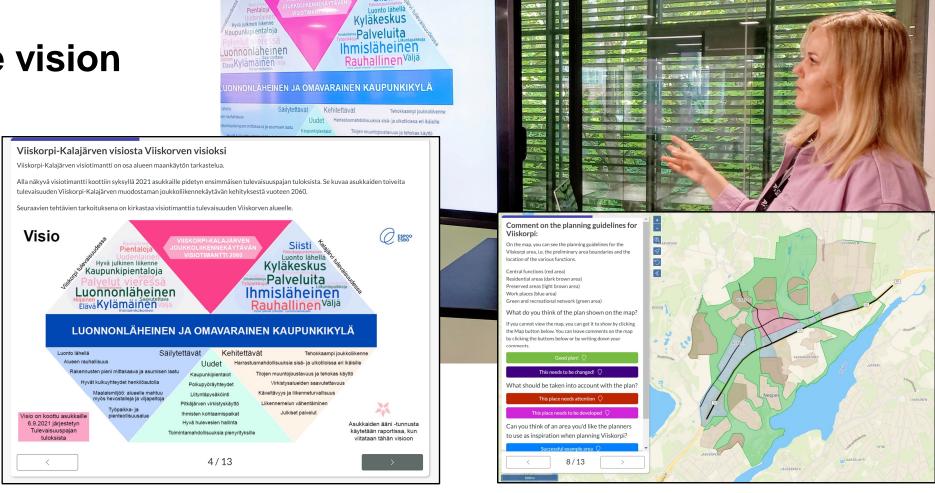




Vision Phase: Clarifying the vision

Themes

- Refining the vision
- Townscape
- Land use

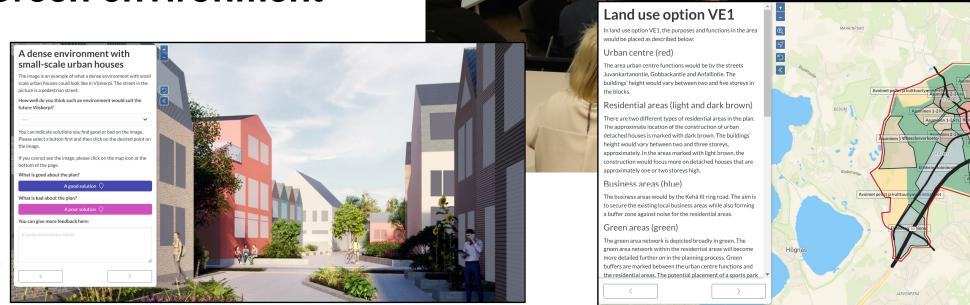




Plan Phase: Commenting plans

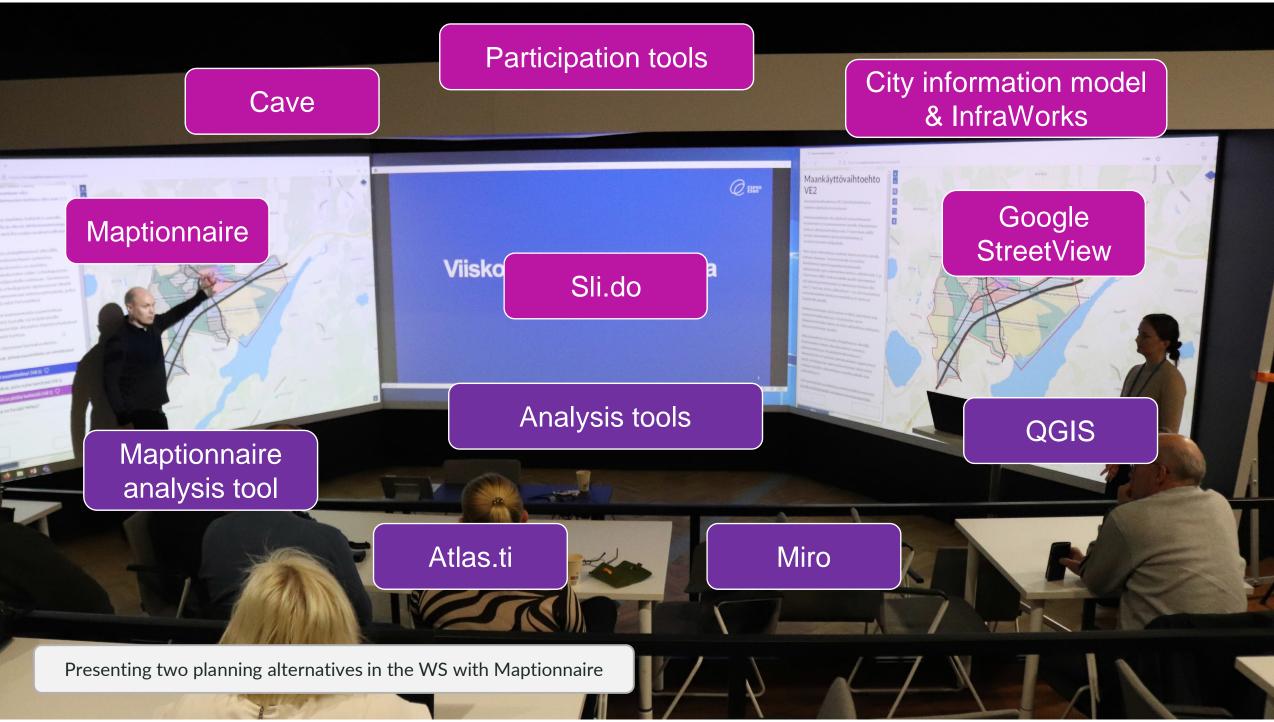
Themes

- Townscape
- Land use
- Green environment



Viiskorven tulevaisuuspaja



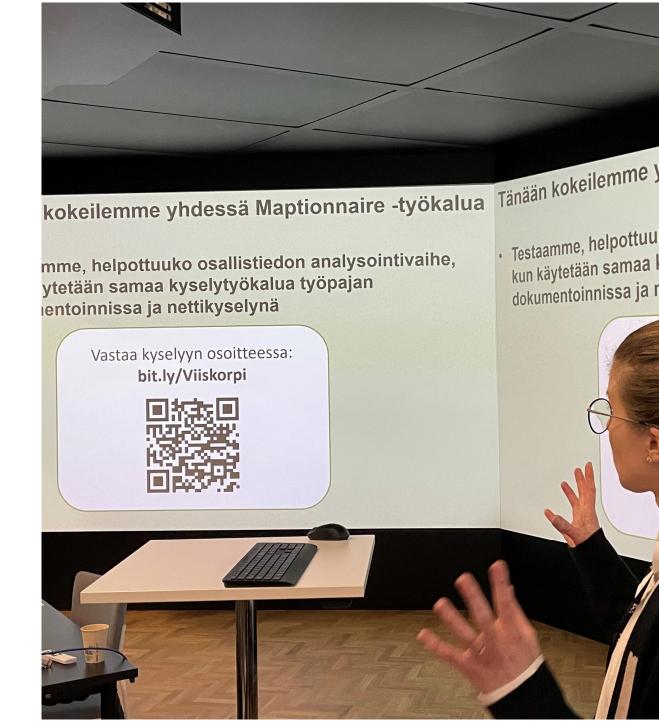


Maptionnaire in Viiskorpi

Versatile use of a map survey:

- for sharing information
- gathering experiential information
- gathering feedback on plans
- as a web survey for wider audience
- for facilitated answering in the WS
- for presenting planning alternatives in WS
- documenting the WS



