

**Bricolage in collaborative housing in Finland:
Combining resources for alternative housing solutions**

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ABSTRACT

Finnish collaborative housing projects are in an experimental stage. These projects are trying to push the conventional habits and practices of housing production into a new shape in order to realize their schemes in the housing market dominated by large construction companies. This paper aims to shed light on the resident groups' resources and ways of using them in a context where resident-driven projects are rare. We apply the concept of bricolage to analyse three collaborative housing projects in Finland, using the material derived from the interviews. Our analysis highlights that the residents and others involved refused to enact limitations imposed by the dominant housing market and examines how this was made possible. The cases we studied were successful for two interconnected reasons: 1) because of the capabilities of the residents; and 2) the professional allies they had. We argue that analyses framed by bricolage can help better understand the local contexts with their real and presumed constraints, and offer a possibility for international comparison of collaborative housing.

Keywords: collaborative housing, bricolage, multi-unit housing production, residents

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Introduction

In Finland, big construction companies have dominated the development of owner-occupied multi-unit housing for several decades and created almost a lock on the housing market. Nevertheless, there have been moments in the history of Finnish urban housing when residents developed or constructed blocks of flats for themselves (see Ruonavaara 1999, 330; Nurmi et. al 2017, 136-140, 146). Interestingly, there has been a renewed interest in collaborative housing during the last decade.

In this paper, we examine this phenomenon of (re-)emerging collaborative housing from the residents' perspective. Being involved in a resident-managed collaborative housing project is a major effort requiring time, skills and assets, as our cases in Finland show. Thus, the inhabitants of these projects are found to predominantly represent well-educated, resourceful households (Bresson and Denéfle 2015; Labit 2015, 38). So far only a little has been written about the specific kinds of resources these people have and how they are put into use. For example, Ruiu (2016) discusses how cohousers produce different forms of social capital. We understand the capabilities and networks of collaborative housing groups not only as outputs of cohousing but also as the prerequisites for making these projects real. In this paper, we aim to shed light on this in a context where resident-driven projects are rare. We focus on owner-occupied housing, which is the most common form of housing tenure in Finland. Furthermore, the cases of our study represent multi-unit projects in urban

contexts. While having the greatest potential to challenge the mainstream housing production, resident-driven projects also have many obstacles to overcome.

The heuristic model by Matthew Carmona (2009) can be used to describe the context of emerging collaborative housing projects. Carmona identifies three professional cultures and modes of praxis that have a major impact on the creation of the built environment in the British context. At their most extreme, they can be characterized as professional tyrannies of design, market and regulation, although they form different kinds of combinations. Even though the planning system is different, as in the Finnish system the main tool is detailed plan, not design code, these tensions are also present in Finland. Following Carmona's idea, market orientation has become dominant in the Finnish housing production, as construction companies have taken the leading role in housing provision. *Market tyranny* can be formulated as a claim that "the market knows best and what sells counts" (Carmona 2009, 2645). Construction companies and developers are usually the main proponents of this idea. *Creative tyranny* tends to fetishize design and considers the image more important than other values, such as economic, social or environmental. Architectural profession is seen as a main carrier of this agenda. Regulatory or market practices can, on the other hand, be seen as limiting the creative design practice. *Regulative tyranny* represents an attempt to correct the market failure. It can take a form of "fixed legal frameworks with unquestioning administrative decision-making" (Carmona 2009, 2647), or it can be discretionary, where law and policy are separated, and where the planner interprets the latter in light of local political circumstances. These tyrannies of praxis are most commonly in contention with one another, but there is also a possibility for productive negotiation (Carmona 2009).

While this conceptualization is helpful for understanding the roles and relationships between the stakeholders, it is limited to professional actors only. Residents and non-professionals have “almost no power, or only indirectly through the right to complain to those with regulatory authority” (McGlynn 1993 cited by Carmona 2009, 2644). The conventional model of designing and building urban housing typically leaves residents as passive consumers waiting for the construction company to finish its work. This standard process has also meant very little variation in the outputs of housing production. Väliniemi et al. (2008) found that the development of individual housing concepts was hindered by the commercial risks as perceived by the builders, and conservatism inherent in the sector in the Helsinki area. Also, solutions that improved the ecological and economic life cycle of housing were lacking, as well as consumers’ opportunities for influencing the planning process of the dwellings.