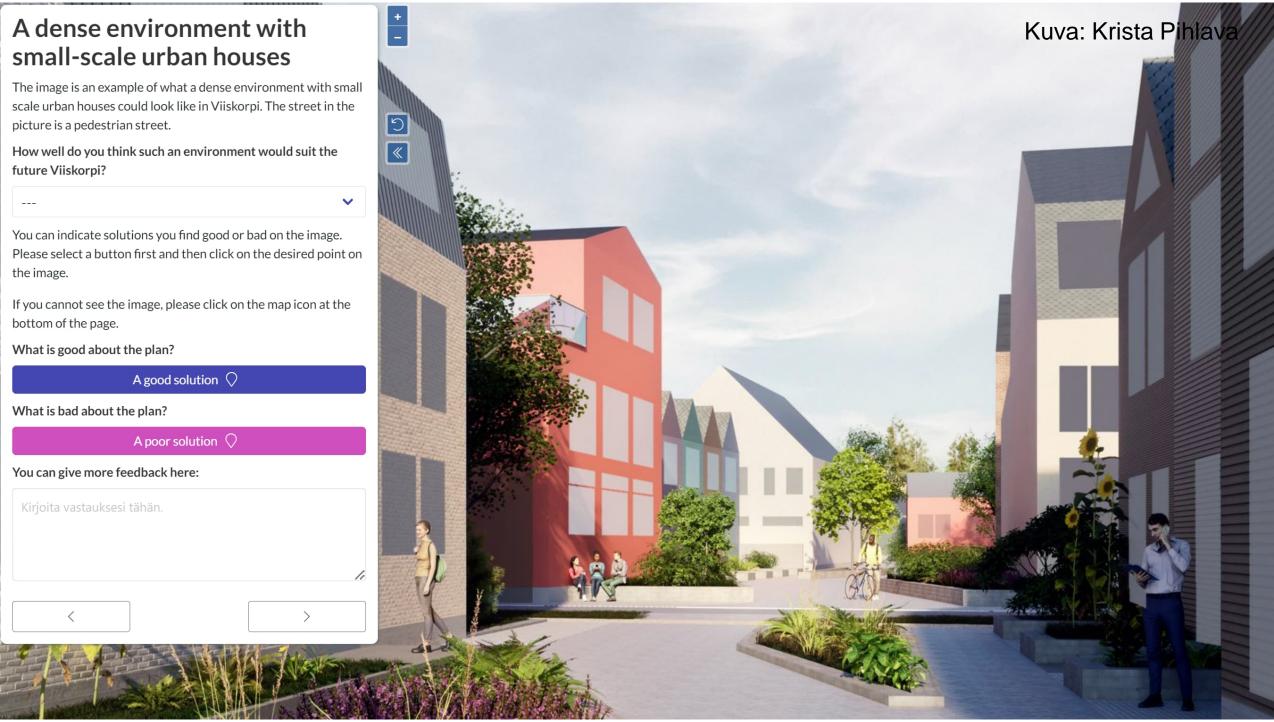


Example of the continuum: Assessing the city scape in both phases







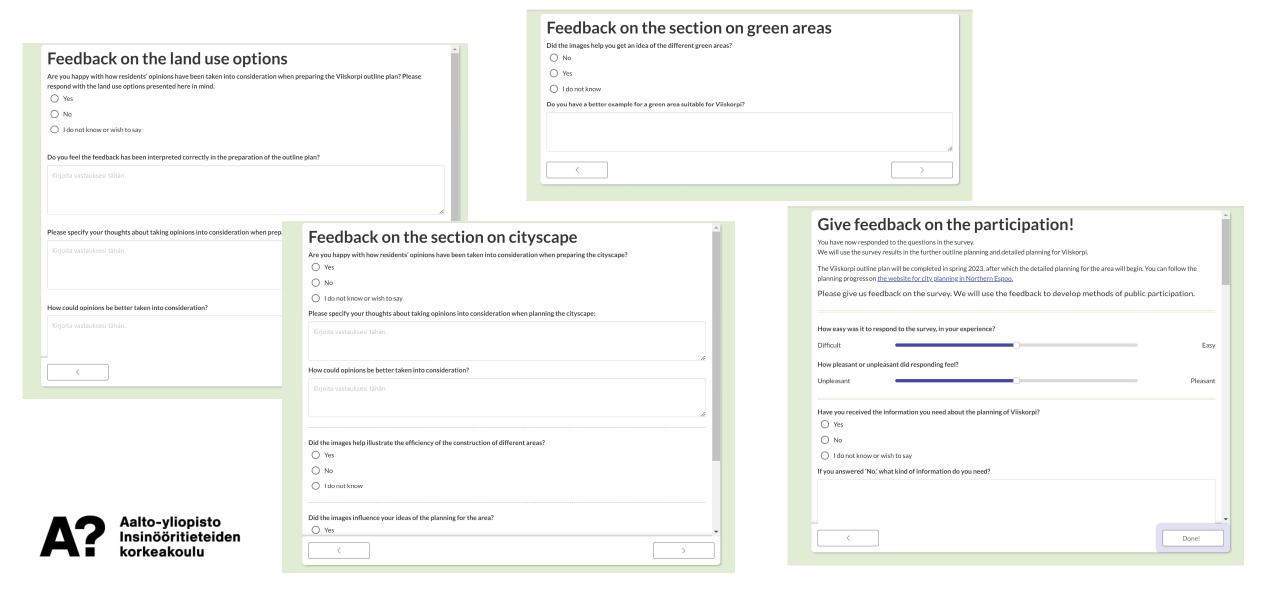




Participants' experiences of the Viiskorpi process



Gathering feedback on participation



Diversity of participants

Altogether 243 participants:

- Cave workshops: total 30 participants
- Online surveys: total 213 respondents

Age groups:

- The majority of the workshop participants is between the ages of 40-60.
- With online surveys, also younger people were reached, although the age groups from 30 – 60 are predominant.
- Young and elderly people are not represented in either method.



Table 4: Participants' backgrounds and demographic information of the residents in the Viiskorpi planning area

	Cave		Cave		Residents
	WS 1	Survey 1	WS 2	Survey 2	of the area
Total participants	N=14	N=108	N=16	N=105	N=342
Gender		N=102	N=15	N=105	N=342
Female		49 %	53 %	60 %	47 %
Male		47 %	47 %	35 %	53 %
Other		1 %	0 %	1 %	
Age group	N=13	N=88	N=14	N = 96	N=342
under 20	0%	2 %	0 %	5 %	27 %
20-29	0%	6%	0 %	9%	89
30-39	0%	20 %	14%	22 %	8 %
40-49	23 %	41 %	29 %	28 %	169
50-59	46 %	23 %	50 %	17 %	16%
60-69	15 %	6%	0%	15 %	12 %
70-79	15 %	2 %	7 %	4 %	89
80 +	0%	0%	0%	0%	4 %
Native language	N=14	N=92	N=14	N=102	N=342
Finnish	93 %	90 %	93 %	86 %	72 9
Swedish	0%	10 %	0%	10 %	199
Other	7 %	0%	7 %	4 %	99
Family type	N=14	N=81	N=13	N=97	-,-
Living alone	7 %	6%	0%	6%	
Living with a partner	43 %	37 %	31%	51%	
Living with parents	0%	1 %	8%	5 %	
Living in a community	0%	1%	0%	2 %	
Family, children under school age	14 %	23 %	15 %	21 %	
Family, children of school-age	57 %	49 %	54 %	39 %	
Another	0%	4 %	23 %	1%	
Level of education	N=14	N=79	N=13	N=92	
Comprehensive school	0 %	3 %	0%	8 %	
Intermediate / upper secondary	14 %	20 %	31 %	13 %	
level	1170	20 70	31 70	13 70	
Lowest higher level	7 %	1%	8%	7 %	
Bachelor's degree or similar	43 %	29 %	31 %	27 %	
Master's degree or similar	29 %	44 %	31 %	43 %	
Post-graduate researcher education	7%	3 %	0%	1%	
Other	0%	0%	0%	1%	
Home building type	N=14	N=80	N=13	N=95	
Block of flats	14 %	3 %	8%	7%	
Terraced house	0%	10 %	8%	12 %	
Detached house	86 %	84 %	85 %	74 %	
Other	0%	4%	0%	7%	
Mode of housing	N=14	N=79	N=13	N=95	
Owned-occupied	93 %	95 %	77 %	N-93 84 %	
Rental	0%	4 %	0%	6%	
	0%		15 %	4 %	
Right-of-occupancy Other	1%	1 % 0 %	8%	4 % 5 %	

Relationship to the area

One of the most important questions!