Thus, both the process and the outputs of housing production lack resident-oriented solutions. Collaborative housing can be seen as one response to this because it typically carries such intentions as: sharing and creating a community or “nonanonymous” neighbourhood; nonspeculative, affordable housing; and energy-efficient building and reduction of the ecological footprint (Tummers 2015b). In this paper, collaborative housing is understood as a larger umbrella term comprising various forms of collective self-organized housing (see Czischke 2018). These types of housing are characterized by “high degrees of user participation, the establishment of reciprocal relationships, mutual help and solidarity, and different forms of crowd financing and management, amongst others” (Czischke 2018, 2). Also, the term co-housing is sometimes used in a similar way referring to “collectively built and self-managed housing clusters” (Tummers 2015b, 64). However, we understand co-housing (or cohousing) as a subcategory with a pronounced focus on communality (see Fromm

2012, 364-365). We pay particular attention to “initiatives where groups of residents collectively create living arrangements *that are not easily available in the (local) housing market*” and citizens’ active role in “taking the housing and environment situation in their own hand.” (Tummers 2015b, 65, emphasis added). Thus, we are especially interested in what might be called a participatory aspect of collaborative housing: the roles and agencies of residents in the development stage of housing.

We analyse the stories of three different collaborative housing projects in Finland, using the material derived from the interviews with the residents and the architects involved. We argue that collaborative housing and skilled amateurs can create alternatives in housing market and challenge the conservative housing production. They can also create opportunities for productive negotiations between different tyrannies or rather, professional practices from the bottom up. We understand these actors as bricoleurs; people who do bricolage “as making do by applying the combinations of the resources at hand to new problems and opportunities” (Baker & Nelson 2005; Lévi-Strauss 1967). The concept of bricolage provides tools for analysing how these actors manage to put together collaborative housing in the context where resident-led projects are rare.

Recent studies on collaborative housing highlight the need to understand the local institutional environment where collaborative housing initiatives operate, in order to recognize collaborative housing as an emerging practice and enable international comparisons (Lang and Stoeger 2018; Tummers 2015b). We suggest that the analytical framework provided by the concept of bricolage is useful for international comparisons as it reveals the complexity of the local context from the practice perspective. We also propose that by looking into the practices of how resident groups cobble things together in realizing their projects, we can start to map a new terrain that has not yet been

explored for its potential to enable international comparisons (from the social capital perspective, see Ruiu 2016). We aim to understand the concept of collaborative housing from the perspective of residents as bricoleurs, who encounter challenges in realizing their projects. Therefore, we ask what kind of resources did they use to cobble things together in creating alternative housing solutions?

Residents as makers: collaborative housing in Finland

In Finland, 68 per cent of housing is owner-occupied and 30 per cent is rental; while the remaining 2 per cent are other categories, such as right-of-occupancy, a cross between owner-occupation and rental (Statistics Finland, year 2014). A co-operative sector is virtually non-existent. Housing conditions vary significantly in relation to the socio-economic status: in the lowest income decile, 76 per cent live in rental housing, while in the highest income decile, only 4 per cent are in the same situation (Statistics Finland, year 2014). The current collaborative projects are mostly in the owner-occupied sector, although there are some interesting cases in the other sectors, too.

As international cases show, the active involvement of the resident groups can take various forms. These groups operate in a wide variety of contexts differing in terms of the institutional, regulatory and market conditions, which makes the residents' possible roles manifold and international comparison challenging. Projects range from completely resident-managed to different partnerships with municipal housing providers, the third sector, large co-operatives, or other established actors (Ache and Fedrowitz 2012; Czischke 2018; Fromm 2012; Lang and Stoeger 2018; Vestbro and Horelli 2012). In many of the recent Finnish projects, the residents have acted as developers taking all responsibility and risk. Collaboration with institutional housing providers is not as typical as for example in Sweden (Vestbro and Horelli 2012, 328). The municipalities have not taken a central role in assisting collaborative housing like in

Germany (Ache and Fedrowitz 2012, 404), although some have recently started allocating land for resident-driven projects. Private developers and consultancies have showed only a little interest in the model, although this interest is growing. As Scanlon and Fernández Arrigoitia (2015) explain, collaborative housing may include untried practices and financial risks that may limit both the residents' and their potential partners' willingness to participate and invest in it. Thus, for individual residents interested in participating in collaborative housing projects, the resources created by institutionalized actors and practices are scarce.

There are basically two alternative approaches in terms of realizing construction projects. One is based on separating the roles of the developer and the builder/contractor. Nordic countries have long favoured this model. In Finland, however, there is a strong tradition of constructing through own account contracting, which refers to the model in which the company, which is the main contractor, also acts as a developer (Lujanen 2004, 50-51). In Finland, this model was established already in the 1920s (Juntto 1990, 150-151), and has since been a central way to build housing, particularly during economic booms. After the depression of the early 1990s, the share of these construction company driven projects has increased significantly (Vainio 2005, 12). In 2005, at the time our three cases were initiated, close to 80 per cent of multi-unit housing was realized this way (*ibid.*). Collaborative housing producers make contracts with the construction companies, carrying the risks but also receiving the benefits. However, as noted, collaborative projects make up only a small fraction of the Finnish housing production.

There have, however, been periods when collaborative housing was a viable option, at least locally in the capital region. One such period occurred when the housing

company¹ tenure form – an ownership model of multi-unit housing, a Finnish version of US condominium – was established at the beginning of the twentieth century (Nurmi et. al 2017). Housing companies are typically run by the resident shareholders themselves. Housing companies do not pay dividends to the shareholders, and the payments charged to the residents are cost-based. The companies have consistently aimed to break even as it is not in the interest of shareholders to report profits, which would lead to taxation (Lujanen 2004, 54). The prices of flats, however, are market-driven. Since the housing company is established, the residents can always sell their shares without the consent of the other shareholders. (see Ruonavaara 2005 for a detailed account of the housing company model).

The model dates back to the turn of the twentieth century when it was created in response to an urban housing shortage. Active and often relatively wealthy members of the working class movement started to found housing companies where ownership was based on shares giving the right in a dwelling. However, the nature of housing companies began to change already in the 1920s when commercial developers also became interested in the model and started to establish housing companies. This opened the door for speculative house building. (Ruonavaara 2005, 223-226)

Intensifying urbanization and increasing housing prices have been recognized as key drivers for collaborative housing in different contexts (Bresson & Denèfle 2015, 7-8; Tummers 2015a, 1) In the late 1950s and 1960s, this was also the context in which an association “Home savers”, a non-profit housing developer, developed a model for saving for a home and large-scale self-building. It guaranteed access to home ownership

¹ *Asunto-osakeyhtiö*, This model, unique to Finland, literally translates as “housing joint-stock company”. Following Ruonavaara (2005, 214), we use the term housing company.

for a wider group of people through collaborative work. In 1965, the association was with its 2500 dwellings the largest producer of housing in Helsinki, the capital of Finland. Soon after this, however, the building activities of the association ceased due to banks targeting financing to large-scale, for-profit developments. Moreover, the overall industrialization of the construction sector did not favour self-build activities (Hankonen 1994, 370-378; Kekkonen 1989; Nurmi et al. 2017, 146).

Another driver, communal living, was important for the collaborative projects of the 1980s and 1990s, representing cohousing. Swedish and Danish models of cohousing introducing an intermediate level between the private and public spheres (Horelli 1989) were influential. Common spaces and common activities, such as childcare and maintenance work, were key features of the projects. Although cohousing was much discussed at the time, only a handful of projects were realized.

Today, with an increasing number of projects on the way, the landscape is slowly changing. One significant milestone was the 2015 act on collaborative construction contracting that specifies the roles and responsibilities of actors. The cases analysed in this paper were completed before the new act was passed. Two of the cases were studied and used as examples in the process of drafting the law.

Bricolage as an analysing tool

The French anthropologist Claude Lévi-Strauss used the concept of bricolage in his seminal text, *La Pensée sauvage – “Savage Mind”* (1962, in English 1966). The core meaning of bricolage in French is “to fiddle, tinker”, while the longer definition is “to make creative and resourceful use of whatever materials are at hand (regardless of their original purpose)” (Lévi-Strauss, 1962). The literal translation of bricolage from French and Spanish into English is do it yourself (DIY) (Leyborne 2009). In French, the word *bricoleur* refers to a handy(wo)man who makes use of tools that are available to

complete her/his task. In modern societies, the bricoleurs' terrain is also social.

After Lévi-Strauss, bricolage has been used in various perspectives in contemporary societal contexts: administrative studies (Freeman 2007), planning studies (Uzzeli 1990; Innes & Booher 1999; Farah & Teller 2012), administrative and management studies (Baker & Nelson 2005; Leyborne 2009; Mumford & Frese 2015), and pedagogic studies (Kincheloe et al. 2011).

Baker and Nelson (2005, 333-336) have developed an integrative definition of bricolage “as making do by applying combinations of resources at hand to new problems and opportunities.” Their important finding is that bricoleurs simply refuse to enact limitations. In modern societies, “social construction of resource environments can be as influential as the objective limitations of environments in determining behaviours.” (Ibid, 335) This seems to be true of housing industry in Finland. While the “objective” resource environments are shaped by the market situation reproducing the dominant roles of professional developers and construction companies, our analysis also reveals how bricolage is used to create and enact resources.