Results in Viiskorpi:

- Workshop participants were local residents, many were also landowners
- Survey engaged residents from the surrounding areas
- Did reach entrepreneurs only in the second survey

Table 5. Participants' relationship with the planning area and previous participation experience

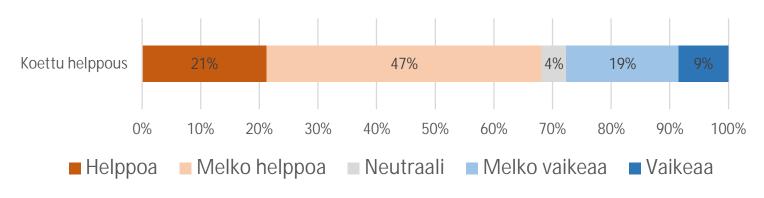
	Cave	Survey	Cave	Survey 2
	WS 1	ĺ	WS 2	•
Total participants	N=14	N=108	N=16	N=105
Previous participation				
Has participated in urban planning	100%	60 %	92 %	67 %
	(N=14)	(N=75)	(N=13)	(N=93)
Has participated in planning of Viis-	67 %	35 %	92 %	44 %
korpi	(N=14)	(N=75)	(N=13)	(N=90)
Relationship with the Viiskorpi area	N = 14	N = 86	N = 14	N = 101
Lives in the Viiskorpi area	50 %	35 %	64 %	22 %
Lives close to the Viiskorpi area	21 %	49 %	21 %	60 %
Lives elsewhere in Espoo	21 %	10 %	7 %	16 %
Is planning to move to the area	0%	2 %	21 %	4 %
Owns land in the area	43 %	9 %	21 %	17 %
An entrepreneur in Viiskorpi	0 %	0%	0 %	5 %
Works in Viiskorpi area	0 %	1 %	0 %	1 %
Represent an NGO in the area	0 %	1 %	7 %	2 %
An elected official of the city	0 %	1 %	7 %	2 %
A Planning officer for the area or	7 %	1 %	0 %	0 %
another representative of the city				
Visits the green areas and recrea-	29 %	13 %	43 %	17 %
tional areas in Viiskorpi				
Frequently passes through the area	7 %	20 %	43 %	25 %
Occasionally visits the area	7 %	7 %	0 %	18 %
Construction company representative	_	_	_	0 %
Other	7 %	3 %	7 %	4 %



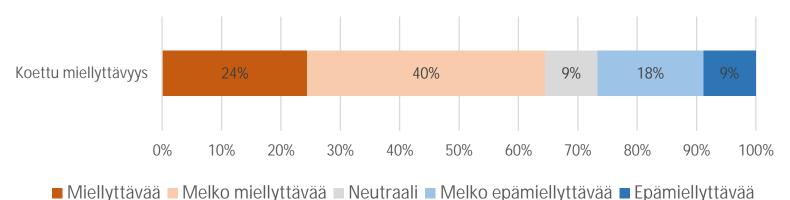
Ease and pleasantness

- Majority of the participants found it easy and pleasant to participate
- One-fifth of the PPGIS surveys found answering difficult
- Difficulty and unpleasantness are related
- No problems with the comprehensibility of provided information – experienced difficulty of participation rather seems to relate to the informations misfit for participant's needs

Kuinka helpoksi koit kyselyyn vastaamisen? (n=47, kysely 1)



Kuinka miellyttäväksi tai epämiellyttäväksi koit vastaamisen? (n=45, kysely 1)





Experience of being heard

Experience of being heard is twofold:

 Can the participants express opinions on topics important to them?

> One-fifth of the PPGIS respondents felt they were not able to bring out important perspectives (relates to the experienced difficulty)

In the workshops, all participants told they were able to give their opinions on personally important aspects (limitations of questionnaire)

Do they feel their opinions are heard?

In the first survey, there were less positive answers than in the second one (statistically significant difference)

In the second phase, the participants were given information on how the participants' opinions were taken into account, which may have had an impact on these positive experiences.





■ En osaa tai halua kertoa

The impact of participatory information

- How the participatory input gathered in the first workshop is taken into account in planning was highlighted in the second workshop.
- How can participatory information be taken into account in the land-use plan and in verbal planning guidance, e.g:
 - specific areas where the urban landscape should be developed in a small-scale and "village-like" way
 - guidance on construction methods in the general planning guidelines





Perceived impact

In the second phase of the participation, participants were asked how they felt the opinions collected in the previous phase had been taken into account in the planning process. They were also given information about how the opinions have been understood by the planners, and how the planners see that they could impact the plan.

- Less than half of the respondents of the second PPGIS survey (41%, n=46) were satisfied with the way in which opinions were taken into account in the planning process.
- A bit higher proportion (46%, n=46) could not say, and a proportion (13%, n=46) felt that the **opinions were not taken into account** in planning.

The negative experiences seem to be **related to the building** density and interpretation of residents wishes:

 The residents have expressed a desire for town houses in the area, and the planners' interpretation of this is different from that.

Feedback on the land use options Are you happy with how residents' opinions have been taken into consideration when preparing the Viiskorpi outline plan? Please respond with the land use options presented here in mind. Yes O No O I do not know or wish to say Do you feel the feedback has been interpreted correctly in the preparation of the outline plan? Please specify your thoughts about taking opinions into consideration when preparing the Viiskorpi outline plan: How could opinions be better taken into consideration? Do you have any other comments or views about the planning of Viiskorpi? You can submit anything you have on your mind that shou be taken into account in the planning.