In our study, the resource environment of collaborative housing projects is constrained because their initiators and participants are unestablished, small, often amateurish, actors. However, the nature of resources is not given and unproblematic. If this were the case, it would be hard to imagine actors “creating something from nothing”, as Baker and Nelson (2005) explain. The concept of bricolage helps to understand how the projects we studied succeeded “while employing the constrained set of resources they have at hand” (Baker & Nelson 2005, 331-332).

We will use bricolage in our quest to understand collaborative housing projects from the residents' perspective; as they put things together in a field where most of them are not experts but amateurs who work together. Our research material consists of

twelve interviews with residents and architects in three collaborative housing projects in Finland conducted in the winter of 2017 (see Table 1 for more detail). The semi-structured interviews lasted from one and a half to two hours following quite a general framework. With each interviewee, the topics discussed were modified to touch upon her or his particular roles and experiences in the project. The material was recorded and transcribed. Two of the authors of this article also live in one of the cases, Annikki, and were actively involved in the project, but the research was made after the renovation.

In our analysis, we first identified the critical challenges and opportunities that the projects faced without the benefit of ready procedures or institutional resources for dealing with them. The next step in categorizing the interview material involved the various domains in which the groups engaged in bricolage. This was supported by the coding of how the projects tested the limitations. This analytic strategy was influenced by the study of Baker and Nelson (2005, see 339). When studying entrepreneurial bricolage, they identified five domains in which something can be created from nothing: physical inputs, labour inputs, skills, customers and markets, and the institutional and regulatory environment.

We applied these categories to assort and understand the ways and strategies that the bricoleurs used to tackle the challenges and to create new opportunities. In the case of collaborative housing, we identified networks as a relevant domain supplementing the domain of customers and markets. In our study, bricolage in five domains thus meant: the collection of *physical inputs* that can be discarded artefacts or a resource trove; *labour* inputs and broad self-taught, informal or amateurish *skills and competencies* that the participants applied with no regard to professional boundaries; testing the limits of and utilizing the latent possibilities of codes, norms and standards of *the institutional/regulatory environment*; and *network (multiplex) ties* that helped to

sustain bricolage in many domains (see Baker & Nelson 2005). We apply these in the section Cobbling things together, where we analyse how three collaborative housing projects responded to the challenges they faced.

Three collaborative housing cases from Finland

We focus on three collaborative housing projects in Finland – Malta, Tila and Annikki, where the residents had a major impact on the outcome. Moreover, all three are pioneer projects that have been used or suggested as models for subsequent ones. Common for these three projects and the residents engaged was their shared aim to obtain housing that is not easily available in the standard housing production. However, there were also significant differences between the projects (see Table 1).

	Tila	Malta	Annikki
Type	New construction (neo-loft)	New construction	Renovation
Year initiated	2005	2007	2006
Year completed	Phase 1: 2009 Phase 2: 2009-2011	2013	2012
Number of flats	39	61	23
Common facilities	Sauna, common room, roof terrace, laundry, storages	Multipurpose/dining room, kitchen, three saunas, common room, winter garden, roof terrace, workshop, laundry, storages	Multipurpose rooms, sauna, guest room, workshop, laundry, storages
Legal form	Housing company	Housing company	Housing company
Instigator	Architect	Resident group	Resident group

Developer ²	Developer company	Housing company	Housing company
Construction	Construction management consultant + several subcontractors + individual residents	Construction company (with subcontractors)	Construction company (with subcontractors) + individual residents
Financing in the construction period	Developer company	Construction company + individual residents	Housing company + individual residents
Actors interviewed for the study	Architect-instigator (interviewed twice); two other residents actively involved in the project	Architect; project instigator and leading person; two other residents actively involved in the project	Architect; three residents in leading roles in the project

Table 1. Basic information of the three cases

With its extensive common facilities and 61 homes, Malta was the largest and the most ambitious collaborative housing project in Finland in the last 40 years when completed in 2013. It was originally initiated by a group of old friends who organized themselves as a registered association in the spring of 2007. (Korpela 2012). The Malta project aimed at not only building together but also sharing everyday life in an urban village-like community, as one interviewee describes. The possibility to take part in the design and customize one's home was another strong driver for the participants.

Annikki, built in 1907, is a unique wooden quarter in the Tampere city centre. It was in a bad shape when the City of Tampere decided to sell it to a group of interested

² Carrying the legal responsibility and financial risk.

citizens after a bidding competition. However, the appeals against the city's decision held up the process for three years. One resident describes the aims of the project as counteracting isolation in housing: a home should extend beyond the walls of one's private flat. The conservation of heritage values and sustainable solutions were also an important motivation for the residents and the project architect. However, this also increased the challenges: the old quarter had aesthetic and cultural-historical value, as well as a social past that needed to be taken into account.

The Tila Housing Block is a pilot project for neo-loft apartments in Helsinki, where residents are responsible for building the interior of their five-metre-high homes. The architect, also a resident herself, who was responsible for the overall design also initiated the project. The aims of the project were mainly related to the quality and affordability of housing. Even though Tila was a project of a rather affluent middle class, it rested on the ideal of "creating more from less" by means of self-building. While not totally new, the idea was rare in the Finnish context. The possibility to customize one's home and participate in the design was also a strong motivational factor for residents. The outcome is a block of flats with a great variety of lifestyles shown inside the individual homes.

The projects locate somewhat differently on a map of evolving conceptualizations of collaborative housing. Both Annikki and Malta were managed by a collaborative development process that was designed to make decisions regarding design, construction and finance. Hence, the self-management aspect of collaborative housing was pronounced. The development of Tila was managed by a housing developer company, representing a more common model. With its extensive common facilities and regular common meals, Malta represents cohousing. Annikki also has collaborative living features, although there are less common spaces, and common

meals are not prepared on a regular basis. Annikki and Tila were partly built by the residents themselves and thus represent a less discussed DIY aspect of collaborative housing. When compared with the other two cases, Tila had no particular ambition to develop communal living arrangements or collaborative involvement in the process.

Cobbling things together

We found five key challenges in our interviews that need to be solved in collaborative housing projects: site acquisition, finance, collaborative process, interaction with professionals, and construction. These are remarkably similar to Tummers' findings in her literature review (2016, 2027): "during the planning process a number of recurrent difficulties can be identified: obtaining land, forming a group, planning permission and finance are amongst the most outstanding." In our cases, "interaction with the professionals" tells about the Finnish context, as both the construction of multi-unit housing and the interaction with city planning officials are typically expert-driven. Professionals were needed, but the ways to operate with them had to be improvised because there were no previous models for this. Construction was an important challenge as two of the projects, Tila and Annikki, were partly constructed by the residents. Moreover, the construction phase brought out unexpected challenges, which affected the residents' roles, particularly in the case of Tila. In the following, we will analyse how the three collaborative housing projects responded to these five key challenges and identify the domains in which they engaged in bricolage.

Site acquisition

Finnish municipalities have a zoning monopoly, and in some cases, they own a significant amount of land (Lujanen 2004, 46–47). Even though the municipalities control the land use, the habitual way is to sell or rent the land for construction

companies or professional developer companies, who are seen as “the trusted players” of the multi-unit housing production. However, in the cases we studied, residents succeeded obtaining land by somewhat different means.

In the case of Malta, the active members of the association contacted the City of Helsinki. It was thanks to the public interest in the project the group succeeded to create, its realistic and convincing plans, as well as its good connections with local political networks, that the city authorities offered them a suitable plot in a high-demand area in the inner city of Helsinki. The core group’s relationships, networks and competencies in managing the public image of the project were their particular strengths compared with traditional building projects.

In the case of Tila neo-lofts, the instigating architect had trouble finding partners, as many developers were quite confident that the building codes would not allow the realization of such concept. However, it soon turned out that there were no fundamental collisions with the building codes and practices:

I booked audiences with several office heads [city authorities] -- it was a really quick round; it turned out there were no obstacles. (the Tila Architect)

The support provided by the city officials enabled the architect to proceed with her idea. In this case, the realization became more certain only after the City of Helsinki provided a plot in a good location.

The Annikki group succeeded in the bidding competition mainly because they had a realistic plan for financing the project and an architectural plan for renovation (drawn by the main architect). In addition, the group had good communication skills and were able to convincingly present their plan. The city authorities became a good partner for the group after the initial slight reservations about the resident-led project

turned relatively fast into support. The Annikki quarter had attracted great publicity, and it also was in the city's interest to renovate it successfully.

The most important resource in overcoming the challenges of site acquisition was the co-operation with and support by the city authorities who saw an opportunity to alter, even a little, the market situation dominated by the construction companies. The regulatory mode of praxis turned out to be flexible. However, to be able to act as credible actors, the bricoleurs needed their negotiation and media skills, political connections, aid from their professional partners, and an understanding of the institutional environment. So, the groups engaged in bricolage in the domains of skills and competencies, as well as the network ties, making use of the (latent) resources of the regulatory domain. After the pioneering projects, the City of Helsinki has started to allocate sites specifically for resident-managed collaborative housing as well as for neo-loft projects.