Recommendations

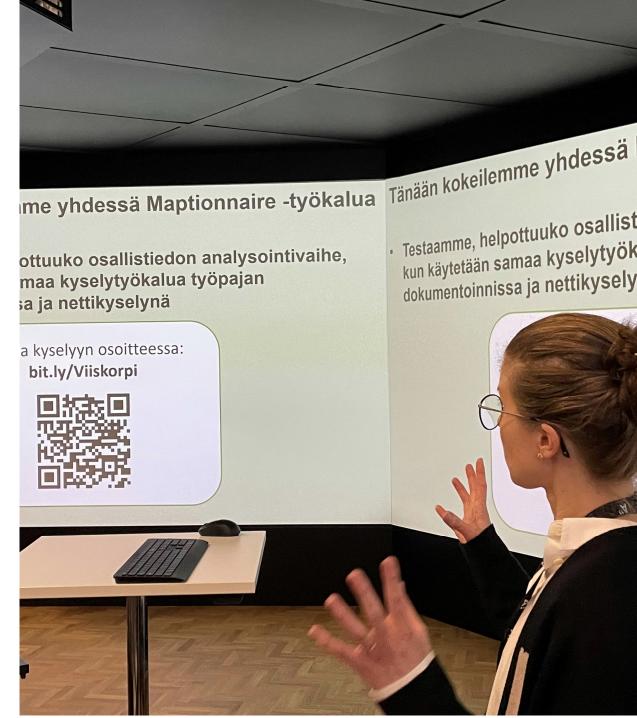
Participants' needs for participation can be gathered in a real-life planning project

 Utilize feedback from previous planning / participation phases

Gather feedback on different aspects of participation experience:

- Ease & pleasantness of participation
- Perceived quality of communication
- Themes important to the participants (& knowledge needs)
- Experience of being heard
- Experiences of transparency and trust
- (Experienced) Impact on planning outcomes

Remember to gather background information!



Case Viiskorpi was implemented together with:







Aija Staffans Marketta Kyttä Pilvi Nummi Eveliina Harsia Saana Rossi Venla Salomaa Krista Pihlava Nikolay Bobrov Annika Tuominen Johanna Palomäki Jatta Lahtinen Jussi Partanen Tuuli Aaltio

Aino Leskinen Jouko Lappalainen Heli-Maija Nevala Mervi Romppanen

3 most important factors in the participation experience?



Case Kontula Mall

The case is part of changemaking program 2021 (SitraLab) of the Finnish Innovation Fund (Sitra). The program aimed to address the bottlenecks of Finnish democracy





Kontula Mall

Kontula is a multicultural suburb in East Helsinki

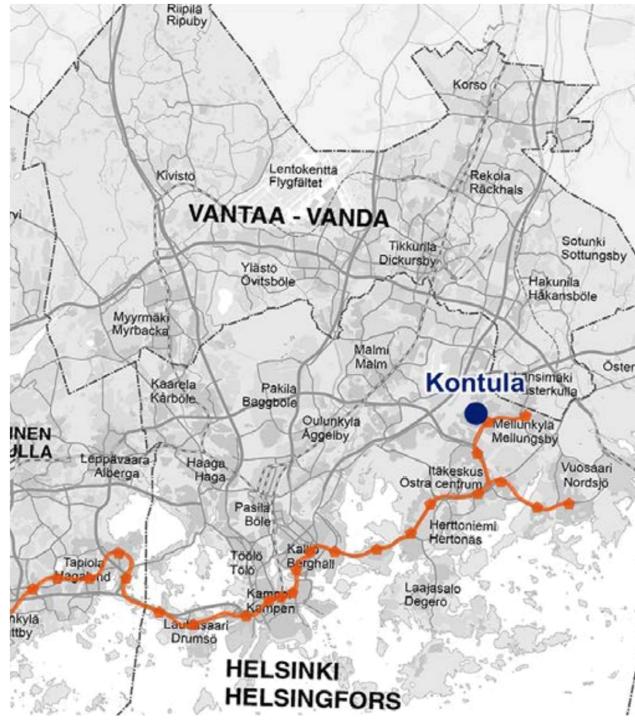
 More than 30% of Kontula's inhabitants are nonnative speakers.

Kontula Mall:

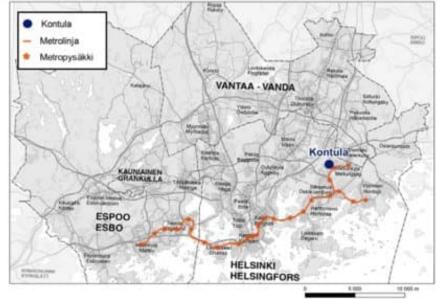
- built in the 1960s and 1980s
- a total of 80 businesses, almost half of whose owners are of immigrant background
- known for its cultural activities and ethnic restaurants, but also for complex social problems







Kontula is a multicultural suburb



More than 30% of Kontula's 15,000 inhabitants are nonnative speakers.

The mall has a total of 80 businesses, almost half of whose owners are of immigrant background.

The entrepreneurs are a key group of actors at the mall.

Immigrant entrepreneurs have remained on the margins in urban planning.



The Kontula Mall

Kontula Mall is a strip mall built in the 1960s and 1980s in East Helsinki.

The mall is known for its cultural activities and ethnic restaurants, but also for its complex social problems.

The City of Helsinki owns the site of the mall

- which is leased to four companies, two of which are owned by the City of Helsinki.
- The other two companies are owned by several shareholders of varying sizes.
- About 30% of the ownership in both companies belongs to small entrepreneurs who own their business premises (Colliers Int., 2019).

Fragmented ownership and constructions (e.g. metro line) makes the development of the mall challenging.











Ongoing planning process aims to renewal of the mall

- On-going detailed planning process since 2015
- In 2019 development reservation for property owners of the mall
 - The aim of the renewal is to increase the amount of commercial space add 70 000 k-m2 of housing in the area
 - in 2020 architectural competition

In practice, this means replacing the existing mall with new buildings.

The immigrant entrepreneurs are a key group of actors at the mall,but have remained on the margins in planning.

• Urban planners feel that they have worked hard to promote participation. However, it feels difficult to involve immigrants and lack of resources.



Architectural office Opus

Immigrant entrepreneurs as participant group

Insufficient knowledge of Finnish society (e.g. the Planning system) and participation rights

Challenging timetables of entrepreneurship

- Participation must bring tangible benefits (e.g. access to necessary information)
- participation must be effective

In addition, depending on their background, immigrants may have

- Lack of trust in public authorities
- Security important e.g. how participatory information is handled
- Language and cultural barriers





Expanded urban planning (EP)

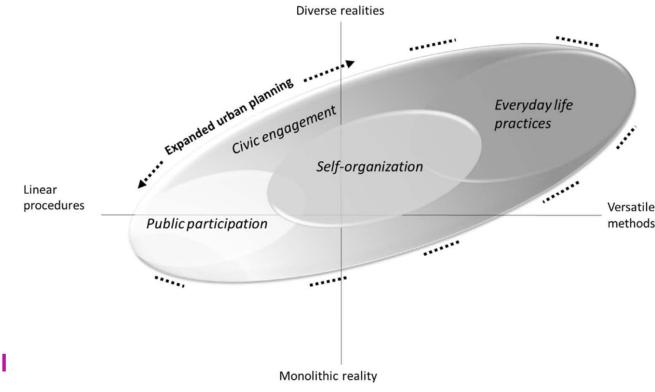
Our research builds on the concept of expanded urban planning.

Planning practices tend to describe processes as linear and rational. EP seeks to describe **the complexity of urban development** e.g. different kind of partnerships.

In extended urban planning, the active engagement of local people is seen as **an asset and a** prerequisite for understanding the needs of the neighbourhood.

EP expands citizen engagement from institutional planning to urban development processes. (Staffans & Horelli, 2014; Wallin, 2019).

In this concept, participation is not only about participating in formal planning processes, but also about self-organisation and involvement in one's own living environment through everyday life practices.



The detected forms of civic engagement comprise:

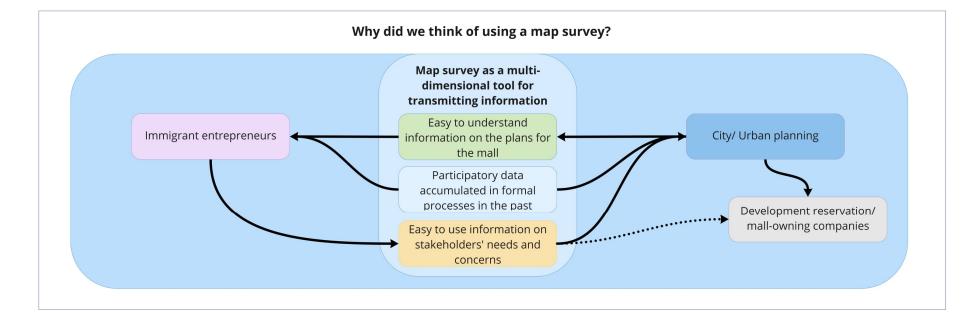
- Public participation (Innes & Booher, 2009; Healey, 1997) that takes place in the formal urban planning and decision-making processes.
- Everyday life practices which make changes in the physical and social construction of urban space (de Certeau, 1984; Kuoppa, 2016)
- Self-organization in which people take action outside formal organizations, including non-governmental organizations NGOs (Faehnle & al., 2017; Boonstra & Boelens, 2011; Boonstra, 2015)

Source: Wallin, 2019

Bottom-up participation/ bridge building process design

Our aim was

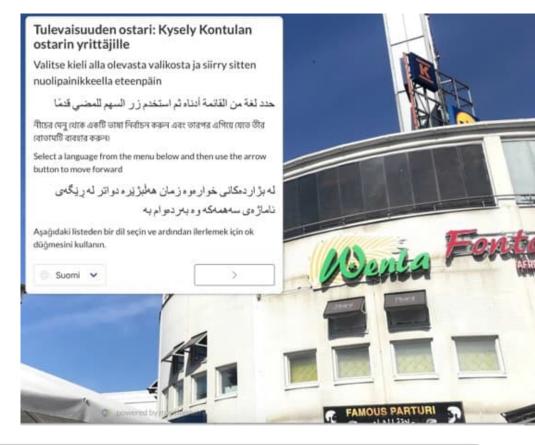
- to build a bridge between urban development and a key stakeholder group in the place, but marginalised in the planning process (immigrant entrepreneurs)
- together with local active stakeholders
- using a well-established ppgis-tool (Maptionnaire) in planning practice





"The mall of the future"questionnaire Tulevaisuuden ostarin yrittäji Valitse kieli alla ol nuolipainikkeella