Finance

In Finland, the banks provide the financing to buy a flat or build a house. A traditional way to buy a finished flat is to purchase an old or a new flat in the private, unregulated housing market. Finnish multi-unit residential buildings are commonly organized as housing companies. Typically, the value of the flat covers 70 per cent of the mortgage and a buyer needs to have 30 per cent as collateral to secure the loan. In resident-managed collaborative projects, the standard approach does not work. Each of our cases demanded its own kind of manoeuvring.

In terms of financing, Tila was the easiest of our three cases from the resident's perspective. It followed the usual path for company-driven projects. However, one interviewee reported difficulties in negotiating a loan not only for purchasing an apartment but also for the self-building of the interiors, which was fundamental to the

neo-loft concept. In Annikki and Malta, the situation was more complex. From the bricolage point of view, skills to put things together in new ways were needed. The Annikki housing company was promised a 50 per cent bank loan if the chosen construction company was credible enough. The success was also based on credible plans, finance from the shareholders' own purse, DIY interior renovation, and comprehensive financial estimations. The latter was largely based on one resident's PhD-level skills in accounting.

Malta tried to secure an agreement with a bank in the spring of 2011, but did not succeed. At the same time, a debate about financing resident-driven collaborative housing was on, and the position of the banks towards these projects had changed quite suddenly. Because the banks refused a loan to the Malta housing company, the project was dependent just on the shareholders' personal capital. A solution was urgently needed. Finally, Malta's professional project manager provided one:

Our brilliant professional project manager used his networks to inquire whether it would be possible to use an unorthodox financing model. (a Malta resident)

The idea was simple: the residents would finance 50 per cent and the construction company would take a debt for 50 per cent of the value of the future building and write an invoice for the residents a week after finishing the building.

The main challenge created by the institutional environment was financial, i.e. the national regulation of mortgages. A 100 per cent collateral is a hard task for any homebuyer. As a result, contemporary Finnish resident-driven owner-occupied collaborative housing projects are only possible for wealthy upper-middle class people. Yet, the residents' previously acquired skills in accounting and law and aid from a professional project manager were vital to keep the process going financially. To meet

the unusually large collaterals in financing, the bricoleurs acted creatively in the domain of skills and networks with experts.

Managing the collaborative process

The collaborative development processes adopted in the cases of Annikki and Malta are currently very uncommon in Finland. In a typical case, a professional developer makes all major decisions regarding design, construction and finance. Collective decision-making among the residents is possible only after the construction is finalized and the management of the housing company is transferred to the resident shareholders.

Social networks proved to be valuable when gathering a group of people willing to commit to and invest in the project. Malta experienced a considerable turnover of participants in the design phase when the difficulties in obtaining financing forced many to opt out. In recruiting new participants, the traditional real estate marketing channels could not be used in order to avoid any misunderstanding about the project's legal status: that it was about people collectively taking the development risk and not about normal real estate business. Instead, people turned to their social networks.

The groups in Annikki and Malta adopted an organizational model where the daily management of the project was entrusted to a small core group and major decisions were taken in plenary meetings open to all. Open working groups and preparatory meetings enabled everyone to bring out their ideas and skills and take part and responsibility in the process. Persons taking the most responsibility ended up committing an enormous amount of time for the projects, which was possible mostly because of their work situation: freelance, flexible hours, part-time pension, or similar.

I stopped counting the hours at around one thousand hours -- at that time, there were weeks when I had spent 50 hours on the project and also done my normal working week. (an Annikki resident)

The commitment and willingness to participate showed in the large number of meetings and the long, occasionally heated, discussions. In the case of Malta, fair division of costs as well as some design decisions created conflicts. Those, however, were managed and solved through a controlled process designed for democratic decision-making. This ensured that opposing arguments were heard and fairly treated, which was important from the viewpoint of community spirit.

The groups themselves managed their internal cohesion and collaborative process without employing external expertise. Although the groups were quite competent in their social and communication skills, as well as developing methods for decision-making and conflict-solving, it all proved a learning process as these practices were learned, created, and modified only during the process. Therefore, here the residents' social and organizational skills and labour can be identified as the most important domains of bricolage.

Interaction with professionals

For the present, collaborative housing in Finland has encouraged very few new professional consultancies or non-profit mediators, unlike elsewhere in Europe (Ache and Fedrowitz, 2012, 405; Bresson & Denèfle 2015, 10-11; Tummers 2015b, 2). Therefore, there were no ready-made networks to connect when professional support was needed in the projects, neither in terms of regulatory nor design practices. The interaction between the residents and the professionals – city authorities, architects and other consultants in the construction sector – was new to all participants. Thus, it was not only the residents, but also the professionals, who needed to develop special skills. The architect of Tila, for instance, acted not just as an architect but also as an instigator and a “producer” of the whole project and its concept.