- Designed with local stakeholders
- Tested with an entrepreuner
- Serves as an interview/discussion platform and as a self- or assistedresponse online survey
- 6 languages (Arabic, Bengali, English, Finnish, Turkish, Sorani)





Structure and content of the map questionnaire

1. Language selection

(Arabic, Bengali, English, Finnish, Kurdish, Turkish)

2. Information about the project and the questionnaire

information
(Respondent's role in relation to the mall, gender, age group, native language, spoken languages)

3. Background

4. Mapping the soul of the mall (Important places and

(Important places and aspects of the mall)

5. Imagining the future of the mall

(Desired changes and aspects to be preserved)

6. Feedback

(Experiences of information sharing and the questionnaire, needs for participation, current information sources and discussion forums, fears and concerns)

We offered different ways of responding in the same questionnaire

- independent answering online
- assisted answering at the library
 - interpretation available in Bengali, Arabic/Kurdish, Turkish
- assisted answering in the entrepreneur's own shop
 - the entrepreneur was able to contact us and invite us to the shop
 - 3 visits to the mall in 22 businesses with 3 different interpreters (Bengali, Arabic/Kurdish, Turkish)

In addition:

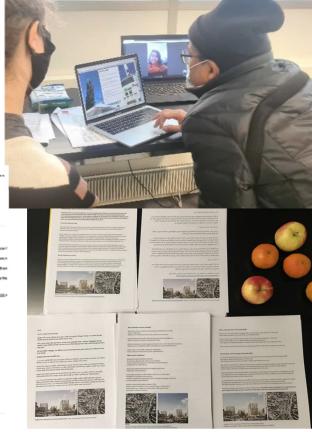
A leaflet about the project in 5 languages was distributed to all entrepreneurs

Distribution of multilingual information material on the Finnish planning system and participation and Kontula planning

 In 5 languages (Arabic, Bengali, English, Plain-Finnish, Turkish)











Responses for the map questionnaire (n=21)

The questionnaire data consisted of **21 responses and 34 map locations**.

The submitted answers consisted of different kind of responses: independently submitted answers, responses made during interviews together with translators, and researchers field notes.

13 immigrant background entrepreneurs answered the questionnaire

- more than 40% of immigrant entrepreneurs / 20 % of all the entrepreneurs
- 72% men
- 20-69 years old
- Kurdish and Bengali most common mother tongues

Assisted answering with the help of an interpreter in the shop was the most popular way of answering

There were participants who responded independently, but most of the entrepreneurs who said they would participate independently did not answer to the questionnaire at all

	NON-FINNISH SPEAKING ENTREPRENEURS	FINNISH SPEAKING ENTREPRENEURS	OTHER RESPONSES	TOTAL
Assisted answering at the library	4	0	0	4
Assisted answering at entrepreneur's own business premises	7	0	0	7
Independent answering	2	3	2	7
Field notes submitted by the researcher	0	0	3	3
Total responses	13	3	5	21

Participation experience (planning)

1/3 of the entrepreneurs who participated had not previously been informed about the ongoing planning

 1 entrepreneur had participated in a workshop during the competition, but did not know the impact of this participation

For those who were informed the information given by the city or the mall companies was not understandable or didn't answer to the information needs.

Information is particularly requested in the entrepreneurs' own languages, although half of the respondents report that they can speak Finnish.

The respondents would value informal and interactive meetings at the mall, in encounterigns such as those meetings arranged in our project.

"I have had difficulty getting clear information about planning and my fate."

"I own the business and have rented the place.
The timing of the renovation is crucial for my business because I have children and a family. It's really important that I have a profitable business. I am concerned that there are difficult times ahead."

Participation experience (our project)

The participated entrepreneurs gave all **positive feedback about the questionnaire**.

They appreciated the fact that the questionnaire had been designed from their point of view.

The questions, the length of the questionnaire and the translations to different languages made it usable for them.

- the planning information could not have been conveyed in plain Finnish
- it would have been difficult for entrepreneurs to communicate their thoughts in Finnish

However, answering to the map question was relatively difficult without assistance, thus, helping in responding lowered the threshold for participation significantly.



"The survey was really beyond good because you listened to us and cared about our opinions."

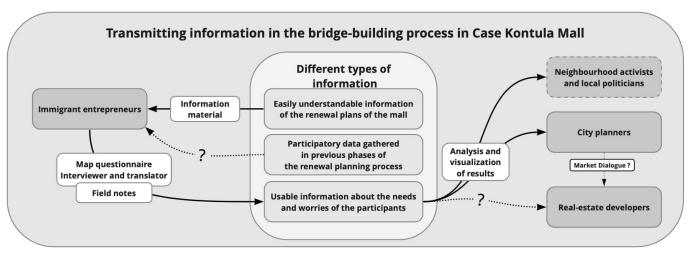
(Entrepreneur, survey response)

"The survey is really good. The fact that you come into the shop is really good."