The professionals who worked for the projects were interested in creating alternative solutions to housing and proved precious resources when dealing with challenges. They too were a resource that the residents had to find in many cases without the support of professional networks.

Residents felt the need to be able to communicate on the level of the professionals. A Malta resident thought that residents should always have their own specialists within their group, learning a little about air conditioning, structural engineering, etc. The resources at hand were used creatively. A physicist applied his knowledge to understanding the choices of structural layers or a diplomat became the interaction manager. However, professionals with skills to work with complex projects were needed as the residents on some occasions tended to focus on details or on their own homes. This was evident for instance in Malta where the freedom to design given to the residents resulted in some technical challenges regarding plumbing.

In interaction with professionals, residents operated mostly in the domain of skills and competencies. They used their amateur and professional skills at hand creatively, in new combinations, and acquired new skills. The bricoleurs did not only succeed in manoeuvring in the field usually left for professional actors but they also managed to shape the context and open new opportunities for future projects. One of the core actors of the Malta project now has a new collaborative housing initiative running, in which she acts as an established professional. In addition, in Tila's case, as a result of the co-operation and interaction between the instigator-architect and the city administration, an interpretation of building regulations was made in favour of the idea of raw spaces finished by the residents themselves.

Residents' roles in the construction phase

Finland has a strong tradition of building one's own single-family houses but not multi-

unit housing. However, in our cases the residents took a demanding role as small, one-time players in the field of construction. This weak position created challenges in the field of construction when the contractor of Annikki allocated its most skilled workers to bigger customers. However, the residents compensated for the lacking contribution of professionals by supervising the construction site. This required their presence on site, repetitive assessments and relatively high level of expertise in construction, which was achieved by joint fact-finding.

Well, it felt a little desperate that to get something properly or even somehow done required us to go there to find that ‘no, this is not how it should be done’ and then it was taken down and built again. (an Annikki resident)

One participant in particular, a sociologist by training, took care of this laborious task. His self-taught skills were an undetermined, yet highly valuable, resource. The positive aspect of this spillover of responsibilities from professionals to residents was that the know-how relating to the technical details and functions of the quarter as a physical artefact accumulated within the group. This has proven valuable for maintaining the quarter.

In the case of Malta, the group’s own devoted project manager watched over the official supervisors. The project was even better organized than the usual construction projects, which may lack the “owner” due to many subcontractors and the absence of a final user, the resident. In Tila’s case, the economic boom led to difficulties in finding reliable contractors, and as a result, the construction work was divided into several subcontracts. The supervision of the numerous subcontractors failed and led to severe construction defects. While the mistakes were being fixed, the residents had to adapt and reschedule their own self-build projects in unclear circumstances. Their capabilities were uncovered in the process (see Freeman 2007, 485-486): the self-builders

discovered the construction defects on the building site, kept track of the process, and put pressure on the developer to start fixing things.

In the construction phase of Annikki and Tila, residents exchanged their knowledge and mutual support, as well as shared tools and acquired building products within the groups' internal networks. This interchange of ideas, information and knowledge proved an important resource when residents learned to build by themselves without much previous experience of such tasks. It was also important from the perspective of building community spirit for future living together:

There we were, sitting exhausted on the site [in the middle of construction works] and, every now and then, we would throw a party. It was a great time, yet enormously hard -- But they are great memories, it connected us. (an Annikki resident)

Overall, the construction phase brought the domains of physical inputs, labour and skills into focus. Some of the residents learned to build themselves or took over tasks relating to managing and supervising the construction site, responsibilities usually left to professional actors. The residents needed to acquire new skills relating to designing and building a material object, a construction site and a house at hand. (For Tila self-building, see also Franke 2014). However, as a learning process, it increased the residents' competencies for the future maintaining of the building.

Conclusions

Finnish collaborative housing projects are currently in an experimental stage. They are trying to push conventional habits and practices of housing production into a new shape in order to make their schemes real in the multi-unit housing market dominated by large construction companies. Consequently, residents entering these projects tend to be resourceful individuals who can take the financial risk and devote their time. Currently,

the risk of exclusiveness of collaborative housing is quite high in Finland, if compared with countries like Sweden (Vestbro and Horelli 2012, 327-328) and Germany (Ache and Fedrowitz 2012, 406).

Against this context, we found the concept of bricolage applicable for analysing these endeavours and the roles of the actors. It helped us to examine what kind of resources and networks the groups applied and cobbled together to make their projects real. Bricolage offered us a residents' bottom-up perspective on these challenges, and visualized how the residents utilized different domains to deal with them. The cases we studied were successful in undertaking the challenges for two interconnected reasons: 1) because of the capabilities of the residents; and 2) the professional allies they had. The design (architects) and the regulation (planners and civil servants) professionals were willing to go the extra mile to create alternatives and opportunities in a locked market tyranny situation. On the other hand, the residents had to possess many skills and capabilities in order to make use of and (co)create these opportunities.

We found five key challenges that need to be solved in collaborative housing projects (see also Tummers 2016). First, the site acquisition was a basic precondition for the realization of the projects. In Finland, the municipalities regulate it, commonly selling or renting the land for construction companies. However, in our cases, the city authorities saw the collaborative housing projects as an opportunity to alter, even a little, a locked-in housing market situation. The residents' capability to co-operate with the city authorities and the city authorities' support given to the residents proved crucial resources in all the cases (see also Lang and Stoeger 2018; Ruiu 2016). Although municipalities are not accustomed to working with resident groups in Finland, site acquisition is not as complex a challenge as in some other contexts (Scanlon and Fernández Arrigoitia 2015, 119).

Second, the lack of financing models for resident-driven projects is a critical institutional obstacle. To overcome this, the previously acquired skills of the participants' and the networks within the field of construction, turned out to be very valuable. The model exemplified by the Malta case, where a middle-sized construction company took the responsibility for the finances, and the model applied in the Tila concept where a developer took care of the finances, could pave the way for future projects. Price in general and the difficulty of establishing a price in an early development stage have been recognized as challenges and possible determinants for individuals' access to collaborative projects (Scanlon and Fernández Arrigoitia 2015). The aspect of affordability often associated with collaborative housing (e.g. Czischke 2018; Hamiduddin and Gallent 2015) is reinterpreted in the Finnish projects where the current challenge is not only the actual price but also, and even more severely, the financing itself.

Third, managing the collaborative process and group cohesion proved a laborious task. The banks that hesitate financing collaborative housing also fear the residents cannot keep the process together. The residents' social skills combined with their professional expertise turned out to be the key resources. This was of particular importance, first, in creating an "internal" network of like-minded people willing and able to invest in the project, and second, in designating a procedure for democratic decision-making and solving problems that came their way.

Fourth, the social skills and professional expertise were also needed in forming an "external" network of experts who helped to make the project real. Likewise, the interaction with professionals had to be managed. The vital role of the institutional environment enabling collaborative housing stressed by Lang and Stoeger (2018) and the central role of local authorities in enhancing co-housing (Ache & Fedrowitz 2012;

Droste 2015) were also evident in this study. Our cases also revealed several occasions when the professionals stepped outside their typical professional boundaries or the residents compensated for the input of professional actors. Thus, the projects had potential to challenge conventional practices with unorthodox approaches.

Finally, the construction phase required remarkable amounts of time and labour. The DIY aspect of the Annikki and Tila projects meant cobbling together material things in a very practical sense. Residents needed to adopt new knowledge and skills relating to the material domain, the construction site and the house at hand. The internal networks were used for mutual help and interchange of ideas and skills between the bricoleurs to manage the task of self-building.

The bricolage framework gave us a practical and an analytical lens. Practically, it revealed the concrete obstacles in collaborative housing projects and the actual resources within various domains needed to make the projects real. The approach also emphasizes the sociality of the process of resource combination. Opportunities were enacted in the internal and external networks (see also Ruiu 2016): many people iteratively figured out ways to combine what was at hand (Baker & Nelson 2005) also in their networks. The lens of bricolage highlights how the residents and others involved refused to enact limitations imposed by the dominant housing market.

Analytically, the bricolage framework offers a novel theoretical insight into collaborative housing as an emerging phenomenon and into the resource environment, i.e. the context, from the perspective of diverse and continuously evolving practices. Even though the paper's main contribution is an empirical case study in the Finnish context, our analysis shows that the complexities of local contexts are revealed in concrete practices and experiences of those who are involved. The actual practices tell about the real constraints and possibilities that institutional and legal contexts create,

which could be surprisingly similar in different contexts, as our analysis in comparison to Tummers (2016) shows.

The approach steers the focus to domains where people make do in a rather narrow space for opportunities (Bentley 1999 cited by Carmona 2009, 2649). The capabilities of residents, as well as the professional allies they had, both played a significant part in the success of the projects, as our analysis showed. As a result, they widened the room to manoeuvre and expanded the alternatives in multi-unit housing construction. Baker and Nelson (2005, 358) claim that bricolage “is an important means of counteracting the organizational tendency to enact limitations without testing them”. In the same vein, resident-driven collaborative housing can help to articulate the key challenges, set new objectives and eventually create new markets, especially in locked-in situations.

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