(Entrepreneur, encounter one-site visit)

Transmitting the information

- The results were shared in an online meeting with planners and other stakeholders
- Disseminating information for real estate development didn't succeed
- Local politicians and neighborhood activists have been interested





Recommendations

- 1. Empathetic user-centred approach for tailoring participation process and methods, including mapping participant groups, their native languages, characteristics of their everyday lives,
- New practices and skills for the facilitator, such as adopting a user-centred approach and using translation tools and translators in an agile manner, and learning to communicate with participants from different cultures,
- 3. Rethinking digital participation tools to support bottom-up bridge-building and multilingual participation (e.g., equality of different languages and answering modes, integrated agile translation tools).
- 4. Although in Kontula, local bridge-building was not able to reach the real estate development of the mall, local active stakeholders can act as bridge-builders (neighborhood activists, 3rd sector, translators).
- 5. A change in the planning and participation culture is needed in order to integrate bottom-up bridge-building in formal planning and development processes. The local city-planning activism should be considered as a positive resource for urban planning.

What do you find important to consider when designing multimethod participation?





Oppeja molemmista keisseistä monimenetelmäisestä vuorovaikutuksesta

Ketä ovat osalliset, jotka halutaan tavoittaa? Miten madallat osallistumisen kynnystä heille?

- Mitkä ovat osallisten kyvyt ja resurssit suhteessa käytössä oleviin työkaluihin? Miten teet osallistumisesta helppoa?
- Mikä motivoi heitä osallistumaan (osallistumisen hyödyt esim. tietotarpeisiin vastaaminen, mahdollisuus osallistua itselle tärkeisiin kysymyksiin ja vaikuttavuus)

Miten hyödynnät eri työkaluja ja/tai menetelmiä siten, että syntyvät (eri) aineistot on yhdistettävissä, tietoa ei häviä ja edustavuus arvioitavissa?

- Samat taustakysymykset
- Dokumentoinnin suunnittelu
- Analysoinnin suunnittelu ja resurssointi

Osallistumiskokemusta kannattaa mitata ja arvioida

- Menetelmien suunnittelu siten, että palvellaan mahdollismman kattavaa joukkoa

Miten osallistumisen tuloksista ja vaikutusesta viestitään eri menetelmien kautta osallistuneille?

Lessons from both cases on multi-method participation

Who are the participants you want to reach? How do you lower the threshold of participation for them?

- What are the skills and resources of participants in relation to the tools available? How do you make participation easy?
- What motivates them to participate (benefits of participation, e.g. meeting information needs, opportunity to contribute to issues that are important to them and impact)?

How do you use different tools and/or methods so that the resulting (diverse) data can be combined, information is not lost and representativeness can be assessed?

- Same background questions
- Designing documentation
- Planning and resourcing analysis

It is worth measuring and evaluating the participatory experience

 Designing combination of methods to serve as wide a range of people as possible

How will the results and impact of participation be communicated to the participants involved through the different methods?





Opportunity for a thesis work

My postdoctoral research project "Exploring the added value of interoperable and machine-readable plan data for communicative and sustainable urban planning" aim to develop smart and communicative impact assessment methods of urban plans.

The focus is in supporting communicative impact assessment by...

..combining information model-based plan data with participatory information

...analyzing heterogeneous participatory data with Al/machine learning

...visualizing the plan and its impacts from (at least) one aspect of sustainability together with participatory information

...collaboration with a municipality or city with an action real-life planning case



Opportunity for a thesis work

The project will employ two Aalto students, one of whom will be from SPT and the other from geoinformatics.

The theses focus on the use of computational methods (GIS, AI, machine learning) in analyzing heterogeneous participatory data and combining it with information model-based plan data.

The SPT student's thesis will focus more on the application of methods in assessing the impact of plans.

Geoinformatics student's focus on the technical development of methods.

The thesis worker participates in the co-development of the research plan and thus also has a chance to contribute to its content.

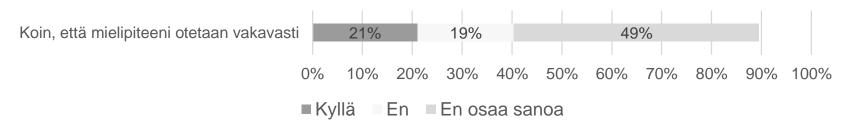
The thesis work could start in Autumn 2023.





Experience of being heard

Mitä mieltä olet seuraavista väittämistä (n=57, kysely 1)



In the first survey, there were less positive answers than in the second one (statistically significant difference)

In the second phase, the participants were given information on how the participants' opinions were taken into account, which may have had an impact on these positive experiences.



Experienced safety

Most participants found it safe to participate with the method they had chosen. However, the first workshop differs in this respect: less than half of the participants felt safe participating there. Slightly more of them (64%) felt welcome at the workshop.





Usefulness of Cave & 3D

- The Cave space was perceived as functional for the workshop
- Most participants (79%, n=14) perceived both 3D tools helpful in understanding the plan
- One third of the workshop participants who gave feedback about this (34%, n=6) reported that the 3D visualizations helped to illustrate the planning alternatives for the area, a dense environment with small-scale urban houses and a spacious village-like environment.
- One participant also raised concerns that the visualizations may give a false picture of the future of the area.



Conclusions

- Cave environment is a functional space for land use planning participation
- Workshop engaged local residents with previous participation experience
- PPGIS broadens the range of participants: new participants, younger participants, people from wider geographic area
- 3D visualizations helped to communicate the plans, and discuss different planning solutions
- 3D townscape illustrations helped to understand the different dencities, and influenced the participants' perceptions of building densities
- Commenting the land use plans were considered generally difficult
- Participation experience is influenced not only by the usability of the tools and methods, but also by the information content presented, the experienced credibility and safety of the methods, and the extent to which the needs of the participants are taken into account in the development of participatory methods and processes, and whether the participants feel their input has an impact on planning

